

MAHATHIR MOHAMMAD

**A VISIONARY & HIS VISION
OF MALAYSIA'S K-ECONOMY**

Mahathir Mohamad, one of the most durable and outspoken figures on the world political stage, has been prime minister of Malaysia since July 16, 1981. He first came to prominence in 1969 when he was expelled from Umno, the ruling party, for writing a letter critical of the then-prime minister, Tunku Abdul Rahman. Before being readmitted to Umno in 1972, he wrote his famous, highly controversial work, *The Malay Dilemma* (1970), which examined the economic backwardness of the Malays, and advocated state intervention in bringing about their rehabilitation. The book was promptly banned in Malaysia. In *The Challenge* (1986), he explodes fallacies and exposes distortions concerning religion, education, democracy, Communism, freedom and discipline, and the concerns of this world and the next. In *A New Deal for Asia* (1999), he reflects on Malaysia's fight for independence and rails against those who blindly worship the free market.

As Malaysia's fourth and longest-serving prime minister, Dr Mahathir has played a pivotal role in the confident march of his people towards Vision 2020, his blueprint for Malaysia's advance towards developed-nation status. Born in 1925, he studied medicine in Singapore, where he met his future wife, Dr Siti Hasmah Mohamed Ali. After working as a doctor for the government, he left to set up his own medical practice in Alor Setar, his hometown. In 1974, he gave that up to concentrate on his political career. Dr Mahathir and his wife have seven children and ten grandchildren.

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edited by NG TIEH CHUAN
with commentaries by DAVID N. ABDULAI



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Contents

- Preface *vii*
Introduction *xi*
- 1 Advancements in
Communications Technology 1
 - 2 E-Migration: Rising to the Challenges
of the New Economic Frontier 11
 - 3 Strengthening Growth
and Mutual Prosperity 21
 - 4 Smart Partnering for the New Economy 33
 - 5 Asian-African Cooperation
for Development 43
 - 6 Transcending the Divide 55
 - 7 Human Resource Development
in the 21st Century 69
 - 8 Sharing the Fruits of Globalisation 75
 - 9 Mimos's Role in Malaysia's Move
Towards a Knowledge-based Economy 87

10	Small and Medium Industries: Critical Components of Industrial Growth and Development	97
11	Forces that will Shape Our Common Digital Future	105
12	The Multimedia Super Corridor and the Growth of Electronic Commerce	119
13	On the Threshold of the Cyber Revolution	129
14	Asean's Global Trade with Latin America	143
15	Inventing Our Common Future	153
16	A Global Bridge to the Information Age	163
17	The Multimedia Super Corridor: Realising a Vision for Malaysia	183
18	Application of Information and Communications Technology for Development	199
19	The Multimedia Super Corridor: An Opportunity for Japanese Industry	209
20	Evolution of a Global Information Society	219
21	The Digital Economy and the Borderless World	233
	Index	241

Preface

Ng Tieh Chuan

been aware WHY is Dr Mahathir Mohamad a visionary? Simple, unlike many people, he has the ability to see the Big Picture. He can paint a picture but he is not an artist; he can anticipate trends and the opportunities embedded in such trends but he is not a clairvoyant. His thoughts have no limits and he does not believe in the impossible. His is a “can do” attitude where the unreachable is reachable. I will contend that, as a visionary, he can see with his eyes closed. Unlike some people who go through the days of their lives with glorious dreams and never having the guts to act on such dreams and make them happen, Dr Mahathir is the opposite. He had the guts to stand up for what he believed in and was kicked out of the party he loved for thinking the unthinkable—a developed and prosperous Malaysia. He had the guts to make a comeback and put into practice his vision. The result is what we see today: a modern-day Malaysia.

Some who grudgingly accept the fact that Dr Mahathir is the father of modern-day Malaysia would conclude that “he is lucky”. I would politely disagree. In the canons of

success, there is no such thing as luck. What these naysayers regard as luck is “when preparedness meets opportunity”. As I am counselled by an old adage, if one has not made his canoe before the tides come in, he would still be stranded on the shore. Simply put, Malaysia’s development under Dr Mahathir has nothing to do with luck. One would also say that his vision is an embodiment of his leadership. It is a truism that a competent leader can be likened to a good captain that steers his ship through the turbulent seas to reach its destination. The old story of the malfunctioning steamship boiler system would suffice here. A boiler repairman was hired to repair the boiler system of a malfunctioning steamship. After being presented with the problems of the steamship by its engineer, he asked a couple of questions and went down to the boiler room. He looked at the maze of pipes, felt each pipe with the care of a surgeon with his rough hands. He walk to his tool box, pulled a small hammer and tapped lightly on one of the bright red valves attached to one of the pipes. The boiler system immediately started to hum perfectly. He sent a bill of \$2,000 to the owner itemised as: for tapping with a small hammer, \$1; for knowing where to tap, \$1,999. The owner complained that the boiler repairman had only being in the boiler room for five minutes and only tapped on the red valve. Hence how could he charge so much for just “knowing where to tap”? Obviously some would think that the boiler repairman was lucky. It was not luck; it was because he knew “where to tap”. Thus success in whatever one does in life all depends on “knowing where to tap”. Similarly, modern-day Malaysia has come about because Dr Mahathir knew where to tap.

Dr Mahathir is again tapping on another valve. His vision is to move Malaysia into the knowledge-based economy and to see the nation as a developed society by 2020. One of the ways of doing that is through the setting up of the Multimedia Super Corridor (MSC), a testbed for

cutting-edge technologies. The government has put the requisite infrastructure and infostructure in place as well as the necessary cyberlaws to help propel the country into the knowledge-based economy. He believes that the MSC “represents a new paradigm in the creation of value for the information age”.

The compilation of Dr Mahathir’s speeches in this book is a testimony to such a vision. Would he face criticism at home and abroad for such a vision? Definitely. Would he make mistakes? Yes, he will, but neither would dampen his enthusiasm. Those who criticise him should listen to Theodore Roosevelt, the 26th president of the United States: “It is not the critic who counts; not the man who points out how the strong man stumbled or where the doer of deeds could have done them better. The credit belongs to the man who is actually in the arena; whose face is marred by dust and sweat and blood; who strives valiantly; who errs and comes short again and again; who knows the great enthusiasms, the great devotions, and spends himself in a worthy cause.” Dr Mahathir’s vision for Malaysia and Malaysians is a worthy cause. Is that asking too much?

My heartiest appreciation to Dr Mahathir Mohamad for granting me permission to use his speeches, without which this book would not be possible. I would also like to thank Dr David N. Abdulai for undertaking the task of writing the commentaries. And last but not least, my gratitude to Eric C. Forbes for putting them all together.

Introduction

David N. Abdulai

INFORMATION and communications technology (ICT) has changed forever the way we live, work and play. Today, with the push of the transmit key on a computer, an e-mail message can be sent from one corner of the world to the other in a matter of seconds. ICT is also opening up a world of opportunities for developed as well as developing countries. The future of endless opportunities is here and any denial of such a future starves people of the sense of such possibilities. We are witnessing, by the day, the increasing importance of knowledge as the important resource that would drive the growth and development of economies. This is true because knowledge has replaced the traditional land and labour in economics as the most important factor in the whole production process. According to Peter Drucker, "the productivity of knowledge has already become the key to productivity, competitive strength, and economic achievement. Knowledge has already become the primary industry, the industry that supplies the economy the essential and central resources of production."

The arrival of the knowledge era means that a different set of rules has to be followed. From economics to physics, a new paradigm shift is taking place. It can then be argued that the economics of Adam Smith today are being replaced by that of the likes of Paul Romer, that the science of Isaac Newton are being replaced by that of Albert Einstein and Stephen W. Hawking, and that the views of Charles Darwin and René Descartes are being replaced by the views of Stuart Kauffman and Michael Rothschild. What does this new paradigm shift tell us? That yesterday's battles are different from those of today and that the battles of tomorrow would be different from those of today. Thus, we cannot fight the battles of today with yesterday's weapons. Similarly, we cannot fight tomorrow's battles with yesterday's weapons. Malaysia and Malaysians must arm themselves with the requisite skills and expertise to survive and prosper in this knowledge era. We cannot be passive onlookers. Otherwise, this new knowledge era would pass us by. We must be part of this transformation brought about by advances in ICT.

Dr Mahathir Mohamad's vision to move Malaysia into the knowledge-based economy is thus laudable. It would help the country realise its goal of becoming a developed society by 2020 as well as help Malaysians benefit from the knowledge era. One of the strategies set out by Dr Mahathir for Malaysia to attain developed-nation status and to be a knowledge society is through the setting up of the Multimedia Super Corridor (MSC). The MSC, according to Dr Mahathir, is Malaysia's gift to the world. It would be a global testbed for cutting-edge technologies in the new information age. Dr Mahathir states his vision as follows: "Malaysia is crossing the threshold into the information age with hope and confidence. We are embracing the borderless world, and opening ourselves up to new forms of partnership and commerce made possible by revolutionary changes in computing, communications, capital flows and consumer tastes. While some see these changes as a

threat, Malaysia sees them as an unprecedented opportunity to 'leapfrog' our development and achieve our Vision 2020 goals."

The speeches in this book, some of them delivered by Dr Mahathir before the MSC project was started, points to his vision and genius. Today, the MSC project is a reality. It has exceeded most of the targets set for it and have been able to attract over 500 world-class companies most of which have relocated to the corridor. Others are still putting up their structures. The government have put in place the requisite infrastructure as well as the establishment of the Multimedia University (MMU) to train the necessary knowledge-workers that the country would need. Despite the Asian financial crisis of 1997 and the current global downturn, the MSC is well on its way to achieving Dr Mahathir's vision of leading Malaysia into the knowledge-based economy. The compilation and publishing of Dr Mahathir's speeches on the MSC and his vision of leading Malaysia into the knowledge-based economy is timely. It would contribute to the scant literature in this area and to the increased understanding of the importance of the knowledge-based economy to Malaysia and the important role the MSC is playing to bring about this.

1

Advancements in Communications Technology

THERE is no industry which is as furiously science- and technology-driven as the telecommunications industry. So fast has technology grown up and expanded that both the telecom's people and people in related and unrelated industries are quite breathless in trying to apply the technological capabilities and potentials of the newer and newer technology. And now wireless is everything. It is going to replace, outdo and outprice cables. And we haven't even begun to fully use cable telecommunication. Technology is really pushing us faster than we can utilise it. And it seems that we are only at the beginning.

Because of the speed of technological improvements, today's application may become outdated in a few months' time. Thus the iridium. It sounded so logical when it was being promoted. To be able to phone any-

A speech delivered by Dr Mahathir Mohamad at the opening of the 40th Meeting of the Commonwealth Telecommunications Council in Kuala Lumpur, Malaysia, on November 6, 2000

where in the world with a portable handset even if you are in the Arctic or Antarctic or in the middle of the Sahara Desert sounded fantastic. It meant that you can go anywhere and everywhere in the world and still can phone home.

And so the sixty or so low-orbit satellites were launched at tremendous cost. In the meanwhile wireless cellular technology was improving all the time. Roaming capacities extended enormously the area which can be reached by cellular phones. More new technologies were being introduced all the time and everyone can phone anyone anywhere except from the North or South Poles or the vast deserts. It suddenly dawned on everyone that they would hardly ever be phoning from these out-of-the-way places. They would be phoning from where cellular antennas are within reach and then on by satellite, or ground lines. Why do they need to have a relatively heavy expensive portable phone (too big for the pocket) when small, cheap cellular phones can do about everything the iridium can do and more?

And so billions of dollars worth of investments were lost because technology had moved faster than application. The same can be said of fibre-optic. As an enormously increasing number of signals are made to travel along each fibre at practically the same time, the myriad of fibre to cater for the expected increase in the number of calls in a given time becomes redundant. It is of course possible that new technology will make fibre-optics useful again. And so we go on.

The rapid advance of technology also creates difficulties for governments and politicians. They don't understand the technology and suspect that they are being taken for a ride. They feel that governments must control and license telecommunication companies and limit their numbers. The investments involved are very big and it is likely that many would fail, with serious consequences for investors, employees and also governments.

But telecom companies dislike licensing unless of course they have already been licensed and newcomers are excluded. However, the earlier ones may be stuck with expensive old technology which they plan to use and get a return on their investments. New technologies, we are told are cheaper and more efficient as well as lending to wider applications. Not to use them would make a country backward in terms of communication and business. And so new companies come up with proposals for state-of-the-art application since the old companies are not too keen.

The government will then encounter a dilemma. To reject new technology will be bad, to accept can cause a lot of losses for large old companies.

New technologies offer faster speed and a variety of new application, which can increase the productivity of a country. Rejecting or even delaying new technologies will reduce the competitiveness of a country's economy. With e-commerce and the k-economy demanding ever faster communication, the country cannot afford to delay or reject the new technologies. Besides there is the problem of convergence. It is no longer practical to separate communication from broadcasting, even less between telephony, faxing and Internet transmission. And so different licenses cannot be given for different services. One license would cover all. Obviously new technologies cannot be licensed separately from old technologies. The obvious answer is to have one license for everything. Still the convergence game goes on. There is no way of knowing where one begins and the other ends. Wherever the licensee begins he can expand to cover all areas.

The quality of the transmission has improved tremendously. I remember the days of having to shout into the mouthpiece when making long-distance calls. Today, the reception is so clear that one does not know the speaker is 12,000 miles away. This poses a special problem for the user. He might think that he is calling someone in the

same town when actually the person is on the other side of the world. The cost of his casual call would be very high. I still cannot figure how the callers are billed. It is no wonder that off and on someone gets a huge bill for calls he did not make. Maybe his foreign maid made it.

Suddenly, all these marvels and more have become everyday things. The whole scenario has changed. Many people seem to be talking and gesturing, laughing and screwing up their faces all by themselves. They seem to me to be slightly mad. But, of course, they are all communicating as they have never communicated before. Maybe Mr George Soros was selling a billion dollars of Malaysian ringgit and causing its exchange rate to plunge and impoverishing millions of people just by talking on hand-phone. That is now entirely possible with the new telecommunication technology. A word on the phone while walking along a street can make millions for the speaker while millions are thrown out of work, riot and destroy shops and vehicles.

But we are not deterred, of course. It is not the technology which is bad. It is the people who apply the technology who are bad. And so Malaysia intends to make full use of the technology for its growth and development.

First, we have launched the Multimedia Super Corridor (MSC), a chunk of land 15-by-50km extending between the Petronas twin towers in Kuala Lumpur to the spanking new, state-of-the-art Kuala Lumpur International Airport in Sepang. Within this area new policy, practices and laws which will facilitate the use of telecommunications for e-commerce and k-economy have been introduced. There will be incubators for small start-up companies and Research, Development and Operation centres for the big world-class companies. There will be software programmers and content producers.

A university, the Multimedia University (MMU), will train the majority of the knowledge-workers and will do research in new technologies, and content production and

will interact with the R&D facilities of the big companies. An entertainment village (e-village) will provide facilities for pre-production, production and post-production of animated and normal films and combinations of these.

All the necessary telecommunication and other infrastructure have been put in place. Everything that is needed for research, development, worldwide operational centres, have been provided.

Despite the economic downturn of 1997-1998 the MSC and the cybercity called Cyberjaya had not slowed down and has more than achieved its target. Today, more than three-fifth of the companies, including world-class companies, have been located in the MSC although we still have three years to go.

Investments by local and foreign companies have increased significantly from RM196 million in 1997 to RM1.7 billion while expenditure by MSC-status companies have reached RM2.3 billion in the 1997-1999 period. Total investment in the MSC is expected to exceed RM20 billion by 2005. In terms of employment, some 35,000 jobs will be created by 2005 compared with only 5,500 new jobs between 1997 and 1999.

The digital divide is synonymous with the knowledge divide. When countries develop they move into a higher level of knowledge. Today, prosperous economies are essentially knowledge-based economies. When we talk about the knowledge-based economy, we are really talking about information sharing. Technology should not be a privilege of those in the urban areas only, or in the rich countries only. Everyone, whether urban or rural, rich or poor, must be able to share in this knowledge. The use of information technology must be democratised.

However, while prescribing technology to bridge the 'digital divide' one must remember that technology simply provides the means. It is an enabler. The important thing is the application of the data and information that can be accessed. Handling data and information is a different

skill. It requires imagination and innovation. It is not just a question of doing what others are doing or what has been learnt. It is about applying data and information to do old things and to devise new things so that greater efficiency and productivity is achieved. One is always amazed that someone else's application or innovation is so simple that one should have thought of it. Thus the idea of selling goods and service via the Internet. Enough information and illustrations in 3D can be provided to enable a buyer to decide. The method of payment is also provided.

In this regard, I believe the Commonwealth Telecommunications Organisation can play a meaningful role in narrowing the digital divide by committing funds, resources and computer and Internet training to the less developed countries before they fall further behind in technology and wealth. I understand that there have been ongoing activities and technical cooperation programmes being implemented under one of CTO's flagship activities, namely the Programme for Development and Training (PDT). Nevertheless I hope greater focus will be directed towards addressing the issue of the digital divide.

We are aware that for a number of years successive CHOGMs have articulated support for a Commonwealth Network for IT Development (COMNET-IT) forum. However, beyond this high level lip service, there is a total void by way of any explicit resourcing or programming in Commonwealth functional cooperation and programme of the Commonwealth Secretariat. While the Council Meeting may not be the exact forum to champion this cause, the Commonwealth Telecommunications Organisation could serve as a platform to leverage for action in the spirit of making the Commonwealth truly an association of countries where wealth is common.

Unlike the Industrial Age which initially involve only the already rich Imperial Nations, the information age provides an opportunity for all countries to start together. All the countries, big and small, have potential markets for

telecommunication. Even remote islands in the Pacific can serve telecommunication needs because as independent nations they can make available certain licenses and facilities.

However, it is true that the rich and the technologically advanced are in a better position to exploit the technology worldwide. There is now a rush to gain shares in the telecommunications industry in all the countries of the world by the major international players. The situation is not unlike the oil industry where at one time the Seven Sisters monopolised the industry worldwide. I do hope that the big international companies will not try to monopolise everything. If they are needed to help the industry in poorer countries they should apportion a bigger share of the profits to their partners.

This is an opportunity of a millennium for many poor countries. Do not let them miss out on this. I do hope the Commonwealth Telecommunications Council will play a role in ensuring fair and equitable sharing in this field.

Commentary Advancements in communication technologies have contributed to the current socioeconomic revolution in our world today. With the advancement in communications technologies, our world has grown smaller, so to speak. It is now much easier to communicate with friends and relatives as well as loved ones miles away. By the day, wireless telephony is gaining ground over fixed-line telephony. Indeed, the convergence of advancements in communications technologies and information technologies have introduced what most economists and policymakers around the world term "the New Economy" or "the knowledge-based economy."

The challenges that the rapid advances in communications technologies and the consequences as well as the impact on developing countries cannot be emphasised enough. It is against such a backdrop and the effort to plan for other future challenges that the Commonwealth Tele-

communications Organisation (CTO) was formed. It has since served as a key forum for deliberating on important issues in the telecommunications industry and the formulation of policy to help Commonwealth countries prepare for the challenges in the rapidly changing telecommunications industry.

During the 40th meeting of the CTO, which was held in Kuala Lumpur on November 6, 2000, Dr Mahathir Mohamad, in his opening speech of the meeting, mentioned about the rapid changes in the telecommunications industry due to rapid advancements in technology and the impact it would have on countries and governments, especially in developing countries. In passing, I would like to point out some of the concerns raised by Dr Mahathir. First, it is often observed by technologists and futurists that countries cannot afford not to get on the technology bandwagon. But once they get on such a wagon, it is like a thread mill, you have to keep up. According to Dr Mahathir, this can create problems for governments and politicians, especially in developing countries, who with their meagre resources; just when they are about to catch up with an existing technology, are introduced to a new technology, which they may not understand. Second, he also raised the concern about the potential loss of investments and the consequences for employees that could ensue because the sector requires huge investments. Finally, Dr Mahathir touched on the troubling issue of the gapping digital divide that rapid advancements in telecommunications technologies have produced.

Does this then mean that developing countries should turn their backs on new technologies? Dr Mahathir's concern in highlighting the perils of technology is to make it clear that technology can be a double-edged sword. They relieve us of one human encumbrance to introduce another. From the experience of developing countries in Southeast Asia, especially during the Asian financial crisis of 1997, advances in information and communications

technologies were used to attack some of the currencies in the region. Albeit, developing countries must not turn their backs on new technologies like the Luddites. Also, they should not reject or delay the deployment of such cutting-edge technologies for it would impact on their competitive advantage. To paraphrase Dr Mahathir, it is not technology that is bad. It is the destructive use of technology by bad people that is bad. A cost-benefit analysis approach should be used by developing countries in the process of adopting and deploying new technologies.

Malaysia has thus embraced technology and is using it judiciously in its growth efforts. The Malaysian government under Dr Mahathir has set up the Multimedia Super Corridor (MSC), an area of 15-by-50km, extending from the Kuala Lumpur International Airport to the Petronas twin towers. In this designated area, Malaysia would use advancements in ICT to propel the country into a knowledge-based economy. The requisite infrastructure and infostructure, policies, laws as well as R&D would be undertaken. Located in the MSC is the Multimedia University (MMU), which would train knowledge-workers as well as undertake research into new technologies. The university would also be charged with the production of content for some of these new technologies and companies located in the MSC. An entertainment village (e-village) has also been set up to provide facilities for the production of other media-related entertainment products. In passing, mention should be made that the MSC is well on its way to moving the country into the knowledge-based economy. It has surpassed its targets and have been able to attract world-class companies and domestic companies which are now located in the MSC.

Unfortunately, not all developing countries are lucky to be able to position themselves to benefit from advances in ICT like Malaysia. In this regard, it points back to the problem of the creation of the "digital haves and have-nots," a concern of Dr Mahathir mentioned earlier in this

MAHATHIR MOHAMAD

commentary. What should be done? Dr Mahathir believes that, "the Commonwealth Telecommunications Organisation can play a meaningful role in narrowing the digital divide by committing funds, resources and computer and Internet training to the less developed countries before they fall further behind in technology and wealth."

2

E-Migration: Rising to the Challenges of the New Economic Frontier

YOU are all aware of how little I know about economics. However, as both the International Monetary Fund (IMF) and Mr George Soros have admitted, that I actually know something about it, perhaps I may be allowed to share a few thoughts with you on the knowledge-based economy (or k-economy).

I believe many of us are still suspicious of new terms like the “k-economy”. It sounds so “airy fairy”, so impossibly vague. Perhaps, even now, there are those who regard it in the same way as they regard ghosts. They hope it will go away and bother someone else.

So how “real” is this knowledge-based economy? It is real for the graphs show that productivity growth doubled in knowledge-rich economies. It is real because countries with flourishing knowledge-based economies have leapt ahead in world competitive rankings. Obviously since it is

A speech delivered by Dr Mahathir Mohamad at the official opening of the Conference on Knowledge and the 21st-Century Economy in Petaling Jaya, Malaysia, on October 17, 2000

real we will have to do something about it. We will have to espouse it and make it work for us in the same way that it has worked for others.

Like many people around the world, we are at a fork in the road. The path we choose will alter our future—perhaps irrevocably. Even as we sit back and question its usefulness, the k-economy is posing its own challenges for us. Can we master it or will those who master it race ahead of us, leaving us breathless as the Industrial Age had done in the past. Will we again lose out because we are late in grasping the opportunity to start together with others?

Whether we enter the New Economy early or late, one thing is certain. We cannot ignore this radical turn in the way business is done, in the way the economy is managed and grown. We cannot ignore the massive leverage that knowledge provides those with the skill to use knowledge.

Knowledge of course have always played a role in the progress of nations. Knowledge of the stars and the geography of continents had enabled the early civilisations to trade with distant places and exploit distant lands. Knowledge of the sciences had contributed to the Industrial Age. But today knowledge refers more to the speed of communication and the spread of information and data. Everything that anyone needs to know in order to make a decision is at everyone's fingertips literally. The deciding factor is the skill and the speed with which one uses the information in order to decide. And that skill and speed comes from the depth of knowledge that one has of how the different elements and technological capacities can be made to work to yield a desired result.

Never in the history of human civilisation has software become so important a complement of hardware. The hardware may be the same but software determines what hardware can deliver or not deliver. As new software are developed the old hardware will become more versatile, delivering what it was not able to deliver before. And soft-

ware, more than hardware, is dependent on knowledge and the innovations which come from it.

Thus everyone knows of electronic commerce but it took a man with ideas and knowledge to come up with Amazon.com. Suddenly billion of dollars worth of worldwide business becomes possible for a single man with an unknown low-capital company. The means of communication, the data and the goods are there but knowledge about the way goods can be procured, paid for and delivered in a modern financial system made Amazon.com a fantastic business. It is not yet profitable but it has certainly pioneered the way business will be done in the knowledge-based economy.

We should all be enthusiastic about knowledge as the basis for doing business. But we should also remember that when new things replace the old there will always be a cost. The ease of selling through cyberspace will probably increase the consumption of products but it will also destroy those who were in the business before the k-economy. Thus when dotcoms businesses supply goods and services faster, more efficiently and at lowers costs, the old players will be put out of business. There is much talk of creative destruction. It is fine if what is destroyed is owned by those who create, but far too often they are not the same people. Thus others will have to pay the price for the success of the new creations of the new e-business.

When dotcoms supply directly to the consumers, they and the delivering companies will make money. But the old importers, distributors and retailers will go out of business. Indeed even governments may lose out as the small quantities of goods delivered direct to the consumers may attract no duty at all. And, of course, the government will lose the corporate tax paid by local companies including the transport companies.

Whether this is good or bad is difficult to determine now. We have not had enough experience of the real workings of e-commerce and the knowledge-based economy.

There may be other benefits to the destroyed businesses and to the government. Possibly the increase in the volume of business will generate more business and more revenue. But we don't really know. What we do know is that the destruction may be considerable and there will be disruptions and instability.

The enthusiasm about the k-economy is infectious. Many see unlimited growth and unprecedented new wealth being generated. They see the dotcom and other Internet-based companies as money spinners. Unable to take advantage themselves of knowledge and the ease of communication that has presented itself, they go into a frenzy of investments putting money in anything at all that is even distinctly related to e-commerce.

The result is predictable. The shares of dotcoms skyrocketed until they bear no relation whatsoever to the actual business being done. Dotcoms may be based on knowledge but they still have to deliver goods and services at prices which will give them a reasonable return. In the rush to take advantage of the new ways of exploiting data and knowledge, the economics of doing business, the cost and the returns appear to have been given too little attention. As a result profits were difficult to achieve.

But as company shares shoot up there was a feeling of euphoria over easy money, of wealth from nothing more than a belief in the wonder of dotcoms. As shares skyrocketed more money is poured into the purchase of shares. Loans were raised based on the value of these rapidly rising shares and expectations of more capital appreciation. The bubble grew and grew and as expected it bursts. A lot of people got hurt. A lot of money was lost. And suddenly dotcoms became liabilities as their failure to make money became general knowledge.

But this does not mean that dotcoms are incapable of making profits or of growing. As is usual with business, good management and proper accounting of the real potential will yield good returns. There will be capital gains

but such gains must be related to assets and performance and not romance or fanciful expectations.

Malaysians must embrace e-commerce and the knowledge-based economy. But Malaysians must not place too high an expectation from this new business. There is a lot of money to be made from the right kind of application of data and knowledge, the right software and the right ideas. It is entirely possible for e-companies to grow rapidly and to yield high returns for the innovators and entrepreneurs. There will be failures but this should not deter the realists bent on exploiting new ways of doing business.

The most attractive thing about e-commerce is how easily you can become global. Borders do not restrict business the way they do the old businesses. Market penetration is much easier. There is no need to appoint agents, and distributors. The sale is direct to the consumer. The efficient and worldwide delivery services provided by such companies as DHL and UPS ensures that goods are delivered to the customers without need for local transport and delivery companies.

Start-up companies in the Internet-based business come fast and furious. They are really based on ideas for the application of data and the speed and directness of communication. But financing a new business will always be difficult despite the venture capitalists being willing to lose money on nine-tenth of their investments. But when a company hits paydirt the returns can be very, very considerable. Market capitalisation can grow very rapidly. E-commerce companies which are only a few years old have been known to buy up major corporations which are more than a century old.

In e-commerce experience can even be a hindrance, especially experience in the old business and the old way of doing business. As a result many who venture into e-business are young people, usually in their twenties, who had just come out of universities. But a university educa-

tion is not a necessity. Indeed many of the most successful people involved in start-ups of e-business are university dropouts. So no one need feel discouraged if they have a good idea about an innovative application of knowledge and data and the exploitation of the vast amount of information available on the Internet. It is always possible that their ideas may work and venture-capitalists might be convinced enough of the feasibility so as to invest in it.

Facilities are available in Malaysia now to test out ideas and concepts of e-business. The universities and Cyberjaya have incubators where investments required is small and common facilities are available. Once the business develops and are viable enough it can move to better facilities.

The knowledge-based economy is about information and knowledge leading to better products and services. Even growing *sawi* can be a k-economy activity if the *sawi* grower uses the Internet to seek information on how best to grow *sawi* or on how to link supply and demand more efficiently.

Every single one of us should start looking at everything from the perspective of cyberspace. How can you do the things that you are doing now better and more profitably by applying knowledge and readily available access to data and communication. Today's seminar will not result in knowledge unless it produces a change in your behaviour. Information only becomes knowledge when it becomes so much a part of the way you improve and enhance the way you do things.

The knowledge-based economy is all about learning. As long as we are prepared to keep learning from each other and from the world, the knowledge-based economy should be a piece of cake—and an ever expanding one at that.

Commentary The trumpets were sounded years ago about the arrival of a "New Economy", an economy where the intense application of knowledge to the diverse sectors of national economies would lead to quantum leaps in growth. Futurists like Jules Verne, Isaac Asimov and Alvin Toffler were drum majors in this effort. But how come the majority of us did not hear these trumpets? Did someone intentionally muffle these "trumpets of warning"? Such concerns are commonplace with us mortals. Most of us procrastinate until events dawn on us. Worse, not only are we not willing to accept such new changes, we can also become steadfast in our unwillingness to change our old ways. Yet history is replete with examples of civilisations that were wiped out because of the unwillingness to change with the times, e.g. the ancient Roman empire, Greece and the British Empire.

Dr Mahathir's speech, "E-Migration: Rising to the Challenges of the New Economic Frontier," is thus timely and compelling in its deliverance. It is more of a clarion call, clear in its message about the benefits of the New Economy, albeit cautiously pointing to the pitfalls and pot-holes on the road that leads to a knowledge-based economy. But first, the spurious question of what a knowledge-based economy is, is worth asking. When we talk about a knowledge-based economy, are we implying that in the previous production economy (p-economy) there was no use of knowledge? Definitely not. The difference between previous and current economies is how "intense" the application of knowledge is to the production sectors.

So how "real" is this knowledge-based economy? Such a simple but probing question asked by Dr Mahathir points to how sceptical many people are about the knowledge-based economy. Even renowned personalities like Alan Greenspan, the chairman of the US Federal Reserve, and Robert Solow, Nobel laureate in economics, have all at one point asked such questions. Today, they are all converts or almost converted to the idea. As pointed

out in his speech, Dr Mahathir believed that "It is real for the graphs show that productivity growth doubled in knowledge-based economies. It is real because countries with flourishing knowledge-based economies have leapt ahead in world competitive rankings."

It is thus a challenge for Malaysians to rise up and embrace the knowledge-based economy mastering its intricacies and should make the knowledge-based economy work for Malaysia just as it has done for those countries that have mastered it. There is no room for the development of a "wait-and-see attitude," complacency, or a Luddite mentality. The cost to the nation if they do not embrace the knowledge-based economy cannot be measured only in terms of opportunities forgone but also in its competitiveness and could also result in the erosion of its economic gains it fought to attain in over 30 years. Dr Mahathir puts it best: "We cannot ignore this radical turn in the way business is done, in the way the economy is managed and grown. We cannot ignore the massive leverage that knowledge provides those with the skill to use knowledge."

But the call to Malaysians to embrace the knowledge-based economy does not mean that they should be oblivious to the fact that it has costs. As we are aware, ICT are the main drivers of such an economy and just like any innovation, it can be likened to a double-edged sword. While these new innovations save us from old human encumbrances, they also introduce new problems. A good example is doing business in cyberspace. Goods and services can now be moved around the world faster and easier. The success of New Economy companies like Amazon.com and Yahoo.com are cases in point. But they also end up destroying older established companies in the process. Another problem is the dark side of doing business in cyberspace where underground and criminal elements now populate using this new medium to commit numerous criminal acts. It has posed a serious challenge to developing countries like Malaysia where the demand for govern-

ment resources for diverse developmental projects has led to the inability of governments to commit all their resources to only fighting criminals on the Internet.

Another cost as outlined by Dr Mahathir in the speech is the challenge Malaysia and many developing countries would face with the advent of the knowledge-based economy. There is the possibility of many governments losing out in their ability to collect taxes from many knowledge-based economy companies like dotcoms who could set up operations anywhere in the world. Indeed, it is difficult to determine where such companies are located using just their URLs. Thus a reduction in tax revenues could affect proposed development projects that are supported by governmental subventions.

Despite such costs of the knowledge-based economy, it also offers many advantages. Most of these companies in the knowledge-based economy have the ability to grow from little-known businesses to global giants in a very short time. The example of America Online (AOL) is a case in point. AOL, a young, obscure company from nowhere gobbled up Time Warner, a long-established company. But as Malaysians rush to embrace e-commerce and the k-economy, caution should be adopted, especially in the adoption of good management, proper accounting methods and all the necessary due diligence methods. According to Dr Mahathir, potential capital must relate to assets and performance of such New Economy companies, not based on romance or fanciful expectations.

The challenge is therefore for Malaysians to embrace the knowledge-based economy. Dr Mahathir puts it best: "Every single one of us should start looking at everything from the perspective of cyberspace. How can you do the things that you are doing now better and more profitable by applying knowledge and readily available access to data and communications." I must add that the MSC, the brainchild of Dr Mahathir, could help Malaysians transit from a production economy to one based on knowledge.

3

Strengthening Growth and Mutual Prosperity

BRITAIN and Malaysia share an economic tradition and trading ties that stretch over two centuries. Given this background, we should look ahead for avenues and channels whereby we can reinforce this relationship for the good of both our countries. The importance of such cooperation has become more so given the rapidly evolving landscape of the world's economy which is being driven by new ideas and perceptions. It is only through a strong partnership between British and Malaysian companies that we can strengthen the economic growth and prosperity of Malaysia and I am sure of Britain too.

Malaysia's economic recovery has gathered significant momentum this year. Underlying such positive outlook is the clear evidence that the economy is becoming significantly more resilient to external shocks and systemic

A speech delivered by Dr Mahathir Mohamad at the 3rd Meeting of the Malaysian-British Business Council and Conference on Malaysia-British Partnership for the 21st Century in Kuala Lumpur, Malaysia, on October 5, 2000

risks. This is made possible by recent policy measures to strengthen the nation's external reserves, the financial system and the corporate sector. The Malaysian economy rebounded to register a growth of 5.6 per cent in 1999 after a contraction of 7.2 per cent in 1998 which had followed a growth of a similar figure the preceding year. The first quarter of this year recorded a strong GDP growth of 11.9 per cent whilst the second quarter notched 8.8 per cent. Growth has been broad-based driven both by aggregate demand and supply.

Although all sectors of the economy have registered positive output growth, the manufacturing and services sectors stood out as the most robust sectors. The manufacturing sector will benefit from the stronger growth expected in world trade, a robust recovery in the East Asian economies and stronger domestic demand. Manufacturing output is forecast to sustain a growth of 8 per cent this year, while export-oriented manufacturing industries are expected to step up their output by an average of 7.9 per cent, driven largely by continued strong overseas sales orders for electronic products and parts, underpinned by rapid developments in information technology applications. Meanwhile, the services sector is expected to increase in terms of value-added at a rate of 5.3 per cent, with all the subsectors projected to record stronger growth.

In addition, inflation has remained fairly stable despite the pick-up in economic activities and increase in capacity use in major sectors. It moderated to 2.8 per cent in 1999 from 5.3 per cent the year before and is expected to be kept below 4 per cent this year. Barring any major downside risks that could derail the favourable world economic outlook, these developments should provide the necessary impetus for Malaysia to record a GDP growth of 5.8 per cent this year, as projected by the government.

Such heartening figures would not have been possible had we not taken the controversial and much maligned

unorthodox measures to counter the downward spiral and to ride out the recession. The selective capital controls have almost been done away with, excepting for a 10 per cent levy on repatriated profit. But controls on exchange rates will stay and will remain at its present level. They have proven to be of no harm to anyone and obviously they help business. They have certainly contributed to the strong economic recovery. The condemnation of Malaysia's unorthodox measures has now lessened. Indeed many, including the International Monetary Fund (IMF), and even the currency traders have now acknowledged that the heretical ways of Malaysia can even be adopted under certain circumstances. The currently undervalued ringgit, together with its fixed rate against the US dollar, the main trading currency of the country, is attracting multinational companies to relocate their operations to our Malaysian shores. Undoubtedly, Malaysia remains an attractive location for foreign investors and its export-led industry is internationally competitive.

Now that the Malaysian economy has regained its footing, it should help stimulate closer economic ties between Malaysia and Britain. The time is especially propitious for the business community from both sides. We must cement our partnership for growth and mutual prosperity. Britain has always been an important trading partner for Malaysia. Despite the economic downturn towards the close of the 20th century, the total bilateral trade between Malaysia and Britain has seen a gradual increase over the last seven years. From a total of RM8.79 billion in 1993, Malaysia-British bilateral trade rose to RM17.68 billion in 1999. Even throughout the bleak years of recession, the increase in bilateral trade did not slow down significantly.

Amongst the European Union (EU) countries, Britain stands out as Malaysia's second largest trading partner, accounting for 22.2 per cent of Malaysia's total trade with the EU last year. In global terms, Britain is our ninth largest trading partner, accounting for 3.1 per cent of Malay-

sia's total global trading. It is also worth mentioning that Malaysia's export to Britain totalled RM12.07 billion in 1999, thus making Britain our seventh largest export market in the whole world. Out of the 14,586 cars exported by Proton until March this year, a third was shipped to Britain.

Despite this we cannot rest on our laurels because I am sure we can achieve more. I believe this is possible especially in areas where our respective countries have certain comparative advantages. For instance, much of Malaysia's comparative advantage lies in its efficient low cost manufacture of semi-conductors and components used in automatic data processing machines and electrical apparatus. These made up a large chunk of Malaysia's exports to Britain. On the other hand, Britain's comparative advantage lies in the manufacturing and exporting of thermionic valves, tubes and related parts, and high-technology products. In exploiting such comparative advantages in trade and bilateral economic ties, both sides cannot help but contribute to enhancing our bilateral trade. It is highly commendable that your new trade development and promotion organisation, Trade Partners UK, is actively promoting trade and investment opportunities in Malaysia amongst British companies.

There is a great deal of opportunities and avenues that can be exploited by British-Malaysian partnerships which can contribute towards greater economic growth and prosperity for us both. In Malaysia itself, there are tremendous opportunities for investments awaiting foreign investors. Over the last 30 years, the Malaysian government has consistently maintained an investment-friendly and pro-business environment, made more attractive by Malaysia's political and socioeconomic stability. This has been particularly welcomed by all foreign investors as it has provided them with a predictable stable and favourable environment for doing business. I can assure the many British captains of industry and potential investors

present at this meeting that the Malaysian government will continue to maintain the most conducive environment possible for business which will pay off for those who are ready to invest.

Malaysia's educated and productive workforce, excellent infrastructure, consistent business friendly policies have contributed to its success in attracting foreign direct investments (FDIs), especially in the manufacturing and information technology sectors. Today, after a mere three decades since Malaysia switched from plantations and mining to manufacturing, it has gained a reputation as a cost-competitive location for the manufacture of high-technology products for the regional and world markets.

Such is Malaysia's attractiveness as a manufacturing centre that since 1995, US\$17.1 billion has been approved for investment, half of which is for manufacturing. In the first seven months of this year alone, we have received investment applications worth US\$4.6 billion—a figure which has already exceeded the US\$3.68 billion worth of proposed projects during the whole of last year. These figures bear testimony to Malaysia's continued attractiveness as an investment hub in the region. Britain, with investments worth US\$394 million in 118 manufacturing projects between 1995 and July this year, is the ninth largest investor in the Malaysian manufacturing sector. You will agree with me that given our closeness this is not what we should see. Britain should really rank amongst the top three.

I believe Britain, with your vast experience in industrialisation and your technological know-how, can play a pivotal role in helping us to realise the aspirations and targets laid down in Malaysia's Industrial Master Plan. One of the many ways is through investing in our high value-added manufacturing industries and technology sectors, and at the same time facilitate the transfer of technological know-how that would, at the end of the day, reap profound benefits for both sides—profits for the investors, and tech-

nological advancement and growth for the Malaysian industries.

Malaysia is fast becoming a favourite location of multinational corporations for regional manufacturing-related operations. As of May 31 this year, the Malaysian government has approved 636 representative offices, 335 regional offices, 52 operational headquarters (OHQs) and 47 international procurement centres (IPCs). The opportunities for British companies to set up IPCs in Malaysia are immense. An IPC will not only serve as a centre to procure or distribute raw materials, components and finished products, but will also provide a strategic gateway to tap and penetrate the markets of the surrounding region. By the end of this year, the combined sales of these IPCs located in Malaysia are expected to reach US\$3.97 billion. Our liberal equity policy which generally allows foreign investors in Malaysia's manufacturing sector to hold 100 per cent equity in projects which export at least 80 per cent of their production is another positive draw. Even more attractive is the policy which permits foreign investors to hold 100 per cent equity irrespective of their level of exports for project applications received until the end of the year.

There are already several British companies which have invested significantly in Malaysia, including Blue Circle (approximately £40 million), British Telecom (BT) (£275 million), British Petroleum (BP) (£130 million) and National Power (£80 million), not to mention many others like Royal Dutch Shell, Unilever, Rolls-Royce and Cold Storage. I look forward to seeing the growth of such investments. At the same time, given that Britain has one of the most business-friendly environments in the EU, including easy access to the EU, a skilled and flexible workforce, and a world-leading science base, I am sure that Malaysian investors can also benefit by investing in Britain. Proton's investment in automobile engineering by acquiring Lotus is a prime example of the many strategic op-

portunities available for Malaysians to invest in Britain, especially in areas where we lack technical expertise at home. In fact, the technology acquired from the purchase of Lotus has enabled Proton to improve the ride and handling of its cars. Excel, the new exhibition centre on the Thames, is another example.

British-Malaysian partnership in the form of various strategic investments will hugely benefit both countries in being gateways to respective regions. By the year 2003, Malaysia is poised to be an even more attractive location and a strategic gateway to the Asean market given that intraregional tariffs will be reduced to between 0 and 5 per cent with the establishment of the Asean Free Trade Area (AFTA). Manufacturers with production bases in Malaysia will be able to export freely or with minimal duties to other Asean member countries. By the same token, we see Britain as a strategic gateway for Malaysian companies to penetrate not just the EU market but also greater Europe.

Another crucial area which I believe British-Malaysian partnership will augur very well for the new millennium is in information and communications technology (ICT). Undoubtedly, developments in ICT—the Internet, in particular—and the convergence of technologies have significantly shaped not only our lifestyles, but also the nature of businesses and the way businesses are conducted. The growth of e-business is phenomenal. While the radio and the television have taken 38 years and 13 years respectively to reach 50 million users, the Internet has taken only five years. If we fail to harness ICT, we will be left out in the cold.

I would therefore urge both British and Malaysian companies and technopreneurs to work together to capitalise on the opportunities in the ICT sector. The Multimedia Super Corridor (MSC) project in Malaysia offers British companies a unique opportunity to catalyse a virtuous circle of development amongst local, regional and international businesses. The MSC should be highly attractive for

British companies wishing to develop or use multimedia technologies to provide value, and for expansion into Asian markets. We have put in place policies, practices and cyberlaws which alongside Malaysia's relatively lower cost would make the MSC a prime place to do business out of.

Currency turmoil notwithstanding the MSC project has remained on track. There are already 362 MSC-status companies with 37 being world class. By 2003, we aspire to have 50 world-class companies in the MSC. In the recent annual International Advisory Panel (IAP) Meeting, members gave their thumbs up for developments that have taken place in the Corridor. Many were impressed that the MSC is actually ahead of schedule.

There is much that British companies can offer Malaysia in terms of technology, know-how, and capital and at the same time the MSC can offer the platform for British companies to incubate new breakthrough technologies that will shape the future. I am glad that British companies such as BT, Druid, Madge and Reuters are playing a significant role in the MSC. I can foresee there are more avenues for cooperation amongst Malaysian companies and our counterparts in the Silicone Glen and Fen in Scotland, as well as Cambridge in England.

I am also pleased to see the strategic partnership between Malaysia and Britain in developing Malaysia's very own "Universal Studios", known as the entertainment village (e-village). The RM3 billion project would complement the efforts of the Multimedia University and other research and content providers located within the MSC.

Knowledge is at a premium in the New Economy. To succeed we will need more knowledge and knowledge-workers to fill the expected demand of the MSC. We have worked out our requirements for such workers and we feel we can train them. Still we think there is an opportunity here for cooperation in training at university and other levels. We use English as the medium of instruction

and, needless to say, British institutions of higher learning can play a role in the education of our knowledge-workers.

It is highly crucial for the business community of both sides to strive together to synergise resources, capabilities and experience to achieve common goals. Britain and Malaysia can work together to minimise any negative impact of globalisation. I urge the business community of both countries to forge closer understanding that translates into real cooperation and businesses.

These are the days of interdependence and interconnectivity. We must realise that no one nation can live and survive on its own. It is becoming increasingly obvious that the zero-sum game is obsolete. We need to work together for mutual growth and prosperity. In this regard, I sincerely wish to see the partnership between Britain and Malaysia soar to greater heights, with both countries counting on each other's strengths to cement growth and attain greater prosperity.

Commentary Advancement in the global economy in the area of information and communications technology (ICT) is ushering in a knowledge-based era, where knowledge and ideas form the basis today for advancements of countries. This calls for a concerted effort on the part of countries to collaborate with each other for the economic growth and development of their various countries. Britain and Malaysia are two countries that share a long tradition of trade and economic ties that dates back to about two centuries ago.

Dr Mahathir elaborated at length on this tradition and have given figures to show how these relationship have benefited both countries and how the two countries should continue to collaborate on such a front. However, there is a new area of which British and Malaysian partnership could serve both countries well. The convergence of technologies have brought with it new challenges and

each country cannot afford to go it alone. This area is ICT. Countries who refuse to harness their resources would be left out in this race. Malaysia and Britain can benefit from this new convergence. Malaysia has set up the Multimedia Super Corridor (MSC) and is inviting British companies to take advantage of this unique opportunity to develop or use multimedia technologies to provide value and products for the Asian market. The Malaysian government has put in place policies and practices, the requisite infrastructure and cyberlaws to make doing business in the MSC attractive.

Knowledge-workers will be needed to meet the needs of most of the world-class ICT businesses that would be located in the corridor. The Malaysian government has put into place the necessary requirements that would facilitate the bringing of knowledge-workers from abroad. Meanwhile, Multimedia University and most of the universities in the country are training the requisite knowledge-workers that the country needs for its move into the knowledge-based economy. British companies should not have any problem locating their businesses in the MSC. They can offer Malaysia technology, know-how and the capital that the MSC needs to grow. The MSC would also offer British companies a testbed for their new technologies. Mention should be made that British companies like BT, Druid, Madge and Reuters are already playing a significant role in the MSC. There is a hope that more companies would be part of this move to the MSC from Britain.

Dr Mahathir concluded his speech by saying that "These are the days of interdependence and interconnectivity. We have to realise that no one nation can live and survive on its own. It is becoming increasingly clear that the zero-sum game is obsolete. We need to work together for mutual growth and prosperity." This profound statement by Dr Mahathir might be at the time of the deliverance of speech be an appeal to Britain but indirectly, it ap-

MAHATHIR MOHAMAD

plies to all countries, particularly those in the developing world, that unilateralism in the era of the knowledge-based economy is a recipe for failure. Rather, bilateralism and indeed multilateralism is the way forward. I would like to echo such an appeal: in the era of the knowledge-based economy, developing countries, in particular, must collaborate or be left behind.

4

Smart Partnering for the New Economy

THE theme of this year's dialogue is global trends and emerging economies. I would like to take this opportunity to touch on a few aspects of globalisation.

Globalisation is not merely a process but has also become an ideology. From one international forum to another, the proponents of unbridled, supposedly 'unstoppable' forces of globalisation and trade liberalisation continue to sing their song of "the ticket to a better life for everyone". This ideology is preached to us as being full of glorious benefits. I continue to look long and hard for evidence that this may in fact, be true. But all around, the arrows point in the opposite direction. Sadly, the number of downturns and negative aspects of globalisation which many of us have actually experienced are seldom mentioned or discussed. If they are, they are not attributed to

A speech delivered by Dr Mahathir Mohamad at the official dinner in conjunction with the meeting on Global 2000 International Smart Partnership in Kuala Lumpur, Malaysia, on August 21, 2000

globalisation but to things like bad governance, lack of democracy, cronyism, etc.

In nation-building, when caution is not exercised and care not taken; when the interest of people and nations are gambled upon on the basis of an 'ideology', when decisions are not grounded in reality and the hard facts are ignored, there will be calamity. The promoters of the ideologies are of course to blame. But we who make the decision to convert cannot be totally blameless. How many times have we seen ideologies destroy nations and yet when a new ideology is promoted we accept it as the perfect and infallible solution to all our problems.

The man in the street may be oblivious to the forces of globalisation. Yet it will affect him with as much intensity, as it will the heads of government and captains of industries. The reactions of governments and industries to globalisation will bear finally on the ability of individuals to enjoy economic freedom and empowerment; and whether individuals live in a free land and be master of their own destiny. Globalisation merits serious thinking and we need to strategise our responses to the major issues ranging from business globalisation and trade liberalisation, sustainable development, the knowledge-driven economy and the sociopolitical concerns such as democracy, the rule of law and human rights.

If the amount of money circulating around the globe is anything to go by, we are trading more now than at any other moment in human history. Financial liberalisation has certainly been extensive, and the world has borne witness to massive financial flows and market penetrations. The volume traded in the world foreign exchange market has grown from a daily average of US\$15 billion in 1973, to over US\$900 billion in 1992, and the number today far exceeds US\$1,000 billion a day.

But where does all this money go? What productive and essential economic activities does it support? The hard reality is that a mere 2 per cent of foreign exchange

traded is used for trade payments. The rest of the transactions are all speculative in nature. And speculation is non-productive. In fact it is truly destructive, as the East Asian economies learnt to their cost in 1997-1998 financial and economic turmoil.

Who benefits from all of these so-called 'trade liberalisation'? The beneficiaries are clearly a select and privileged group. The top fifth of the world's population in the richest countries enjoy 82 per cent of the expanding export trade and 68 per cent of FDIs—the bottom fifth barely more than one per cent. Between 1980 and 1996, only 33 countries managed to sustain 3 per cent annual growth. For 59 countries mainly in sub-Saharan Africa and Eastern Europe and the CIS, GNP per capita had in fact, declined.

Twenty per cent of the world's population in the developed countries receive 82.7 per cent of total world income, while the 20 per cent of the world's population in the poorest countries receive only 1.4 per cent. In 1989 the average income of the 20 per cent of people living in the richest countries was 60 times higher than that of the 20 per cent living in the poorest countries. What is more alarming is that this ratio has doubled, from 30 times in 1950.

The glorious promises of globalisation have yet to materialise. A reckless approach to trade liberalisation without due consideration for one's own ability to cope will only contribute to a vicious cycle of trade and balance of payments deficits, financial instability, debt and recession, not to mention the social costs of dumping and general economic erosion. A misstep carries with it a cost no less than catastrophic for nations and people. A blind acceptance of an ideology that to date stands as just that—an ideology—is unacceptable, naive and downright dangerous.

To equate globalisation with a guarantee for economic advancement is a gross oversimplification of the realities that surround international trade. Despite the best of in-

tentions and most progressive macroeconomic policies of developing nations, better trade performance does not necessarily translate into increases in living standards. Given the international division of labour, where high-priced goods are produced by the advanced nations of the world, and the production of low-value items are relegated to developing nations, the terms of trade for developing countries are almost always unfavourable.

I am not convinced that the developed nations are at all interested in this so-called 'level playing field'. Globalisation as it stands clearly means access of products of developed nations into the developing world. And yet, high tariffs still persist in developed countries in sectors such as agriculture, textiles and steel in which developing countries may have comparative advantage. If not tariffs, then it is standards, subsidies, labour conditions, human rights—the goal-posts keep changing against our favour.

This clearly calls for a new way of thinking, for developing nations to chart a new paradigm in nation-building such that old mistakes are not repeated. Given the onslaught of voices propagating the good of an open and liberal economy, sovereignty as a basis for self-determination and empowerment seems contradictory and out of place. Yet at no time is it more relevant than it is now.

It is not without a good reason that the last World Trade Organisation (WTO) round in Seattle came to a stalemate. Nation-building is not only about the lowest cost, it is equally about social justice and a conducive environment for the development of human dignity. A grain of rice or wheat or maize or barley is not simply an issue of how much it cost to produce but does the person planting it make a decent living? And who ends up eating the produce? Nation-building is about the ability and freedom and flexibility to make strategic choices in finance, trade and investment for oneself. If nations are willing to accept higher prices in order to acquire the technologies to com-

pete later, that should be the right of sovereign nations to decide.

It is ironic that the very same people who advocate freedom of speech and rights of expression are the very same to clamp down hard on what they see as dissenting views on their brand of globalisation. Malaysia's rejection of the IMF formula and the decision to regain exchange rate control and regulate the flows of short term capital have now been reluctantly accepted by the international community as a viable alternative to the IMF prescription. By their own admission, a 'cure all' for economic ills of the world simply does not exist. Yet barely are we out of the crisis, a new 'prescription' is being forced down our throats. How soon we forget. And what is the price of such a memory lapse?

Developing nations must ask themselves where they want to go from here. What are the options open to them and what they intend to do about it. While the developed world embraces the new knowledge-driven economy in all eagerness, developing economies, to the level that is comfortable and attainable, must also embark on a quest for knowledge in all its forms. Knowledge is the domain of all the citizens of the world and cuts across all strata of economic activity. It is certainly not limited to cutting-edge technology and the ICT sector, as we are commonly led to believe.

It is on this premise that Malaysia has embarked on an agenda for intensification of knowledge use in all sectors of the economy, new and traditional. This entails the concerted effort of all stakeholders in the Malaysian economy to acquire and generate bodies of knowledge. Coupled with the ability to effectively translate knowledge into technological and social advancement that elevates the living standards of the populace, this is empowerment in its truest sense.

'Technology-based economic development' is a unique phenomenon. Development was once a matter of accumu-

lating physical and human capital. Within that process there is what is known as the 'convergence factor'. This assumes that a well-governed developing country experiences high returns from investment, which in turn attracts an inflow of foreign capital, thus narrowing the gap between rich and poor nations.

Technological advancement, however, dances to a different tune. With increasing returns to scale in their favour, regions with advanced technologies are best placed to further innovate, with the gap between the technological haves and have-nots ever widening. Innovation requires physical, financial and social infrastructure—demanding even to the most advanced of nations. But a developing country grappling with limited resources and a multitude of needs will fail to innovate. Worse still whatever talents they may have would be enticed away because they lack the facilities and could not match the terms offered by rich countries.

Emerging economies, therefore, must see the process of globalisation from all aspects. Most decision making at the international level seemed to safeguard the interests of the more matured economies without regard to national sovereignty, economic freedom, economic empowerment, socioeconomic programmes, and technology development agenda being undertaken by developing nations.

It is precisely in this context that the smart partnership practice promises to make the most impact. Smart partnership can help unify concerns and actions and to formulate a common stand and embark on cooperative actions in order to counter any perceived negative forces of globalisation affecting the emerging economies. The smart partnership dialogues, such as this, can well serve as focal points to deliberate and share our views and experiences and to nurture continued interactions amongst members and smart partners in between dialogues.

I observe that the Commonwealth Partnership for Technology Management (CPTM) can assume a catalytic role in synergising the many different dimensions of the subject of globalisation with a truly achievable 'win-win' result. 'National smart partnership hubs' will have to come forward, and work closely with CPTM, and set priorities for action. In this regard, I would like to offer MIGHT, the 'Malaysian smart partnership hub' to assist whenever we can.

Commentary The tidal wave of globalisation is sweeping down on our global village like a gush of floodwaters. Its impact on developed and developing countries as a whole cannot be emphasised enough. The impact on the man on the street in developing countries that may be oblivious of the forces of globalisation cannot be emphasised enough. Its impact on the governments and industry in developing countries would be seen in the ability particularly of governments to offer their citizens the choice to be masters of their own destinies and to be able to chart their own freedoms. In passing, one can only point out that the impact would be of socioeconomic and political and cultural in nature. Thus the question is not whether developing countries should turn their backs on globalisation. Far from that. The question is what kind of globalisation and what should developing countries do?

According to Dr Mahathir Mohamad, developing countries need to seriously think about globalisation and its impacts and to devise a strategic response to the challenges it would pose. He adds that a blind acceptance of globalisation in its ideological form is naive and downright dangerous. Furthermore, the glorious promises of globalisation are yet to materialise. "A reckless approach to trade liberalisation without due consideration for one's own ability to cope will only contribute to a vicious cycle of trade and balance of payments deficits, financial instability, debt and recession, not to mention the social costs of

dumping and general economic erosion," exhorts Dr Mahathir. He adds, "To equate globalisation with a guarantee for economic advancement is a gross oversimplification of the realities that surround international trade. Despite the best of intentions and most progressive macroeconomic policies of developing nations, better trade performance does not necessarily translate into increases in living standards. Given the international division of labour, where high-priced goods are produced by advanced nations of the world, and the production of low-value items are relegated to developing nations, the terms of trade for developing countries are almost always unfavourable."

Such a profound statement is the truth for most developing countries that face a constant fluctuation of the prices of their primary products in the world market. Is globalisation therefore fair? It depends on which side of the divide you are on. Those in developed countries believe it is fair. Those in developing countries do not see it as fair because they believe that it is way of developed countries selling their products in developing countries and yet they have imposed high tariffs on agricultural and textile products from developing countries. Where they do not impose tariffs, they have given substantial subsidies to certain industries and sectors in their various countries. These are some of the areas developing countries may have a comparative advantage. It thus ends up in putting them in a comparative disadvantage. According to Dr Mahathir, "... the goal-posts keep changing against our favour."

This bleak scenario thus calls for developing countries to band together, to develop a new way of thinking, a new paradigm, so to speak, to prepare to face the challenges of globalisation and nation-building in the era of digitisation. The importance of such new thinking in the era of the New Economy where the convergence of ICT is changing the way we do business and the old formulas for growth cannot be stressed enough. Some pertinent questions

need to be asked in this process. If developing countries want to chart their own destinies, where do they go from here, now that they have the facts? What are the options at their disposal to be able to face this tide of globalisation?

One option is for developing countries to engage in smart partnerships. According to Dr Mahathir, the smart partnership concept can help developing countries unify their concerns and actions. Furthermore, it would help them develop a common stance on issues affecting their collective interest. Thus they could also develop a common stance against the negative forces of globalisation. In all, the smart partnership dialogue can also serve as an avenue for developing countries to share views and experiences.

To conclude, I would like to draw on the wisdom of an old sage, in a way to use that as a clarion call to developing countries to unite and form smart partnerships in the era of globalisation. The old sage once counselled his bickering sons by giving each son a twig. He asked each of them to break the twig. It was easily broken. Next, he tied a set of twigs into a huge bundle and asked each son to take turns to break the bundle. Each failed. He then counselled them drawing from their experience with the twigs that if they were united and banded together like the bunch of twigs, no one could break them. But if they were to go into the world as single twigs, it would be much easy to break them. Developing countries should take heed. A word to the wise is enough.

5

Asian-African Cooperation for Development

WHILE the Tokyo International Conference on African Development (TICAD) process and the Asia-Africa Forum facilitated exchanges of experiences between Asian and African countries on many aspects of development, we now have to prepare ourselves to face and deal with special challenges and dangers arising from new ideas about the structure of the world's economy, world trade and international finance. Most of all we have to deal with the self-declared right of some countries to interfere in the affairs of other countries.

The 3rd Asia-Africa Forum is therefore crucial for the representatives of our two continents to seize the opportunity to exchange ideas on our perceptions of the things to come and how we propose to deal with them.

Allow me now to share with you Malaysia's experiences in the two areas, which are the focus of the Forum,

A speech delivered by Dr Mahathir Mohamad at the official opening of the 3rd Asia-Africa Forum (AAF III) in Kuala Lumpur, Malaysia, on May 23, 2000

namely, private sector development and agricultural development.

Experiences in Asia indicate that effective development requires a careful balancing of the roles of the government and the private sector across a broad range of policies and actions. While there is no magic formula on the correct mix of policies that will ensure development at all times for all places, there is recognition that governments need to provide political stability, guidance, legal framework, policies, infrastructure, investment incentives; in short, promote a predictable and attractive climate for enterprises in the private sector to flourish. The private sector can then play its part by efficiently producing and trading in goods and providing the services needed by society and of course enriching the people.

Since the early 1980s, Malaysia had stressed that this country will rely on the private sector as the primary engine of economic growth. We had lost faith in state enterprises. But our fledging private sector could not fully respond to the challenge. We had therefore to rely on foreign private investments. However, by 1988 the local private sector bloomed and the economy expanded at an average annual rate of 8 per cent. This high growth rate would have continued if not for the manipulation of our currency by currency traders. For almost one and a half years we struggled to find a solution to this problem.

Through good and difficult times Malaysia emphasised on a strong public-private sector partnership. The groundwork for this cooperation was laid in 1983 when the Malaysia Incorporated concept was introduced. Broadly defined, Malaysia Inc., as it is referred to, perceives the whole country as a giant corporation in which the government and the private sector and the workers work and cooperate in order to achieve maximum returns. By efficiently processing all bureaucratic procedures involving business activities, profits could be maximised. Since the government gets 28 per cent of the profits by

way of corporate tax, governmental cooperation pays. Workers get better incomes and since government revenue is also spent for the benefit of the people, everyone benefits from the Malaysia Incorporated concept.

Another key approach is privatisation. As with most governments, the Malaysian government is not efficient when it comes to exploiting the profit potential of its many companies, departments and agencies. The private sector does this much better. The government does not sell all the shares but retain some in order to gain from the expected profits and also to benefit from capital gains by selling later. The important thing is that the government does not interfere with good management.

Malaysia's privatisation does not involve selling government assets to foreigners in order to get foreign exchange to settle debts. We sell largely to Malaysians though we do allow for a certain percentage to be sold to foreign investors, especially strategic partners.

The result of privatisation has been gratifying. Where before we had to make budget allocations yearly to these government entities, now we don't have to. Instead we actually earn considerable dividends for the government and make considerable capital gains. Not having too much foreign equity means less outflow of funds from the country.

For the people, there is better service and better infrastructure. The good expressway system that you may have noticed is an example of the kind of benefits the people get from our kind of privatisation. There is no way for the government to provide all these because apart from being inefficient, the government has to wait for revenue increases before borrowing for infrastructure projects.

However, limiting factors must be recognised. If the private sector is not strong and efficient we may end up having to re-nationalise. In some cases it is better to invite strong and capable foreign participation in order to mini-

mise failures. Such a need should not involve outright sale because if you do this the profits will just flow out.

Privatised entities must be supported, even subsidised by the government. This is not because we want to help the investors make profits but because we do not want the people to pay too much for the services they receive. It has to be remembered that the government is still collecting various taxes from the people and they are therefore entitled to pay less than the actual cost of the services they receive. Transferring assets which give no return to the government is not a big sacrifice but it helps in reducing capital costs.

In the case of toll expressways, the government sold the completed portion at below cost so that the total cost of the expressway is lowered and toll rates are low. Selling government assets at market price will render the services costly, making charges for public use high and probably end up in major losses and failure as usage will be low. Privatisation will become unpopular and so will the government.

In the information age, societies must be information-rich and inventive in the application of information. While we should welcome the opportunities for new businesses, we may also lose much because of some of them. Take Amazon.com the founder of which is *Time's* Man of the Year. You can buy practically anything you want from Amazon.com and it will be delivered to your doorsteps by international courier operators. The price would be very low because the company orders in bulk and gets the best rate for delivery by competing couriers. Obviously consumers everywhere will benefit.

The down side is that local importers, agents, distributors and retailers will be put out of business. The government will earn no tax from these businesses or from import duties. Jobs will be lost by the millions.

The producers of goods and suppliers of services will have to accept less and less profit. For the production

workers there will be less pay. Probably production will have to shift to low-wage countries resulting in loss of jobs in high-wage countries.

While the shares of manufacturing and service companies will depreciate, those of dotcoms will appreciate a hundredfold, creating a sense of wealth. If the companies collapse there will be no assets to distribute. The original founder may have taken his capital gains already and a lot of investors who had bought at high prices will find themselves left with useless virtual wealth.

The producers of goods and services find difficulty in raising capital and low share prices and low profits may make the manufacturing industries unattractive. The investors will sell out in order to invest in dotcoms. In the end there may be no goods to sell.

Information can enrich us but without rules and laws it can impoverish us and destroy us. So don't be too ready to accept everything done in the name of globalisation and the free flows of capital and goods, that the information age is supposed to make inevitable.

Malaysia's experience with agriculture is no different from those of other countries. We need agriculture because we need food for a growing population. But there is only so much that we can produce ourselves. We have to accept the need to import. To import we need money. But agriculture earns less foreign exchange than manufacturing. It provides less jobs. It does not enrich people. It is subject to price manipulations by speculators and their futures trading. Prices can plunge overnight leaving our people destitute.

For Malaysia agriculture involves tree crops, i.e. industrial agriculture like rubber and oil palms. Cost of production must be as low as possible and margins must be as high as possible. If there is a price collapse our profits will be reduced but we will not lose. Our competitive advantage in terms of soil and climate must be fully exploited. And when a commodity looks like losing demand for

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whatever cause, we get out of it. Now we are busily getting out of rubber, preferring to import it rather than producing ourselves.

In the space of 42 years of independence we have formulated three different agricultural policies. We do this in response to market demand. We have to be agile. Today, we are using high technology to grow more food for our own consumption and for export. We are more and more into aquaculture and breeding of selected animals. We are changing from monocrops to mixed farming and crop rotation. We now import almost US\$3 billion of food but we export US\$2.5 billion.

New strategies have been developed for agriculture. Our experience is that big modern estates do better than small farms run by individuals. We cannot close down or amalgamate the small farms but we can have a nucleus of big farms with small farms as satellites, using the facilities of the big farms. In any case, the children of the small farmers are now better educated and are giving up farming. Eventually farms in Malaysia will be large efficient estates. In preparation for this, our universities are offering courses in mix-farm management. We hope to be able to deal with the success of our education policy and the migration from the farms to the towns.

Malaysia is a trading nation. Trade involves not just exporting but also importing. We have always tried to produce less food than we consume. We produce only 65 to 70 per cent of the rice we need. Thus we are able to import from our neighbours and to sell to them what we produce. The devaluation of our currency by rogue traders increases the ringgit cost of our imports but it also increases the ringgit earnings of our agricultural exports. The balance is precarious but by carefully monitoring and controlling prices, inflation has been held reasonably low. It is a factor which enables us to fight against economic depression and help the recovery and return to a growth path.

We have recently revised our 3rd National Agriculture Policy targets and approaches to ensure that the food sector contribution to GDP increases from 3 per cent or RM6.1 billion to 6 per cent or RM12.5 billion. The new approaches will be centred on transforming the pre-production, production and post-production processes and will be consistent with our k-economy drive. It involves big scale production and mechanisation, private sector participation and will be technology and knowledge intensive. What we have learnt which can be of relevance to African countries is the need to effectively balance between various sectors, between industrial and food crops to ensure the long-term sustainability of the sector, self-sufficiency and more importantly, to protect the interest of the people involved.

Our approach hitherto has been to exchange experiences. We should now move forward to forge smart partnerships that will lead to a win-win situation and the betterment of all. This forum should therefore look at ways and means to foster more trade of goods and services between Africa and Asia. We may need to introduce innovative approaches and dismantle existing barriers. We could also enter into more bilateral payment arrangements (BPAs), consider interregional trade arrangements, intensify trade promotional efforts, use currencies other than US dollar to effect settlements and adopt counter trade.

It is essential that we put our act together as the global economy is now iniquitous. The disparities in income and lifestyles between the rich and the poor have reached unprecedented proportions. Some 80 per cent of the world GNP is concentrated in industrialised countries and the poorest 20 per cent have only a share of 1.4 per cent of the world GNP. Globalisation ideologues propagated that those countries which open up will experience such dynamic economic development that, within the foreseeable future, the world will see a convergence between the rich and the poor. This is far from what is happening. On the

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contrary, it was reported that the richest 2 per cent of the world population, which in 1960 was 30 times better off than the poorest 20 per cent, are today 61 times better off.

Based on our own experiences recently, we do not share the optimism that globalisation will automatically solve development problems. We see powerful processes that continue to marginalise many countries of the South. We see the adverse social and economic consequences brought about by the twin forces of globalisation and liberalisation adding to the burdens of the South. For poorer countries, globalisation and liberalisation have meant opening up to foreign imports and finances which can displace local enterprises and businesses. Unless the interpretations of globalisation and liberalisation are changed we think the poor will not only lose more but they would virtually be colonised again.

We must not allow the uncontrolled spread of globalisation and their negative consequences to affect us. Governments and international organisations must assume an active role in controlling and regulating the globalisation process, making it more socially accountable. Placing all the blame of the recent crisis in the East Asian economies on their governments is wrong. A large part of the problem lies in the international structures, where there is an absence of mechanisms for fair, equitable and just global governance.

Globalisation and liberalisation should not mean neglecting the interests of our people and our countries. The weak and the poor countries should have an effective role in the formulation of this process. Developing countries have vast experiences, both good and bad. Many of us have experienced the benefits of foreign direct investments (FDIs). Some of us have also seen how nations can be impoverished overnight. Surely, with our experiences, we can help shape a globalisation that benefits all, where wealth is more equitably distributed between the rich and the poor.

Developing countries by definition are poor, some are very poor. Alone we can do practically nothing to help ourselves. Most of us are under the control of agencies like the IMF or the dominant powers in the world. Their creditor role has forced us to submit to policies, which make us permanent debtors. There seems to be no future for us.

But if we act together we may yet be able to influence the processes, which affect us. There are amongst the rich and the powerful some sympathetic elements who are either genuinely sympathetic towards us or can make common cause with us for their own vested interests. We saw this in Seattle and at the World Economic Forum in Davos, Switzerland. If we work with them our clout would be leveraged.

The new capitalists are more powerful and less considerate. They are backed by their powerful governments. Where once Western governments used to abhor monopolies, they are now encouraging the formation of cartels and oligopolies to dominate the world. Each one of their mega entities is bigger in terms of capital than any of us developing countries.

As you will have noted, the rich countries of the North are ganging up while their corporations are merging to form huge specialised companies. We, on the other hand, are greatly divided partly because we don't seem to know how to work together but mostly because the super powers actively prevent us from cooperating. A glaring example is the proposed East Asia Economic Caucus (EAEC). The United States made it clear that it does not approve and so it cannot be formed. Now the United States is even opposing the setting up of the Asian Monetary Fund for fear it might undermine the IMF and therefore US hegemony. Fortunately, we can still talk to each other as we are doing now. We can therefore learn from each other. Malaysia has learnt a lot by studying other developing countries and we stand ready to open our books to interested developing countries. We had looked East, looked at

South Korea, Japan, Taiwan and even colonial Hong Kong and learnt much. Africa can learn much from looking East also.

Finally, I would like to commend the Japanese government, the United Nations and the Global Coalition of Africa for their significant contributions in organising this conference. I hope and pray that the 3rd Asia-Africa Forum will result in greater understanding amongst us of the challenges that lie ahead and the need for greater collaboration amongst the countries of our two continents.

Commentary Asia and African countries have a lot in common. Most of the countries in Africa and Asia went through the colonisation face; all are developing countries looking out for ways to better the lot of their people. At independence, most of the African countries had a higher GNP per capita than their Asian counterparts. Since independence, the countries in Asia have surpassed their African counterparts in terms of development and GNP. As part of their South-South cooperation that go back to the time of the Bandung conference held in Indonesia, Africa and Asian countries have always looked out for ways to share experiences and ways of helping their various countries develop. The Tokyo International Conference on African Development (TICAD) is one of the forums, which serves as a vehicle for the exchange of experiences.

With the convergence of information and communications technology (ICT), especially in this era of globalisation, the challenges facing Africa and Asian countries is daunting. These countries would now have to look for ways to face the dangers arising from changes in the patterns of world trade and finance, and the arrival of the New Economy. As it pertains to the New Economy, Dr Mahathir points to some of the challenges that it would bring. Using Amazon.com as an example, he showed how this company, a New Economy company could sell products over the Internet to customers and deliver it to their door-

steps anywhere in the world using international courier services. Amazon.com can undercut prices because it buys in bulk and gets the best rate from competing courier delivering companies. Even though customers would benefit, the effect on local importers, agents and distributors as well as retailers in developing countries cannot be emphasised enough. Most of these local entrepreneurs would go out of business. Furthermore, the government would earn no tax from these businesses. Its ability to undertake social services as well as plan for the development of the country could be affected. The overall effect of the New Economy on developing countries in Africa and Asia needs to be looked at closely.

The warning Dr Mahathir wants to share with other developing countries is not to accept everything that is projected in the name of globalisation, for which the information age is suppose to enhance. The recent collapse of most of the dotcoms is a testimony to the warning by Dr Mahathir. Looking back, this warning can be described as prophetic because it was issued before their collapse. But the powerful message that emanates from this speech is when Dr Mahathir calls on all Asian and African countries to get their act together. He said, "but if we act together we may yet be able to influence the processes, which affect us. There are amongst the rich and powerful some sympathetic elements who are either genuinely sympathetic towards us or can make common cause with us for their own vested interests. We saw this in Seattle and at the World Economic Forum in Davos. If we work with them our clout would be leveraged." The message is clear. The imperative for Africa and Asian countries is to work together in this era of globalisation and ICT. They would be able to grow and prosper if they work together or wilt and wallow in poverty if they decide to go it alone.

6

Transcending the Divide

ON "Transcending the Divide," I am reminded of two things: first, the story of Prophet Moses and the Red Sea; and second, some words of Bertrand Russell. As you all know, Prophet Moses parted the Red Sea in order to safeguard his people and to eventually ensure their freedom and prosperity. It required a miracle to pull off that feat.

I believe that it will require a miracle, indeed a series of such miracles—to pull off the feat of transcending the present global divide between the richest developed and the poorest developing, between those at the cutting edge of advancement and those being crushed by the weight of poverty, between those who have so much and those who have practically nothing at all. I would be completely surprised if the gap will actually be transcended in any meaningful way. To be sure, a handful of middle-income coun-

A speech delivered by Dr Mahathir Mohamad at the 2nd World Knowledge Conference in Kuala Lumpur, Malaysia, on March 8, 2000

tries can make the quantum leap to the informatised society, thus to become developed countries. But it would take a miracle to prevent a massive widening of the knowledge and the economic gap between the rich and the poor in the years ahead.

Bertrand Russell, in his *Autobiography*, writes: "Three passions, simple but overwhelmingly strong, have governed my life: the longing for love, the search for knowledge, and unbearable pity for the suffering of mankind."

I do think I have a similar longing for love from my wife and family. I cannot claim a similar thirst for knowledge like this great philosopher of the 20th century. But I do share his third passion, his unbearable pity for the suffering of mankind, for the wretched of the earth.

I make no apologies for stressing before you one of the great atrocities of the 20th century—which must not be perpetrated in the 21st.

Despite all the progress made by mankind, the massive advances in the liberation and empowerment of mankind, there is no denying that never before in the history of man do we see so many living in abject and absolute poverty. It might not be out of place to remind ourselves, even as we ponder the wondrous information instruments and knowledge machines of today and next year, that vast numbers of mankind have never opened the pages of the humblest book, although the technology of printing is more than a thousand years old. Vast numbers of mankind are yet to make or receive their first telephone call or enjoy the blessing of the electric bulb.

At this very moment in time, more than three thousand million human beings on this planet have to survive and get by on US\$2 a day. This is less than what you paid for your cup of coffee in the hotel where you are staying.

Statistics show that over the last decade especially, the developing world have begun to catch up with the developed. In many ways, the development gap has indeed

been narrowed. In many ways, quite dramatically. But take the so-called miracle economies of East Asia out of the equation and you will get a different picture.

As a human being who has journeyed far and wide over highways bustling with traffic as well as on the roads less traveled, I have never ceased to be amazed by how very generous poor people can be in their daily lives. I have never ceased to be amazed by how often the poor are willing to share what little they have. I have, at the same time, never ceased to be amazed by how very little some of the very rich can spare for the impoverished. I have never ceased to be amazed by how selfish, self-centred, greedy, avaricious, grasping and rapacious some of the very rich are.

Unfortunately, in our world of reality, generosity is something that no society had a right to expect in the past. It is not something that any society can expect in the present. No generosity can be expected in the future. Unfortunately for the poor and the backward, in the days ahead the cards are even more stacked against them. This is because the information and knowledge gap between the economic haves and have-nots is even greater than the income and economic gaps between the backward and the developed world. The poorest societies on earth are even more starved of knowledge than they are of food. Those who need it most have the least. Herein lies the present tragedy and the making of a future catastrophe.

I am not, in the humorous words of Oscar Wilde, young enough to know everything; but I have no doubt whatsoever that in the years ahead, knowledge will be, dramatically, a much, much greater determinant of human performance in every area than at any time in the long history of mankind.

Knowledge has always been important, of course. The ancient Egyptians did not raise the stones for the pyramids relying on the incantations to their gods. The waters in the irrigation canals of the great Indus civilisation did

not flow according to the laws of ignorance. Knowledge has always been power and wealth.

But it is undeniable that we have now entered the information age, a new historical era where economics and every other area of human life will hinge more than ever before on the production, accumulation, distribution and application of knowledge.

Whether we know it or not, whether we feel it or not, whether we want it or not, the paradigm shift has already started. There has already been a "sea change", a phrase from Shakespeare's *The Tempest*, written 400 years ago. Obviously this great playwright was the world's first multimedia master. Shakespeare wrote: "Of his bones are coral made; those are pearls that were his eyes; nothing of him that doth fade but doth suffer a sea change."

If bones have turned to coral, if eyes have turned to pearls, if we have already seen a sea change, we must now prepare ourselves for an ocean change. Those who are strong enough and empowered enough to sail on this vast new ocean will reach shores never before dreamt of. Those who are weak and infirm, who cannot safely sail on this tumultuous ocean, will simply be left behind if they are lucky. They will be dragged under if they are not.

A central part of the radical transformation that has begun is the result of the ICT revolution, the dramatic impact of information and communications technology. A critical reason is also the breaking down of barriers and borders and the opening of all societies to the fierce force of global competition and global penetration. The first revolution, the ICT revolution, is irreversible.

As for the globalisation revolution, it is, of course, not new. The first globalisation revolution started more than a hundred years ago. It culminated in what was called *La Belle Epoch*. It ended with World War II. The globalisation revolution took six decades to make a comeback. But the comeback has been made. The second globalisation revolution came into force by the end of the 1980s.

There is today a great deal of 'globaloney' about 'globalisation', a word we so often use because we don't quite know what we are talking about. I have no doubt that it will be brought to an abrupt end by the multitudes of the world if rapacious, unbridled and unconscionable capitalism bereft of ethics, morality and caring rides roughshod over the welfare of people.

The 'Battle in Seattle' was the first dramatic 'wake-up call' to us all. Especially those in the globalised fairyland would do well to wake up. Globalisation is not inevitable. But I do believe that with cycles of ebb and flow, with the arrival of greater sanity, balance and consideration, globalisation will find a way to not only forge forward but also to fast forward.

Equally clearly, in grasping the opportunities of the information age and dealing with the dangers of the information age, we can expect no assistance, no real helping hand from anyone. The only helping hand we can rely on will be the one at the end of our own arm. If we are to transcend the great divides, we must do it ourselves.

Just as no one can do anything to us worse than what we can do to ourselves, no one can do for us anything better than what we can do for ourselves. This does not mean that we turn away from the world or that we turn the world away from us. But it means that we understand fully that God will help those who help themselves.

What do we need to do to help ourselves?

We must be prepared to examine every sacred cow, to give up every preconceived notion. In the pursuit of information, knowledge and wisdom, we must be prepared to face reality. We must embrace change, pursue novelty, and crave innovation. We must learn. Even harder still, we must unlearn. We must remember to forget old ways. We must force ourselves into new habits. We must build the new processes, institutions and organisations that are necessary for the information age.

Malaysia launched its march into the information age with Vision 2020, which was enunciated in 1991, and which struck a responsive chord in the hearts and minds of Malaysians of all stations, creeds and political affiliations. In our Vision 2020, we set the goal of becoming a fully developed nation by 2020, the end of our second generation as an independent country. We stated our conviction that 'What we have between our ears is much more important than what we have below our feet and around us'. We understood fully that 'our people are our greatest resource'.

Vision 2020 emphasised that in the information age which we had entered, our society must be information rich. Vision 2020 noted that "It can be no accident that there is today no wealthy developed country that is information poor and no information-rich society that is poor and undeveloped." Vision 2020 stated that: "There was a time when land was the most fundamental basis of prosperity and wealth. Then came the second wave, the age of industrialisation. Smokestacks rose where fields were once cultivated. Now, increasingly knowledge will not only be the basis of power, but also prosperity."

Vision 2020 urged that "No effort be spared in the creation of an information-rich Malaysian society". If Vision 2020 was the first strategic step into the information age, Malaysia is now ready for the second step. We are now ready for a concerted, comprehensive and committed quantum leap which will remake Malaysian corporations and re-invent Malaysian society. This second step will be called 'Strategic Initiative One' of the 21st century.

Let me be clear about what many have called 'the New Economy' and 'the k-economy'. This is especially necessary because there has been a surplus of vague words, wonderful jargon, novelistic concepts and bombastic verbiage which only confound rather than clarify. Malaysia's 'Strategic Initiative One', the second step on which we are now embarked, does not mean the abandonment of our

industrial backbone, which today contributes more than 37 per cent of our GDP, which provides 30 per cent of all jobs.

We are amongst the most industrialised economy on earth and we are not going to fall down the industrial ladder, no matter how many will try to push or pull us off. We are also one of the most open economies in the world. We live and we die on trade. Last year, more than 85 per cent of our exports were manufactured goods. Although we must dramatically enhance the quality of our industrialisation and ensure much higher domestic value added; although we must make sure that every sector of our economy must be made world-class and globally competitive, although the services sector must inevitably expand, although we must ensure the success of the Multimedia Super Corridor, spawn and build the world-class multimedia sector, the basic structure of the Malaysian economy will not be fundamentally altered in the short and medium term. But through the shift to the k-economy, where the knowledge content and the knowledge contribution will see a quantum leap in every area, the Malaysian economy and Malaysia's society will not be quite the same again.

In the Budget presented in October last year, the government explicitly stressed that it was necessary to ensure a paradigm shift: a fundamental move from the production-driven economy to the knowledge-driven economy. A fundamental shift from the p-economy to the k-economy. The Malaysian government has now started the process of drafting the K-Economy Master Plan.

By the end of September this year, we will adopt a National Strategic Plan. Many of the vital measures that will need to be taken will be incorporated in the budget to be presented in October this year. A series of concrete Plans of Action in Key Strategic Areas will be completed within a year. The whole process of national consultation, brainstorming, drafting and national mobilisation should be completed within 18 months from this day.

Our K-Economy Master Plan will not be drafted by the best and brightest, cloistered behind closed doors. The k-economy, the maximum application of knowledge to every Malaysian economic and business endeavour in every economic sector, is not an elitist process but one involving every Malaysian from the teacher in the classroom to his pupil, to his fisherman father and housewife mother, to the driver who drives the school bus, to the mechanic who maintains it, to the engineer who designs the vehicle, to the entrepreneur who owns the company, to his secretary, the janitor and the chairman of the Board. In order for us to succeed with the paradigm shift to the k-economy, all Malaysians, including the young of the *Wawasan* generation, will have to be fully involved.

The K-Economy Master Plan must be a master plan for the entire nation and a personal master plan for every citizen. It must belong to and be owned by all Malaysians. This is why in the process of drafting it, all segments of Malaysian society must participate. Before a full national consensus is reached, a thousand ideas must contend and a hundred flowers must bloom.

I do not know if those responsible for the K-Economy Master Plan will consult me. In case they do not, let me throw in my two cents worth. Let me set out some of the things that we in Malaysia must do in the hours, days, weeks, months and years ahead in order for us to transit, body and soul, to the k-economy.

Vision 2020 says that "Malaysia has one of the best education systems in the Third World. But for the journey that we must make over our second generation, new standards have to be set and new results achieved." Vision 2020 also says that "We cannot but aspire to the highest standards with regard to the skills of our people, to their devotion to knowledge and knowledge upgrading and self-improvement, to their language competence." These words are even more relevant today than in the early 1990s.

We must build on these commitments which we have made to ourselves and to our people. We must build on the good habits and institutions. But we must be prepared to question basic assumptions. While we must live and work in serene surroundings we must never forget that we gain more by investing on the passion and the capabilities of the human members, the librarian, technical assistant, assistant lecturers, lecturers, associate professors and professors—of the faculty. A good university is a centre for great learning, and not just a congregation of marvelous buildings surrounded by marvelous scenery.

When we make the massive investments which we must make at the tertiary level, we cannot afford to neglect in the very least the primary level where the foundation for learning is laid and where there is a much much bigger bang for the buck.

Malaysia fortunately has a comparatively smaller problem with regard to the brain drain than the vast majority of developing countries. We must bring outstanding Malaysians who have matured elsewhere back to their country. But equally importantly, in the days ahead, we must reach out to the four corners of the world to ensure a massive brain gain, an infusion of men and women of extraordinary talent, creativity, knowledge, skill and other capabilities. They must range from bakers to bankers, from chefs to computer whiz kids, from managers to musicians, from inventors to investors. We must take them wherever they are from.

The time is not far when we must set the target of reducing the number of foreign workers in this country by 100,000 a year, reducing the number of the unskilled, low-knowledge-workers by 95,000 annually whilst enriching our economy and society at the same time through an annual infusion of 5,000 extraordinary world citizens of extraordinary talent, extraordinary creativity, extraordinary knowledge, extraordinary skill and extraordinary networking and other capabilities.

The whole area of human capital is critical to our performance and global competitiveness. But much, much more needs to be done.

For the information age and the k-economy, we must have a first-rate national media system. The Internet and other IT innovations must be a large and critical part of this national media system. But let me stress that newspapers and magazines and books remain important. Broadcasting and narrowcasting television and radio remain extremely important. They all remain important. Indeed they will be even more important in the information age and the k-economy future, even though increasingly they will be accessed through the Internet.

This country must most seriously enhance the production and supply of information, knowledge and wisdom and assure their accessibility to all our people in every area of work.

We must work hard on the demand side, always making sure that we ensure the needed priority with regard to access. Functional literacy must be broadened to all, including the very old. We must aim for 100 per cent basic IT literacy. We must vigorously build on our language skills whether it be in English or Arabic, Malay or Mandarin, Tamil, Thai or Tagalog.

There will of course be need for reform in the private and public sector. The ancient and hallowed '*sulit* syndrome' must be done away with. The traditional 'Great Information Hoard', which operates within the corporation, the university, the civil service quite understandable in an information and accessibility poor environment, which makes knowledge that extra important and therefore that extra valuable, to be coveted, hidden and hoarded must be killed.

The private and public sector will need to operate according to new rules of transparency, new regulations for disclosure, new processes of corporate and public sector governance.

All the while, we must make sure that the short- and long-term social effects are fully understood and proactively responded to and that equity and social justice are never neglected. All this has of course to take place within a context of massive technological innovation and expansion.

At the beginning of this address, I talked about two great divides. The great divide between the economically rich and the materially poor of this earth and the great divide between the information and knowledge rich and the information and knowledge poor of the world. Please let me end with a few words on the third great divide: the great divide within all our societies between those who are information and knowledge empowered and those who are information and knowledge disenfranchised.

In many countries this is the most urgent issue to address, the most difficult and the most critical for no society can move forward as a cohesive social community if the vast majority are left behind. A country that cannot advance the vast majority cannot sustain the welfare of the vanguard minority, no matter how talented that minority, no matter how brilliant their capabilities and how great their accomplishments.

We cannot afford and we must not afford the shameful waste of the talents and the contribution of a disenfranchised underclass. We cannot afford and we must not afford the rage and the social disharmony. We cannot afford and we must not afford the political costs.

In all our societies, we must ensure not only that as many as possible get onto the information superhighway but also that none are left by the wayside, to throw stones or hand grenades at the vehicles speeding past.

The information age that is upon us holds out the promise of a new world of shared prosperity, a global renaissance. At the same time, it also holds out the danger of economic exploitation, societal devastation and a new era of imperialism and colonialism.

For the sake of the world, I pray that we truly can bridge the economic and development gap, the information and knowledge gap and the great divide within. I pray that we can summon not only the information, not only the knowledge, but also the wisdom to choose the right road. Those who are in the forefront of the information age should help us all find that road and to inspire us all into making that journey.

Commentary The global digital divide is wide and growing wider by the day, with an impending devastating impact for many countries in the developing world. In no uncertain terms, it can be likened to a Sphinx. For those who are not familiar with the mythology of the Sphinx as recounted by ancient Greeks, it was a monster which had a woman's head, a lioness's body, a serpent's tail and an eagle's wings. A description of the Sphinx already makes it fearful. But what it could do and did that made it dangerous. According to Greek mythology, it waylaid travellers journeying to the city of Thebes. The Sphinx would usually stop each traveller and pose them this riddle: "What creature walks on four legs in the morning, on two at noon and on three in the evening?" All were usually killed because they were unable to solve the riddle. No one could solve the riddle until one day when Cedipus, son of the king of Thebes, finally answered it. The Sphinx then threw itself from its rocky perch to its death.

In a similar vein, the global digital divide, a modern-day Sphinx in my opinion is going to "kill" all in the developing world, so to speak, if they do not find or give the correct answer in solving the riddle of the digital divide.

Dr Mahathir's speech "Transcending the Divide" starts out by pointing out that developing countries would need a miracle to transcend the present global digital divide. He gives an example of how Prophet Moses led his people out of Egypt across the Red Sea, a miracle. But how commonplace are such miracles today? Those who

believe in miracles will swear by such possibilities; but in the case of the digital divide according to Dr Mahathir, "It will require a series of miracles like that performed by prophet Moses. The crushing impact on those who are already weighed down by poverty cannot be emphasised enough. Quoting the English philosopher Bertrand Russell, Dr Mahathir shares his laments with those suffering from unbearable poverty, those who subsist on less than US\$2 a day, who have never opened the pages of a book, let alone a computer.

This philosophical musings of Dr Mahathir is to point to the severity of the digital divide. Much as the poverty gap has been a problem that development economist have grappled with for decades, the digital divide promises to be worse. The poorest societies of the world, most in the South, who need knowledge the most would be the most, starved a present tragedy, a possible future catastrophe. The reasons are obvious, because in the information age of which digitisation is the key, every aspect of human existence and survival would hinge on the production, accumulation and application of knowledge. Thus if poor societies are preoccupied with "the politics of the belly," would they have the need for the hard and software that would link them to the information superhighway? That would be the lowest on their scale of preference.

So who is going to help these poor societies transcend this digital divide? Sadly, most of the developed countries that have advanced so much in this area are also the least generous. The cost to narrow the digital divide is so huge that national incomes of most developing countries would not suffice. That is why Dr Mahathir's observation that we would need a "series of miracles" is in order. More so, the importance of digitisation in this era is of enormous importance. Today, the production of goods, accumulation of wealth and many aspects of our human existence now hinges on digitisation. Despite the digital divide, developing countries have no choice but to be part of this revolu-

tion. It is an irreversible revolution. This thus poses a dilemma for developing countries. How can they pull themselves up by their bootstraps when they do not have any boots?

Dr Mahathir urges developing countries not to wallow in the delusion that help is forthcoming from somewhere. He adds, "The only helping hand we can rely on will be the one at the end of our own arm. If we are to transcend the great divide, we must do it ourselves." Dr Mahathir continues, "We must be prepared to examine every sacred cow, to give up every preconceived notion. ... we must be prepared to face reality. We must embrace change, pursue novelty, and crave innovation. We must learn. Even harder still, we must unlearn. We must remember to forget old ways. We must force ourselves into new habits. We must build the new processes, institutions and organisations that are necessary for the information age." Only then can developing countries stand a fighting chance to transcend the digital divide. At the same time, countries in the developing world must develop workable solutions to move majority of the populace into the digital age. Malaysia's effort in this direction cannot be emphasised enough. It is from such experience that Dr Mahathir is sharing his knowledge and that of Malaysia with other developing countries especially through the smart-partnership concept to help them bridge the digital divide.

7

Human Resource Development in the 21st Century

IT is most heartening that the Kansai Economic Federation (Kankeiren) has chosen to celebrate the 20th anniversary of the Kankeiren Asean Management Seminar in two Asean countries, Thailand and Malaysia. We in Malaysia are especially pleased that Kankeiren has opted for Kuala Lumpur as the venue for the Commemorative Symposium with communication satellite linkup with Bangkok and Osaka.

This technological achievement is truly a sign of the times. And the times are all too clear—a new year, a new century, a new millennium. Even though Osaka is one hour ahead of Kuala Lumpur and Bangkok is an hour behind us—you see how Kuala Lumpur is always agreeable to taking the middle road, to playing the role as the balance in matters large or small. Indeed, modern marvels of technology sometimes make our time differences irrele-

A speech delivered by Dr Mahathir Mohamad at the 20th Anniversary of the Kankeiren (Kansai Economic Federation) Asean Management Seminar in Kuala Lumpur, Malaysia, on March 2, 2000

vant. We meet here and communicate across borders with Bangkok and Osaka in real time.

On behalf of Malaysians and our Asean neighbours, I wish to congratulate Kankeiren for having had the foresight as early as 20 years ago to inaugurate the first Kankeiren Asean Management seminar in 1980. It is good indeed to see that Kansai people have the same vision as Malaysians!

It is clear that for the past 20 years of Asean's 33 years of existence, Kankeiren and its research organisation, the Pacific Research Exchange Center (PREX) have conducted annual seminars focusing on a very essential ingredient for national development. I am referring to the critical area of human resources development.

For the past 20 years, PREX has organised human resources development seminars for hundreds of trainees from the Asean countries. As Asean expanded from five to six, and then from seven to nine and eventually 10 members, PREX accordingly increased the intake to accommodate the new members. Not only were management seminars held in Osaka, they were also organised in individual Asean countries so that more locals could benefit from the training programmes—all funded by PREX.

Over the past two decades, national PREX Alumni Associations have emerged in the Asean region providing a good network amongst themselves and with PREX in the Kansai region of Japan. Here in Malaysia, the PREX Alumni has nearly 130 members.

While it is true that Asean countries have benefited greatly from PREX's programmes, it is also commendable that the management seminars and other human resources development programmes are held in Osaka and other countries throughout the world, for example in Russia, China, Central Asia, and Eastern Europe and Africa. It speaks well of Japan that Kankeiren has been imparting management skills and assisting the developing economies in their transition from centrally-planned to market

economies. To date, PREX has trained approximately 1,400 persons in Japan from 53 countries and organised numerous training programmes outside Japan involving about 3,300 participants. I heartily congratulate you on this notable achievement.

It has become clear as we enter the new century that, with globalisation and the information technology revolution underway, emerging economies have to meet the great need for capacity building in terms of human resources. The challenge of the k-economy (knowledge-based economy), driven overwhelmingly by information and technical know-how, confronting the Malaysian and other Asean economies must be met head-on if we are to remain competitive. Only with k-economy in place can these countries enhance their capability for value-added productivity. Therefore, not only will it be necessary to provide training for top management, it will also be imperative to fill the huge gap in the availability of mid-level and lower level knowledge-skilled personnel. It is only when we succeed in systematically upgrading the quality of our labour can we attain higher economic productivity. Kankeiren and PREX can indeed play a positive role in helping transform the Asean economies into knowledge-propelled economies.

Along with the Japanese government's Official Development Assistance (ODA), the Japanese private sector has also had a long experience of involvement in the development of the Asean economies. As is well-known, trade and investments by Japanese companies in Asean countries have increased enormously since Asean was established 33 years ago. Still for the regional emerging economies, there is a great need for Japan to open its doors wider to absorb more products from Southeast Asia. As Asia's leading economy, we look to Japan to assume a natural leading role by facilitating our access to its market. It is understandable that in the last decade of economic downturn Japan was unable to be an engine of growth for the re-

gional economies by increasing imports from Asean. However, we hope that with its economy demonstrating concrete signs of recovery, Japanese companies will assist the Southeast Asian manufacturers by increasing imports into the Japanese market.

For developing economies looking to Japan (like Malaysia with its Look East Policy), the role of the small and medium industries (SMIs) in Japan's industrialisation process has been exemplary as well as legendary. Although many Japanese SMIs have already come to Southeast Asia, we feel that many more are still needed to assist the budding SMIs in Malaysia, Thailand, Vietnam and other Asean countries to enhance their capacity building through skills training and technology transfer. While PREX has conducted training programmes for SMIs, Kankeiren with a membership of about 850 major corporations and organisations in the Kansai region of Japan could encourage more of the Japanese SMIs to assist those in Southeast Asia by setting up joint ventures with Asean partners. These are critical areas where Japan can strengthen relationships with Asean countries.

Commentary One of the important challenges of moving towards a knowledge-based economy for countries in Asean is that of having the adequate human resources. Without the adequate human resources or knowledge-workers, it would be impossible for Malaysia and indeed countries in Asean, if they were to attain their goals of becoming knowledge-based economies by the year 2020 and beyond. Most countries in Asean have thus invested resources to develop their human resource capabilities. Such efforts are laudable but still need to be complemented with resources from bilateral efforts and non-governmental organisations in the region. One of the organisations which have contributed to this effort is Kankeiren, a Japanese organisation with membership of

MAHATHIR MOHAMAD

about 850 major corporations and organisations in the Kansai region of Japan.

Through its research organ, the Pacific Research Exchange Centre (PREX), it has conducted annual seminars focusing on human resource development for participants from Asean countries. It's numerous management seminars and human resource development programmes have contributed immensely in helping the transformation of Asean economies into knowledge-based economies. The importance of this effort cannot be emphasised enough. With information and communications technology (ICT) leading the way in the knowledge-based economy era, competencies in those areas need to be enhanced if Asean countries are to remain competitive. The imperative to train the requisite management, mid-level and lower-level knowledge-workers for the k-economy is inevitable. The role Kankeiren and PREX are playing in this effort is laudable. Yet, much needs to be done. The door is opened to other organisations that are willing to help in this effort.

Tempatam Negara
Malaysia

8

Sharing the Fruits of Globalisation

THIS 10th United Nations Conference on Trade and Development (UNCTAD) is timely in the light of recent developments impacting the global economy, particularly of developing countries. It provides an excellent occasion for us to take stock of the lessons and experiences of the past and to look forward to new ideas and new programmes to meet the developmental needs of the 21st century. The theme of this conference is most appropriate as we all want to see the benefit of globalisation being shared by all including the developing countries.

Looking back at the last few decades, I cannot but acknowledge that it has been a time of significant changes for developing countries. For many of us, managing our own destiny is new. Our experience with development, therefore, has been comparatively limited. A number of us

A speech delivered by Dr Mahathir Mohamad at the plenary session of the 10th United Nations Conference on Trade and Development (UNCTAD X) in Bangkok, Thailand, on February 12, 2000

have achieved some measure of success in economic development, but there are many which have yet to achieve any significant progress.

Many of us have on our own undertaken liberalisation measures by opening our markets to trade and investment, evolving our institutional and regulatory systems, orientating our economies to external challenges and eventually welcoming globalisation, in the hope of benefiting from the opportunities afforded by this process.

These developments have occurred against a backdrop of changes over which we have little control. Political stability, natural and human resources, capital and investment, were once the only ingredients in the formula for development. But today technological advances, borderless flows of capital and the advent of a knowledge-based economy have complicated the development equation. We are not certain we can deal with this new complex environment which changes even as we try to adjust to them. And because we are not so competent in dealing with these, our development have been and will be affected adversely.

What we do know is that the path to development has never been easy even at the best of times. Despite our efforts we see rising inequality between developed and developing countries, with continued high levels of poverty and unequal and inequitable benefits from globalisation. We see increasing uncertainty of the global economic environment. We see greater marginalisation as a result of the globalisation process. And we see growing inadequacy of global institutions to deal with developmental problems.

Income inequity is growing. There are growing divergences between the incomes of the richer group of countries and the poorest. The major developed countries have GDP per capita over US\$25,000 while the poorest have as little as US\$100. It seems that the benefits of international trade and investments have been unequally shared

amongst countries. The current belief by the global community, that countries must embrace liberalisation and adopt global rules and development would then follow, have not been proved correct. It would seem that the current practices in trade and investments are not capable of distributing wealth equitably.

The instability in the global financial system has also adversely affected us. Just two years ago, a number of East Asian economies were badly affected by a severe financial crisis. Although there is recovery now but the global financial system continues to be characterised by volatile capital flows and excessive speculative activities of the hedge funds and highly leveraged institutions (HLIs). Developing countries continue to remain vulnerable to another crisis unless reforms to the international financial system are undertaken.

Meanwhile the affected economies, including Malaysia, have undertaken strong economic measures and instituted financial reforms to address weaknesses that have emerged and to restore confidence in the economy. Although in the initial stages Malaysia found it necessary to follow the advice of the IMF, we had to abandon the IMF prescription because things actually got worse faster. We noticed that the IMF approach of high interest rates and tight liquidity, far from reviving confidence, led to a severe contraction of the real economy and an overhang of debts.

We were thus compelled to adopt and implement measures consistent with our domestic circumstances in order to address the issues of economic recovery. These measures although unorthodox, have helped to put the economy on a path to recovery. We relaxed fiscal policy, reduced interest rates and imposed selective exchange controls to eliminate the internationalisation of the ringgit and regulate volatile short-term portfolio flows. No controls were imposed on movement of funds for international trade settlements and foreign direct investments (FDIs). These are free to come in and leave the country at

any time. The controls brought about sustained stability which enabled us to take various measures to bring about the ongoing broad-based economic recovery.

As a recalcitrant and heretic I would like to insist that the affected economies of East Asia were practising the right economic policies, which enabled them to enjoy high rates of growth. Current account deficits and bank borrowings which were on the high side, are to be expected, given the openness of these economies and their high rate of economic growth. Some believe that periodic financial crises may be a small price to pay for the development resulting from liberalisation and globalisation. But is it really necessary to have financial crises every now and then, especially the severe kinds which affected the East Asian tigers and dragons? Cannot we have liberalisation and globalisation with less disruption for economies which are as yet not too resilient? I think we can if we are not too rigid in our thinking about globalisation and liberalisation and our tolerance of abuses of the system.

It is disappointing that the international community cannot think of any other solution to the crisis in East Asia except to call for improvements in transparency and governance. The argument is that lack of transparency and accountability makes it difficult for markets to function well. And when the players in the market feel uncomfortable they just pull out, regardless of the consequences to the countries which had in the past given them good returns. Cannot there be other ways of responding to the discomfort? It seems that the international community is now more concerned to avoid periodic crisis and has set up various committees and working groups to study these and to suggest a new architecture for the international monetary system. This include the setting up of the Financial Stability Forum and the G20.

But Malaysia remains pessimistic on the outcome. The membership of the G20 seems to make it heavily influenced by the views of developed countries. We hope the

G20 agenda will not be limited to promoting information exchange and coordination amongst national authorities, international institutions and international regulatory or relevant expert groupings. In our view, central to the issue of reform of the international financial system is the need to address the volatility of capital flows, particularly through direct regulation of hedge funds and HLIs.

We are also concerned that although much discussion has taken place, and agreement reached on certain specific issues, implementation details have yet to emerge. We recognise that some progress has been made to address the issue of transparency and disclosure as well as indirect regulation of market players. But even in these areas we are yet to see concrete measures. Until and unless there is a reshaping of the international financial architecture, we can expect the global economic system to remain inherently unstable and this would not be conducive to further development, particularly for the developing economies.

While some countries have adjusted and benefited from the liberalisation and globalisation process, many because of their low level of development have not managed to get a share in the benefits of globalisation. In the context of the present environment, capital flows have been channelled to where the returns are highest, and not where capital is most urgently needed to uplift the level of development. Considering that we place such faith in market forces, this is only to be expected.

Furthermore, the benefits resulting from the rules-based multilateral trading system as embodied in the WTO, have not been equally distributed amongst all countries. Tariff reductions in industrial and agricultural products, as well as improved trading rules are of little consequence to these countries, if the products of export interest to them are not granted market access. Commodity exports, the mainstay of many developing economies, continue to experience severe declines in their terms of trade.

Existing international infrastructure is inadequate to deal effectively with the developmental problems and crises. The international institutional machinery, comprising the United Nations, the IMF and the World Bank, have not been able to cope with the challenges confronting the developing world. The Asian financial crisis has clearly shown the inability of the developed world and the international institutions to respond to crises and the effects of contagion.

Poverty and unequal distribution of wealth have resulted in security and social problems. And they are likely to continue to do so in the developing countries, in particular. We must be sincere and earnest in finding solutions, solutions that can realise the full economic potential of developing economies, and to reduce significantly the problems of poverty, hunger, ill health, aids, illiteracy and gender discrimination.

The responsibility to address the issue of development is a collective one. Developed countries must play an active role in assisting countries affected by these problems. However, developing countries must accept that we too have to do our bit to ensure that sustainable growth and prosperity can be attained.

First, developing countries must continue to enhance domestic resilience and capacity. We must continue to invest in human resource development, to be equipped with the skills and knowledge to cope with a rapidly changing world dominated by technological innovations and advances. Investment in education with emphasis on science and technology must be given priority. Attention must be given to strengthening domestic institutions and the framework of laws, rules and regulations to ensure resilience in the face of challenges posed by globalisation.

Second, apart from the efforts of developing countries, industrial countries also have a special responsibility to facilitate this process, by assisting developing countries gain access to knowledge, ideas and inventions, which must be

made available at a reasonable price. Intellectual property must be protected but consideration must be given to the needs of the poor. By all means profit from the intellectual rights but make those who can afford pay more while reducing the profit from the poor.

The new millennium will continue to witness rapid advances in information technology, which will have wide-ranging implications on developing countries. The Internet has become a force of tremendous potential. Those who can see the usage it can be put to will gain tremendously. Those who are still dazed by the ease of access to information, to the market and to people in general will just stare at the screen while their little businesses get pulverised by the amazing dotcoms. By the time they awake to the potential it may be too late. UNCTAD could undertake a set of programmes to promote better understanding and capacity building in this area.

Third, all countries must work together to manage the globalisation process for our mutual benefit. The trading regime under the WTO can bring both benefits and challenges. In the context of trade liberalisation, greater flexibility must be given to developing countries for a wide variety of options and responses to deal with the complexities of development and nation-building.

This aspect and the special situation of developing countries are often not given adequate and appropriate treatment in trade liberalisation negotiations. Developing countries cannot and should not be expected to undertake obligations at similar levels as developed countries. Market opening measures expected of developing countries must be commensurate with the level of development. The principle of progressive liberalisation must not only be an integral element of any WTO trade liberalisation initiative, but must be fully recognised by all.

Fourth, to be able to manage the pace and direction of liberalisation and globalisation, developing countries must be allowed to effectively participate in the decision

making process in all international institutions. International institutions must have the mechanisms to allow the views of all to be heard. The decision making process must be transparent and must reflect not just the views of big business and big governments but those of the threatened small business and small governments as well. The recent WTO Ministerial Conference in Seattle clearly demonstrated the need to involve even the NGOs in the decision making process. It is time that the relevant NGOs be given a proper forum to air their views. Street demonstrations can serve as a wake-up call but their usefulness is quite limited.

Honestly, I am worried and frightened at the preparations being made by corporations in certain industries and business activities in order to take advantage of liberalisation and globalisation. I am referring to the mergers and acquisitions which are making big corporations even bigger. Now many of these corporations are financially more powerful than medium-sized countries. While we welcome their collaboration with our local companies, we fear that if they are allowed into our countries unconditionally they may swallow up all our businesses.

A situation of worldwide oligopoly seems already to be emerging. If market forces are allowed free play then oligopolies may end up as monopolies. I believe that the general consensus is that monopolies are unhealthy. Can it be possible that a corporation is not a monopoly in its country of domicile but a monopoly in the rest of the world? In such a case whose laws will apply? And if we restrain them would we be accused of not subscribing to globalisation and liberalisation?

Clearly, UNCTAD X has a big agenda before it. If you want to make globalisation an effective instrument for the development of all countries and people, it is imperative that you take serious notice of the fears felt by the developing countries about what is happening to the world's economy, the world's financial system in this era of inter-

dependence and globalisation. You have also to let the developing countries have a say in the interpretation and shaping of the new forces that are being unleashed by a globalised world where policies and practices are to be standardised so as to facilitate trade and investments.

We must not forget that UNCTAD is not just about trade. It is also very much about development and development is the particular need of developing countries. Other fora are already exclusively concerned with trade. UNCTAD is one of the few concerned with development and because of that it is extremely important to the developing countries.

I am confident that the deliberations during this Conference will result in concrete outcomes that will set a new direction for development, in terms of a new development strategy that embodies elements that would enable developing countries, in particular, to meet the challenges of the 21st century. UNCTAD must assume a leading role in achieving this objective.

Commentary The United Nations General Assembly meeting of October 24, 1970 passed a resolution 2626 (XXV) which stated that, "the ultimate objective of development must be to bring about a sustained improvement in the well-being of the individual and bestow benefits on all. If undue privileges, extremes of wealth and social injustices persist, then development fails in the essential purpose." Many developing countries had attained their political independence from their former colonial masters, yet their economic independence eludes them. The economic divide between the developed and developing nations is growing wider by the day and it is being exacerbated by globalisation. We are also witnessing rapid advances in technology whizzing by with dizzying speeds. These advances are leaving in their wake a borderless world, rapid flows of capital in and out of an economy and a knowledge-based economy, to mention just a few.

MAHATHIR MOHAMAD

Most developing countries struggling to meet the basic needs of their people also have to deal with these rapid changes. Unfortunately, most of them are unable to cope. The impact on their development efforts cannot be emphasised. Yet, these countries are being pontificated to about the benefits of globalisation. One would then like to ask; does globalisation's benefits accrue to all? This was the theme of the plenary session of UNCTAD X in Bangkok, Thailand. Dr Mahathir's answer is appropriate here. He said, "despite our efforts we see rising inequality between developed and developing countries, with continued high levels of poverty and unequal and inequitable benefits from globalisation. We see increasing uncertainty of the global economic environment. We see greater marginalisation as a result of the globalisation process. And we see growing inadequacy of global institutions to deal with developmental problems." There are so many of these problems elaborated on in the speech. Rather than dwelling on such problems lets look at the solutions proposed by Dr Mahathir to develop and developing countries as well.

Developing countries according to Dr Mahathir must continue to enhance their domestic resilience and capacity. Thus, they must continue to invest in human resource development, education and the strengthening of domestic institutions and laws to enable them to face the challenges of globalisation. Furthermore, to compliment the efforts of developing countries, developed countries must facilitate this process through assistance to developing countries to enable them gain access to knowledge, ideas and inventions. Basically, Dr Mahathir is speaking to the fact that intellectual property rights, the currency of the knowledge-based economy in the form of know-how and know-what is the new barrier to the development of developing countries. The call for developed countries to assist developing countries in accessing knowledge is in no way saying that they should not profit from their intellectual

MAHATHIR MOHAMAD

property rights. Far from that, it is a call to make those who can afford to pay more with the poor in developing countries paying what they can afford. Finally, developing countries must work together to be able to benefit from globalisation. To try to go it alone would be a mistake as there are many complexities in the globalisation process. Having said that, international organisations like UNCTAD has a bigger role to play to help developing countries benefit from globalisation. First, UNCTAD must listen to the concerns and take notice of the fears of developing countries as it pertains to globalisation. Second, they must be given the opportunity in international fora to address some of the pressing issues of globalisation that would affect their people and countries. They must be part of the process that is going to shape their futures.

9

Mimos's Role in Malaysia's Move Towards a Knowledge-based Economy

THE Malaysian Institute of Microelectronic Systems (Mimos) and I go back a long, long way. So long in fact that I was actually present at its conception. And given that kind of relationship, I fully expect to be invited to happy occasions such as this one. My involvement with Mimos began in August 1984 when a young academic came to see me about creating an R&D institute in microelectronics.

Back in those days, the Malaysian electronics industry was as Malaysian as Disneyland. Although it was physically located in Malaysia, Malaysians were just the *kaki tangan* or the arms and legs required to churn out those foreign products. Much to our irritation, Malaysian employees were not even allowed to create simple software. Everything had to come from overseas.

The solution was for Malaysia to conduct her own research into microelectronics. The technology would then

A speech delivered by Dr Mahathir Mohamad at the official visit to Mimos in Malaysia on November 1, 1999

belong to us, and no one would be able to tell us what we could or couldn't do. For the very first time, Malaysia would design and manufacture its own microprocessors.

The rest, as they say, is history. Although with an organisation like Mimos, perhaps I should also say that the best was yet to come.

Fifteen years later, we are gathered to celebrate Mimos's third anniversary as a corporate body. And of course this is also a wonderful opportunity to thank the various organisations that have helped to make this early example of "*Malaysia Boleh*" a success.

Without the support of various government agencies Mimos would never have survived—let alone thrived. I would like to thank colleagues and officials for seeing the potential in Mimos and Malaysia, and working so hard to realise both. The Minister of Finance then agreed to allocate RM5 million—a princely sum indeed.

The private sector too has been immensely helpful—so much so that many of the programmes organised by the National Information Technology Council (NITC) could not have succeeded without your help. Thank you for your vote of confidence. I sincerely hope you will continue to give Mimos the financial and moral support it needs to give all Malaysians access to the benefits of information and communications technology (ICT).

Finally, I must thank a very special group of public and private sector individuals: Mimos's Board of Directors. Thank you for introducing the systems and processes that this ex-government agency lacked. Your contributions will continue to be essential in ensuring Mimos's credibility and, indeed, efficiency as a corporation.

Going back to the future, I would like to spend some time considering Mimos's value to the nation. We are, after all, fully entitled to do so. Fifteen years ago, I played the role of venture capitalist on behalf of the Malaysian government. And all of us here are stakeholders in this in-

stitution by virtue of the taxes that end up with the Ministry of Finance—Mimos's shareholder.

Right from the beginning, Mimos demonstrated its prescience by identifying the most significant ICT trends. More importantly, this young organisation had the confidence to act on its foresight. There was, so I've been told, no *sihir* involved, no crystal ball. Nevertheless, Mimos seemed to "get it" and get it right.

Take the Internet, for instance. In the 1980s, the Internet was still a geek's gizmo. However, the geeks at Mimos decided it was going to be big, very big, and immediately set about creating RangKom, an early manifestation of Jaring.

Of course, they were right. But to those of us back in the dark ages of ICT, they must have appeared like Noah of old, building his ark in defiance of so-called common sense. Today, the Internet has over 196 million subscribers and the figure is growing exponentially. The flood has arrived and thanks to Mimos, Malaysia is equipped to navigate these uncharted waters.

But Mimos isn't just about geeks with a gift for fortune-telling. It's also about the ability to see beyond the technology to the people who will be affected by it.

In the early 1990s, Mimos was asked to lead IT policy development through the NITC. Before long, your CEO was back in my office asking me to chair the council. I must admit I was most unwilling: I was already chairing more committees than I cared to remember. Actually I was scared to display my ignorance of the subject. But he was not easily deterred. After explaining that ICT was going to transform society as we knew it, he concluded with a challenge no patriot could resist: "If you really want to see this transformation take place in the way we envision our future development, then you are the only person who can chair the NITC."

What could I do but agree. With trepidation but instantly. Leading Malaysia into the e-world wasn't something that came naturally to me. I knew little about ICT: even less than I'm supposed to know about economics and finance.

However, I have always believed that anyone can learn new tricks. In fact, according to certain quarters, I'm now rather an expert in these matters. If you need proof, just consider this: I have already introduced my own terminology to this dynamic field—the word “de-confuse”. It's a very useful term to use when dealing with geeks. You can use it to interrupt lengthy explanations, as in “Please de-confuse me.” Or if that doesn't work, you can always try, “I asked you to de-confuse me but I'm still confused.”

In the mid-1990s it became evident that Malaysia would not achieve Vision 2020 by relying on industrialisation. We had to find a different route.

The answer to our dilemma was ICT, but ICT in what form? Most people assumed that Malaysia would just follow the leaders. But in this warp-speed environment, the leaders don't have all the answers. They don't even have all the questions.

The second option was to bury our heads in the sand and hope that all this bothersome technology would somehow disappear.

With the help of Mimos and other consultants, Malaysia did it her way. To almost universal acclaim, we created this huge experiment called the Multimedia Super Corridor or MSC. Today, the MSC is on track to become the best incubator in the planet for high-technology businesses; a special greenfield environment where companies from all over the world will be able to collaborate in new ways and reap the rich rewards of the information age.

Of course, the recent economic crisis gave our critics the opportunity to wet blanket our enthusiasm. But I have

always welcomed criticism from unfriendly quarters: I take it as a sign that I must be doing something right. Indeed, if you think through the issues, the MSC is the only way forward for a country such as ours. Countries that drag their feet in developing the new information highways will also tend to become backwaters of economic activity.

I mention Mimos's involvement with the MSC for a reason. As the government's highest-level ICT think-tank, Mimos often works behind the scenes, accomplishing its mandate quietly but effectively. Publicity *per se* is not on Mimos's agenda. Helping Malaysia be the best she can through ICT is.

Many people think Mimos isn't interested in profit. That is nonsense. Mimos is vitally interested in profit—but not for itself. As a mission-driven R&D institution, Mimos's mandate embraces nothing less than the "profitability" of an entire nation: the achievement of Vision 2020 through the social and economic opportunities of ICT.

The question then is, "Is Mimos succeeding?" I believe the answer is "Yes". Today, experts tell me that the MSC has put Malaysia on course for a tripling of our GDP by 2020. I won't be around to see this happen. But I sincerely hope that Mimos will.

In Malaysia, we believe in ensuring access and equity for all. We also believe that technology makes a wretched master but an excellent tool. It is important that we use ICT wisely, according to our values and culture. And the only way to ensure both access and appropriateness is to take charge of technology development ourselves.

Take the continued Western domination of the media for instance. We could have resigned ourselves to the fact that *kancils* don't stand a ghost of a chance against the *gajahs* of this world. We could have just ignored them and gone our own way.

The other option, of course, would have been to fight it out. I don't believe in running away from fights—but I am a little choosy when it comes to picking my opponents. There is wisdom in avoiding wrestling with pigs: the pig enjoys it and you both get filthy.

However, with the advent of Jaring, Malaysians are now explaining Malaysia to the world. By enabling access and equity, we have also given Malaysia her voice—the voice of her citizens.

R&D is most crucial in today's knowledge-based economy. Organisations like Mimos, which exist to develop technologies that benefit all Malaysians, must be supported. This kind of state intervention is anathema to many. But as the progress of ICT has shown, the state, not the innovative entrepreneur in his garage, was the initiator of the information technology revolution. How else but by state intervention can we expect to accelerate technological modernisation and change the fate of our economy in just a few years?

Right now, the culmination of Vision 2020 is less than twenty years away. Through organisations like Mimos, the Multimedia Development Corporation (MDC), and the support of all Malaysians, we will transform ourselves into an informed society, totally equipped to enjoy a quality of life our grandparents could never even have imagined.

The government will therefore continue to support Mimos. Not because Mimos needs help, but because Malaysia does.

In return for that support, I would like to see Mimos and the MDC working together to help a brave new breed of entrepreneurs: the cyberpreneurs or netpreneurs. Think of Mimos as our *Starship Enterprise*, the flagship of a fleet of cyberbusinesses. The flag it carries is nothing less than the national consciousness for the knowledge society and knowledge-based industries.

But more than that, this mother ship will actively encourage these fragile cybercraft. It will share its expertise, thereby giving cyberpreneurs the confidence to go where no businessman or woman has gone. And it will always be on standby to help its fleet establish new colonies in cyberspace.

In the 1400s, Leonardo da Vinci imagined—as sketches in his notebook—aeroplanes, helicopters and parachutes. But as we all know, it took centuries for these conceptions to become products. In da Vinci's time the gulf between the probable and the possible was just too vast.

Now all that has changed. Today's 21st-century cyberpreneur is limited only by his imagination. Until quite recently, human beings could only hope to control physical space, the everyday world of atoms. At the dawn of the new millennium, our span of control is almost limitless. Using cyberspace—which literally means the virtual space of control—we can track and influence events on the other side of the globe.

In the new knowledge-based economy (or k-economy), a person who relies only on the physical space of control will be as handicapped as a man with only one leg. To run with the best, you need to use both dimensions.

Mimos is here to encourage Malaysian Leonardo da Vincis who want to make their mark in cyberspace. It is here to help you realise your ambitions. It is here to help make things happen for you.

As with the *Starship Enterprise*, the idea is to create a self-supporting system that promotes everyone's existence. As a government-funded institution, Mimos is not in the business of competition but of cooperation. It is here to develop a web of interdependent, mutually-supportive cyberbusinesses working on the frontiers of the k-economy.

I look to Mimos to act as the catalyst for this kind of large-scale cooperation. To do this, you will have to convince others to dream with you so that your vision of "a better tomorrow" becomes a Malaysian reality.

Congratulations, Mimos, on your third anniversary as a corporate entity. May you use your powers wisely to help Malaysia enter the e-world. You already have a good track record. All we ask is that you continue amazing us.

Commentary Malaysia's effort at moving towards a knowledge-based economy cannot be described as a unilateral effort on the part any single organisation in the country. It is a concerted effort on the part of numerous organisations in both the public and private sectors. One such important organisation is Mimos. It was the support of a brilliant idea by the Malaysian government as well as the private sector that saw the success of Mimos today. Amongst the many successes of Mimos, the most obvious is the creation of RangKom, transformed today to Jaring, which allows many Malaysians to access the Internet. The role of the Internet in Malaysia's effort to transit to the knowledge-based economy cannot be emphasised enough. Thanks to Mimos, Malaysia today has more than a fighting chance.

Indeed, if Malaysians are to move away from the role of *kaki tangan* that they were regarded in its early industrialisation years to being the *pegawai*, then efforts like Mimos must be supported by the government. There are those who may hold the view that the private sector should be the catalyst of any such move. Even though such an argument is convincing, it falls flat on its face as it pertains to environments in developing countries like Malaysia where capital markets are not well developed, as it is the case in developed countries to fund such high-tech ventures. Besides, the capital requirements for starting an ICT organisation like Mimos can be prohibitive and with the fast advancements in ICT technologies, shouldering

MAHATHIR MOHAMAD

the recurrent cost to update technologies usually make it unattractive to the private sector. It then points to the issues of the proverbial market failure that most economists talk about. The government then is the best candidate for such a task. Most of the national laboratories in the United States that have turned out innovative products in use today had their start through government funding. Mimos should not be different in this regard.

Mimos has also played an important role as an ICT consultant to the government in setting up the Multimedia Super Corridor (MSC). The MSC, which has been mentioned in some of the previous commentaries in this book, is going to play an indispensable role in moving Malaysia towards a knowledge-based economy. Indeed, as the ICT consultant to the government, Mimos would help the government realise its Vision 2020. Dr Mahathir believes that Mimos would also contribute in the areas of ICT research and development, a crucial part in Malaysia's effort to move towards a knowledge-based economy. Mimos would also contribute through its collaboration with the Multimedia Development Corporation (MDC) and other organisations to develop cyberpreneurs and netpreneurs who would be independent and mutually supportive of each other to move Malaysia to another frontier of the knowledge-based economy. Dr Mahathir puts it best when he said that Mimos can be regarded as "our *Starship Enterprise*, the flagship of a fleet of cyber-businesses. The flag it carries is nothing less than the national consciousness for the knowledge society and the knowledge-based industries." This profound statement by Dr Mahathir says it all. It would therefore be prudent for the government to continue to support Mimos and other similar organisations because of the benefits that would accrue to the country. Finally, Mimos cannot afford to rest on its oars. To do that would be tantamount to complacency, and complacency, as we all know, is the surefire recipe for failure. Mimos must therefore note that they

MAHATHIR MOHAMAD

have only won the battle but the war is still on. With rapid advances in ICT, they would fall by the roadside if they become complacent because of their current achievements.

10

Small and Medium Industries: Critical Components of Industrial Growth and Development

MALAYSIA has come out of the woods after undergoing an economic turmoil to an unprecedented degree. Malaysia's so-called unconventional measures and strategies in addressing our economic crises were severely criticised by the international financial institutions and so-called experts. But these measures have proven to be appropriate and effective, for overcoming our financial problems and economic fundamentals.

Whilst the economy was put to the 'test', confidence from the private sector including foreign direct investors, remained high. This is evidenced by the continued inflow of foreign direct investments (FDIs) into the country's manufacturing sector, even at the time when the country was registering negative growth. These are the real investors who know the actual situation of the country and who have taken a long-term view of the country's fundamentals and potentials. Therefore, existing foreign investors

A speech delivered by Dr Mahathir Mohamad at the opening ceremony of the SMIDEC Annual SMI Showcase 1999 in Kuala Lumpur, Malaysia, on October 18, 1999

remain committed to their investments and have in fact continued to expand and diversify their operations into higher technology and more value added, including R&D activities.

These are the type of FDIs which we are interested in attracting into the main economic sectors of the country and these are the investors whom we like to work with, in advancing further our industrialisation programme. This is because developments in these sectors will determine the long-term economic growth and sustainability of the country, as they contribute greatly to the GDP, to exports, employment, technological and skills development, development of small and medium industries (SMIs), which are all critical components of a country's industrial development.

The SMI sector assumes an important role in deepening and broadening the country's industrial base through the supply of essential parts and components, and related services to the large companies and MNCs. SMIs having strong linkages with domestic economy are also training ground for the development and nurturing of entrepreneurial skills. This sector has also been recognised as a vehicle for developing Malaysian-owned companies and Malaysian-owned brandnames and designs (OBM and ODM).

The theme chosen for this showcase, "Forging Ahead in Challenging Times," is both apt and timely as the country recovers from the economic crisis, and is set to forge ahead towards the next millennium. SMI sector being the backbone to the economy need to bolster their performance and profile in order to meet the challenges of the New Economy.

Rapid globalisation of the world economy presents unprecedented challenges as well as opportunities for Malaysian companies, in particular the SMIs. To survive and thrive in such a volatile global marketplace, SMIs must be prepared to change—change in the mindset and change

in the way of doing business as well as the manner with which business is conducted. If the success of doing any business today is determined by one's flexibility, adaptability, responsiveness to changing market requirements, doing business in the next century is about making changes in 'real time' made possible with the application of information and communications technology (ICT).

The economic downturn has been a bitter lesson to many of our domestic companies, especially the SMIs. The resilient and the competitive came out of the 'test' leaner and in better shape to face competition. However, SMI companies need to realise that in future there are different sets of challenges to be encountered and companies must quickly acquire the innovative and entrepreneurial skills to transform these challenges into opportunities.

Our economy in keeping with the trend is gradually transforming itself into a knowledge-based economy (k-economy) in which brain power rather than brawn will be the determining competitive advantage. In a k-economy, where the main activities are focused on the high value added and knowledge-based activities such as product and process designing, product/process development and improvement, innovation and other R&D activities, size and scale of operation do not matter as much as before. Both large and small companies stand almost equal chance of achieving success. Indeed, it has been proven by many success stories of breakthroughs in technology, software designs and development made by companies or entrepreneurs who started very humbly and very small. Therefore domestic SMIs should consider going into more and more of this type of skill and knowledge-intensive business activities where the start-up cost is also low.

With the extensive application of ICT by our own companies, the outreach of Malaysian-made products and services can be extended to the global market, even though they are intended initially to serve the domestic market. Through e-commerce, products of SMIs can not

only reach the markets abroad faster but also at lower costs. At the same time, it is the power of ICT that has given the challenges of globalisation the true meaning of doing business in a borderless world.

Against this backdrop, our local SMIs must rise up to face the challenges and changes that are taking place even while we are in this hall. Products produced today must not only meet the needs and taste of domestic market but should also adapt to consumers in differing markets. What this implies is that SMIs need to shift their focus from being production oriented to market oriented.

Fundamental to achieving market acceptance and penetration is of course quality and competitiveness. At the very outset products and services must be able to meet the rapid changes in international standards and requirements in terms of price, quality, delivery and costs. To be able to do this, SMIs should strive to acquire new technologies and upgrade skills in core competencies critical to achieving manufacturing excellence. SMIs also need to acquire new capabilities and new skills in order to be able to produce essential parts and components to compete with the best in the market.

Over time, Malaysian SMIs must graduate from producing lower-end components and parts, to becoming global suppliers of higher value-added intermediate products. For Malaysian SMIs, this graduation from domestic to becoming global suppliers should be achieved as a matter of logical progression. The global networking of Malaysia-based MNCs should be fully capitalised to gain access into the international procurement market.

With the assistance of Matrade the showcase this year has attracted several foreign-buying missions, representatives from international procurement offices (IPOs) from Singapore and Hong Kong as well as other foreign trade visitors. These trade visitors will also take part in the business matching sessions with companies participating in the showcase.

To further strengthen this year's event, an Asean Matchmaking Workshop to foster linkages and joint ventures between large companies and SMIs is held back-to-back with the showcase. The workshop provides an avenue for those involved to meet, discuss and share experiences in developing SMIs through establishing smart business partnerships and joint ventures. The networking and linkages established will contribute towards strengthening Asean economic architecture, turning the region once again into the most competitive growth area in this region.

Commentary The importance of small and medium industries (SMIs) in the growth and development of Malaysia cannot be emphasised enough. SMIs contribute a substantial amount to the total GDP of Malaysia. Hence, it would be safe to say that they are the backbone of the Malaysian economy. The main thrust of this speech by Dr Mahathir Mohamad is to emphasise the importance of SMIs and how they must shape up so as to be able to compete in the impending knowledge-based economy. The 1997-98 economic downturn is drawn upon to serve as a lesson for Malaysian SMIs.

Malaysian SMIs are therefore urged to acquire the requisite innovative and entrepreneurial skills to transform the challenges of the knowledge-based economy into opportunities. These opportunities would not happen based upon empty wishes. It requires a dedication on the part of Malaysian SMIs to invest in R&D to develop innovative products to enable them to compete effectively in the impending knowledge-based economy. It also requires perseverance and the willingness to stay the course. The good part is that in a knowledge-based economy, competitive advantage is not determined by a firm's size but its innovative products.

Like some who may not be informed about the importance of Malaysian SMIs might ask, why so much noise

about SMIs? To this section of the populace, there is the need to elaborate on three major important roles of Malaysian SMIs drawn from the speech. First, Malaysian SMIs play an important role in deepening and broadening the country's industrial base. This is attained through the supply of intermediate goods and services to multinational corporations (MNCs) and larger companies. Second, Malaysian SMIs serve as a training ground for entrepreneurs and act as a sphere where Malaysian entrepreneurs can "cut their teeth," so to speak, or acquire essential skills. Finally, the SMI sector in the country is the source of the evolving of brandnames and designs for the country and the region as a whole in the global marketplace. Once a brand is accepted around the world, it can command a sizeable market share as well as a following in the marketplace. The returns on investment to the said company, the provision of long-term employment to the citizens of Malaysia as well as the taxes that would be paid by the SMI as well as its employees to the government cannot be emphasised enough.

The advantages to Malaysian SMIs that are able to produce innovative and competitive products are numerous. Information and communications technology, a main feature of the knowledge-based economy can enable these SMIs to reach a more diversified and international market beyond their domestic market, around the clock with limited constraints of distance, especially through e-commerce. The challenge, according to Dr Mahathir, is for these SMIs to move from producing low-end components to higher end, value-added intermediate products, which must meet global standards in terms of price, quality and delivery. But producing innovative products is not attained by words alone, but by deeds. Malaysian SMIs must therefore invest in R&D. Most rely on off-the-shelf technologies from developed countries. This serves as a disadvantage to these SMIs. First, they would have to pay rent to the owner of the patent as long as they use the

technology. Second, they are unable to compete with other SMIs, especially those from developed countries, in the global marketplace because of the innovative products the latter has to offer. Hence Malaysia's SMIs must heed Dr Mahathir's challenge of investing in R&D to produce high-end, value-added innovative products for the global marketplace.

Yet the crux of the matter for Malaysia's SMIs is that the production of innovative products is not an end in itself. Dr Mahathir observes that if Malaysian SMIs are to be successful in the knowledge-based economy, they cannot be tunnel-visioned and inflexible; rather, they must be flexible, adaptable and responsive to changing market requirements and should be willing to make changes in "real time." The products of these SMIs must have a broad appeal to both domestic and global markets and this can be done because ICT have afforded low start-up cost and the ability to reach many more consumers today than before.

Having elaborated on the advantages that ICT can offer Malaysian SMIs, they are now challenged to acquire new technologies and the requisite skill sets and knowledge-workers to enable them to produce competitive goods and services for the global marketplace. The Malaysian government's support of SMIs to attain this goal cannot be emphasised enough. Further help in going international for most Malaysian SMIs is through the assistance offered by Matrade. Dr Mahathir has sounded the clarion call to Malaysian SMIs about the arrival of the knowledge-based economy and the challenges it poses. He has also elaborated on the numerous benefits the knowledge-based economy can offer. It is now up to Malaysian SMIs to seize such an opportunity by equipping themselves to benefit from the knowledge-based economy.

11

Forces that will Shape Our Common Digital Future

CEBIT '98 is one of the world's largest and most prestigious information technology (IT) fairs, where companies from all over the world gather to showcase all the latest innovations and technologies. Being somewhat of a technology buff myself, I am looking forward to visiting the pavilions, as well as meeting the leading players in the German IT and multimedia industry.

Three main elements have brought mankind to the threshold of the information age—rapid advances in global communications, the Internet and convergence of technologies. The Internet has matured substantially, not only as a major communications tool and source of information, but as the medium for electronic commerce. Over the years, it has evolved in terms of size, global reach and accessibility. Researchers have estimated that in 1997, there were 54 million Internet users worldwide, while

A speech delivered by Dr Mahathir Mohamad at the MSC Investors Conference in conjunction with CEBIT '98 in Germany, on March 20, 1998

Internet services constituted a US\$35 billion market. Demand is expected to grow rapidly, with not only mass-market penetration of the Internet continuing, but the adoption of a diversity of services within the Internet are also growing.

Advances in global communications, too, has led us to new frontiers in the borderless world. In the past, telecommunications services were linked to a specific infrastructure. Today, voice, data and video services can be transmitted at very high speeds, over any kind of network—fixed, wireless, satellite or a combination of these. With the convergence of technologies, telecommunications, media and IT companies are now able to offer new services outside their traditional business sectors. The convergence of technologies is also driving the convergence of industries into a common 'electronic business system' with functionalities that facilitate borderless businesses.

Needless to say, information technology, which is the foundation of the new digital economy, is moving literally with the speed of light. The magnitude and impact of the growth has far-reaching implications, opening up endless opportunities and undreamed of options for businesses to explore. I would like to share with you some of my thoughts about the forces that will shape our common digital future—the promise it holds and the strategic response we in Malaysia are making to take advantage of that promise.

In Malaysia, we have taken a pragmatic approach to enter the information age. We realised that an IT agenda is the *sine qua non* to realising our goal of becoming a fully-developed nation by 2020. Studies have shown that in order to reach fully-developed-nation status, our annual growth rate must average 7 per cent a year until 2020. It is expected that the manufacturing sector's contribution to the GDP will peak at around 38 per cent by the year 2005. We thus need a second engine of growth for the economy.

We believe that this will come from a thriving IT and multimedia industry which will, in turn, fuel productivity in other industrial sectors.

Amongst others, our IT agenda outlines various strategies which will help us become a knowledge society through the development of people, infrastructure and applications. We have started building the foundation to support this knowledge society, and this is in the form of the MSC, which is our first major investment for the future. This will primarily be the vehicle for our country's entry into the information age.

The MSC is not just a physical location, or just another industrial or technology park—and it is not a far eastern imitation of the Silicon Valley—it represents a new paradigm in the creation of value for the information age. The MSC is envisioned to be a high-tech testbed that will allow companies to explore multimedia technologies without any limitations. It aspires to be a global centre for the applications and testing of leading-edge IT advances and discoveries.

This may seem somewhat audacious on the part of a small developing country. We are the first to admit that we are only just taking our first steps into the complex and sophisticated world of multimedia—but we can provide an ideal environment for technology to flourish. In fact, being a developing country helps. We offer a greenfield site, unencumbered by industrial practices and legacies or entrenched interests—a site dedicated to the full application of IT in the new age electronic commerce.

We have before us the example of Britain and the United States, one fathered the Industrial Revolution, while the other brought it to its full development. America was then one huge greenfield site—providing the optimum conditions for technology and business to flourish, to fulfill the promise of industrialisation. We have taken this as a model. In a modest way, we too hope to assume a catalytic role. Our task will be to create an ideal environ-

ment for IT and multimedia, one which will encompass the physical, economic, regulatory and policy framework that will unleash the creative dynamics for innovation and advances in this field.

For a country like Malaysia, which is far less developed in terms of the multimedia, this will demand one giant technological leap. We have a lot to learn. This is not something which we can embark on our own. For that reason we turn to you and others like you. We can only do it in mutually beneficial partnership with world-class companies from all around the globe. At the same time, we hope to help our own IT and multimedia companies become world-class over time. It is a smart relationship that will hopefully lead to the development of many, new and innovative multimedia products and services in the future. We invite you to bring your high-tech operations, your R&D, your IT know-how to experiment and to try on your own or alongside Malaysian companies in the MSC. In order to create this multimedia haven, we need a cross section of telecommunications companies, content providers, and software developers.

The MSC will be a 'web' of collaborating companies in the IT field—a multicultural web of mutually dependent international and Malaysian companies collaborating to deliver new products and new services across an economically vibrant Asia and beyond. And like a spider, it will weave ever more intricate webs of relationships and create synergies amongst participating companies. Such a web could be the new model of development for the information age.

We have already promoted our vision of this multimedia haven in Hollywood, Silicon Valley, the United Kingdom, Japan and Canada, where it received a heartening response. We have special reasons to hope that more European companies will soon be represented in the MSC, along with our other distinguished pioneers.

MAHATHIR MOHAMAD

Siemens, which has been in Malaysia for a long time and is now one of its leading corporate players, is already involved in the MSC. Its chairman, Dr Heinrich von Pierer, sits on the MSC's International Advisory Panel set up to counsel Malaysia on the development of the MSC, together with other leading IT players from around the world. The Multimedia Development Corporation, which oversees the development of the MSC, is currently evaluating a few MSC-status applications from German companies, and are talking to several more during this visit. Several site visits have also been planned.

We see a lot of strengths in the German IT industry which will facilitate its expansion and globalisation efforts. It is now as well-positioned as the largest market for information products and services in Europe. It also has many strengths in the telecommunications sector, having the largest digital network in the world, the latest technology in mobile communications, the largest telecommunications company in Europe and the second largest in the world after AT&T.

Yours is a country renowned for technological innovations, and we look to you for technological transfers. However, whilst continuing to rely on the transfer of technology, we are getting even more ambitious. We do not want to be just passive recipients, but active participants—and with the help of people like yourselves, we have set ourselves the goal of developing new technologies indigenous to Malaysia, specifically, we are hoping to attract R&D operations. We want to be part of the industry's world wide endeavour to develop intelligent multimedia solutions to manage today's exploding range of information options. Hopefully when the world gets the next generation of high-tech start ups, Malaysia would be there.

We look forward to expanding our business links with you. In particular, we commend to you the ample business opportunities presented by the MSC. What we are proposing is a smart partnership. It is presented not just as an ex-

citing and innovative idea, but as a carefully conceived and sound business proposition.

In physical terms, the MSC is a relatively large area of 15-by-50km. By concentrating IT and multimedia operations in one dedicated area, a very special environment can be created, facilitated and more efficiently managed. The MSC begins at the Petronas twin towers, currently two of the world's tallest buildings. It runs south down to the new Kuala Lumpur International Airport, which when it opens in June this year, will be the most advanced in the Asia-Pacific region and will become a regional communications hub.

Two futuristic intelligent cities—Putrajaya and Cyberjaya—will form the nuclei of the MSC. Putrajaya is the country's new administrative capital; the other is a cyber-city—a haven for IT companies providing operational quarters for multinationals to direct their worldwide manufacturing and marketing activities in multimedia, as well as their production and marketing of multimedia products and services.

It is not easy to describe in a few words the wide-ranging concept of the MSC. It will be purpose-built with the intent to provide a fertile base for business to focus their unique skills and resources to develop the new age communications industry. It will have to incorporate many technologies, as well as a technology-oriented and business-focused setting. We hope the closeness of the companies to one another will enable a strong collaborative environment to be created that will encourage linkages. But we are not just talking buildings, facilities and systems. The idea is to provide both the physical and the psychological space for creativity. We see the MSC as a place of enquiry and of intellectual curiosity. The concept is not new. The Cavendish Laboratory at Cambridge is just such an assembly of scientific intelligences. It has produced some of the world's greatest physicists. The MSC, being more business oriented, will be developing the prac-

tical applications of the multimedia for commerce and to meet the business and personal needs of the 21st century knowledge-worker. It will be a global testbed where new technologies can be spawned and tried out.

Putrajaya, the new administrative centre will be a testbed for the electronic government—providing companies with the opportunity to provide and validate a near-paperless bureaucracy under the conditions of a real government environment. Social research will be included—testing the implications for society of instant unlimited information.

Cyberjaya will provide the physical setting—7,000 hectares of lush green tropical forest, palm oil plantations and rolling countryside. Much of the green space will be preserved. The Malaysian government will provide the incentives, groundbreaking cyberlaws, business-friendly policies and regulations. The private sector, it is hoped, will seize the entrepreneurial opportunity.

To test out this vision, we convened the first meeting of the International Advisory Panel for the MSC at Stanford University in California. Industry leaders of worldwide repute, subjected the proposal to the most stringent evaluation. We are talking of people like Jim Barksdale of Netscape, Bill Gates of Microsoft, Scott McNealy of Sun Microsystems, and many others. They gave it an enthusiastic thumbs-up. This, I feel, is due mainly to the fact that in addition to its intrinsic merit, we were serious about removing the outdated obstacles that Industrial Age policies, laws, practices and attitudes had posed for them. The panel met again last month for the second time at the MSC headquarters in Cyberjaya. Progress was evaluated and the next forward steps were recommended. Various cross-border issues, especially those pertaining to electronic commerce, were also discussed. The members were impressed with the progress to date, and re-affirmed their support and confidence.

Work is already well underway at the MSC and is one year ahead of schedule. The 'hard' infrastructure is being put into place on a fast-track basis. Response has been beyond our expectations and to date, we have given MSC-status accreditation to 110 companies, out of which 84 are already in operation. We have, since April last year, received a total of 180 applications for MSC status, out of which 34 per cent are from foreign companies, 43 per cent from Malaysian companies, and 23 per cent from joint ventures between Malaysian and foreign companies. Twelve per cent of the applications from foreign companies are European.

Barely a year since we first launched the MSC, we are already beginning to see the value created from the information age business. MDC statistics on the MSC-status companies show increased investment in high value-added activities, with revenue to investment ratio of approximately three to one. For all the companies which have applied for MSC status, the combined revenue projected by the fifth year of operations is around RM13 billion, while projected profit for the same period is close to RM5 billion. This is on the back of an investment of around RM4 billion. There are also signs showing the formation of new services-based industry clusters, specifically in software development, content creation, animation and broadcasting, and telecommunications.

Additionally, based on all the MSC applications received, knowledge-worker requirement by the fifth year of operations stands in excess of 23,000. Recognising this need, we have recently extended MSC-status accreditation to institutions of higher learning as one of the measures to help fulfil the companies' human resource needs.

However, we see the 'soft' infrastructure as the area where we probably need to innovate most. The Malaysian government, always business-friendly and accustomed to dealing with foreign investors, promises to be even more friendly to the people of the MSC:

- Knowledge-workers who fall within the category of special guests will get in and out of the Corridor without hassle or delay, with multiple entry visas;
- We will allow 100 per cent ownership of companies and unrestricted employment of knowledge-workers from abroad;
- Incentives are generous with tax holidays of up to 10 years;
- We will not censor the Internet, but, of course, if you download and distribute certain undesirable or illegal material (pornography, for example), you will be subjected to the usual laws of the country;
- Companies will find a breath of fresh air coursing through the regulatory system. Bureaucratic procedures will be reduced to a minimum. Official requirements will be few and approvals expedited for work permit applications;
- A one-stop agency system will streamline the entire process, handled by the Multimedia Development Corporation, to whom all your enquiries should be directed. This is where you obtain any official sanctions you may need;
- We have dispensed with the traditional and often cumbersome tenders in favour of 'concept proposals', again simplifying the whole procedure.

We recognised early on the importance of intellectual property rights and the need for a special category of cyberlaws. The Multimedia Convergence Act 1997, already on the statute book, is designed to support companies engaged in electronic commerce and to resolve some of the issues due to the convergence of the communications, computing and broadcasting industries.

Cyberlaws already tabled in the House take the regulatory and legislative controls further than any tried before—a brave attempt to deal with computer crimes, illegal access, commercial espionage and theft, methods of vali-

dating digital signatures and computer transactions, together with a host of other protections not covered by existing laws. We realise at the same time that cyberlaws for new usages of multimedia as well as new technologies will pose fresh problems. But there is sufficient legal framework already in place to raise the comfort level of would-be investors and to make Malaysia a regional leader in intellectual property protection.

At the same time, we realise that a concern of the private sector is that the government does not always understand the reality of operating a business on the ground, in terms of operating conditions and constraints. In Malaysia, we have a highly developed process of consultation with private enterprise which was built into the development of the MSC from the outset. MSC-status companies have direct access to me, as chairman of the MSC Implementation Council and the International Advisory Panel, and to the deputy prime minister who heads the Founders Council.

All that remains is a forward look. Phase II of the MSC project will see the Corridor linked to other cities in Malaysia and around the world. By then, we expect in excess of 250 companies within the MSC. By the year 2020, the entire country will be a Multimedia Super Corridor with a total of at least 12 intelligent cities linked to the global information superhighway and thus becoming a link to all the other intelligent cities worldwide. MSC participants will have risen to 500 world-class enterprises.

It will even have a Cyber Court of Justice. And in terms of social concern, we hope that in addition to it being a testbed for new technologies it will help to develop and influence the new culture of global information, grappling as we must with the conflict between control and licence and offsetting the adverse social effects of a massive unremitting onslaught of instant, uncensored information.

MAHATHIR MOHAMAD

What we are offering may not be new in technological terms but we believe that this initiative is organised on a scale and is of a comprehensiveness hitherto unrivalled. When we invite you to participate, it is first as a matter of collective self-interest. Quite simply, we think it is a good deal for all, for you and for us.

We therefore invite you to be with us as we seek to catch the dawn of the 21st century.

Commentary The empire builders and titans of wealth of the 19th and 20th centuries, the J. Pierpont Morgans, the Andrew Carnegies, the John D. Rockefellers and the Duponts, made their wealth in "Old Economy" industries such as oil, steel, railways, real estate and chemicals, to mention just a few. Today, the empire builders and titans of wealth are people like Bill Gates, Scott McNealy, Larry Ellison and Steve Case, just to mention a few. The source of their wealth is in the "New Economy" industries. This has been made possible by rapid advances in information and communications technologies. Such technologies are changing the way we live, just like how the automobile changed forever the way we use to live. ICT is also changing the way we work and do business. One of the places to showcase the latest innovative gadgets in information and communications technologies is at the annual CeBIT show held in Germany. CeBIT '98 presented the opportunity for Dr Mahathir Mohamad to offer an official invitation for German IT and multimedia companies to invest in the Multimedia Super Corridor.

Some may ask, why should Malaysia bother with moving its people into a knowledge-based economy? Why should the government bother with the MSC? After all, Malaysia has attained phenomenal growth and has transformed itself from a rubber and tin exporter to that of electronics and manufactured goods. In the process, it created a certain quality of life for its people, which is the envy of other developing countries. Such an observation is true

but the advances in ICT have far-reaching implications on the growth and development efforts of countries in this new millennium. If Malaysia is to continue growing and maintaining its current standard of living for its people, it must embrace the digital economy. To prepare for such a digital future, the Malaysian government, under the leadership of Dr Mahathir, has developed some strategic responses. One of the boldest of such responses is the Multimedia Super Corridor (MSC), an effort to create a knowledge-based society and to be able to support this knowledge society. The MSC is thus seen as the vehicle that would carry the country into the information age.

By physical size it is huge. It stretches from the Kuala Lumpur International Airport (KLIA) to the Petronas twin towers (the tallest buildings in the world at the moment of writing). It represents, in Dr Mahathir's words, "a new paradigm in the creation of value for the information age." As a high-tech testbed for new applications, it would allow Malaysian as well as global companies to test their leading-edge discoveries in the corridor. Malaysia believes that it cannot go it alone, it is thus inviting world-class companies to collaborate with it in this endeavour. It sees the role of Germany, especially German IT and multimedia firms, in this aspect as indispensable. This is because Germany has positioned itself as one of the largest markets for IT in Europe. It has one of the largest digital networks in the world as well as the largest mobile communications networks. Mention should also be made that it has one of the largest telecommunications company in Europe. The important role Germany can play in the growth efforts of the MSC cannot therefore be emphasised enough. It is with this view that Dr Mahathir is inviting German companies to be part of this effort. Malaysia hopes to learn from Germany and hopes it would transfer some of its technology to the country. Would Malaysians be just passive recipients of such technologies? Definitely not. As Dr Mahathir has mentioned, Malaysian companies

would work in collaboration with world-class companies in the MSC, thus they would be active participants in the effort to create indigenous technologies for Malaysia and to move the country in the process into the digital era.

To speed up the process for companies to set up in the MSC, the Malaysian government has made it easier for investors to move in and out of the corridor. It has thus designated all knowledge-workers in the Corridor as special guests; hence the entry to and exit out of the country would be without hassle. Second, the government would allow 100 per cent ownership of companies and the unrestricted employment of knowledge-workers from abroad. Third, a generous incentive system of tax holidays of up to 10 years would be offered to foreign companies which locate in the corridor and the Multimedia Development Corporation would be a one-stop agency to streamline the entire process. The government is also addressing the issue of intellectual property rights and have developed new cyberlaws to keep up with the digital era. The importance of all these efforts as it pertains to the success of the MSC cannot be emphasised enough. The challenge would be to effectively monitor these efforts and cyberlaws and their implementation for they are going to form one of the cornerstones on which the success of the Corridor would depend.

12

The Multimedia Super Corridor and the Growth of Electronic Commerce

A DISCUSSION on electronic communities in Asia could not be timelier with the rapid advance of the 'digital economy', where electronic commerce or e-commerce will most certainly play an ever increasing role. I am pleased that some of the members of the International Advisory Panel (IAP) for the Multimedia Super Corridor (MSC)—representing some of the best minds on the topic—are able to take time off to contribute to this discussion.

The convergence of technologies is forcing the convergence of industries through a common 'electronic business system' which promotes and facilitates borderless businesses. Although still in its infancy, e-commerce represents a new frontier that will revolutionise the way business is transacted globally. The Internet has now matured

A speech delivered by Dr Mahathir Mohamad at the Economists Roundtable on Electronic Communities in Asia in Seri Kembangan, Malaysia, on January 13, 1998

substantially as the medium for e-commerce, evolving in size, global reach and accessibility.

Already, the Internet has become an effective conduit for commercial transactions, with total annual sales of US\$1.2 billion in 1996. Although small in relative terms, this figure is expected to grow as issues involving security, business laws and practices, taxation, common technical standards and accessibility to the Internet continue to be resolved. Analysts have predicted that total annual sales over the Internet will grow to more than US\$7.3 billion by the year 2000, and in excess of US\$186 billion by the year 2005. The magnitude and impact of this growth will have far-reaching implications, not only in the commercial world, but also in government.

Developments in e-commerce, which is a manifestation of the 'digital economy', bring to the surface many related issues which challenge common and established practices, laws and systems. In this new 'digital economy', business activities will be possible with minimal physical movement of people, money and, in many cases, products. Contracts and the transfer of value and accumulation of assets will be conducted by electronic means. Information technology, which is the foundation of this New Economy, will continue to develop at a rapid pace and will continue to influence the volume and the direction of economic activities. As such, many of the existing rules which apply in today's economy can no longer be applied in the 'digital economy'. Whether we like it or not, statistics show that e-commerce will become part of our lives very soon in the future. We should all prepare ourselves to embrace it, or we will be left behind and loose out as increasing portions of the economy and world business will be electronically transacted.

Here in Malaysia we have taken the pragmatic approach. We prefer to experiment and try out in near real-life situations rather than be swept along by transient technologies and fads. Where possible, we have also cho-

sen not to merely ride the waves, but to master them. That is why we have kept abreast with global trends, conducted trials to study their implications to the nation, cooperate in research and development and seek to develop the appropriate strategies.

It is in this context that we have developed an information technology (IT) agenda to support our vision to become a fully-developed nation by the year 2020. Amongst others, the IT agenda outlines various strategies which will help us achieve a knowledge society through the development of people, infrastructure and applications. We have started building the foundation to support this knowledge society, and this is in the form of the huge MSC, which is our first major investment in the future.

Some critics have labelled the MSC an "ambitious, grandiose megaproject". I will admit that it is an ambitious project but it is not for us Malaysians to implement alone. We will participate actively of course but the MSC is for the whole world. We conceived it as a giant testbed for everyone to use, everyone from everywhere. We will invest mainly in the infrastructure, both hard and soft. The policies and laws that we have formulated and put in place cost us nothing, nor are the practices we have designed for the MSC. The hard infrastructure such as fibre-optics and other communication facilities will be put in by private companies as part of their investment, in which they naturally expect to make a return. Even the land will be parcelled out and sold to investors wishing to set up their facilities and make use of the soft and hard infrastructures we have provided.

Admittedly we have to spend some money, quite a large amount in fact, but well within our capacity. The devaluation has eroded some of our capacity but we can still carry on. So the MSC will go on. And it must go on simply because the demand for the facilities we offer is very great and very real. It is a great project not because it is our vision alone, but it is everybody's vision and it is they who

will make it great. If I may say so, nowhere is there a project to make full use of information technology that has benefited from inputs by the best IT brains currently available in the whole world. This project is truly benefiting from the IAP set up to tap the ideas to make this giant testbed truly capable of testing out new ideas and technologies which need a real-life environment to prove the concepts work.

The MSC is progressing well ahead of schedule. Response has been beyond our expectations and hitherto, we have given MSC-status accreditation to 110 companies, out of which 78 are already in operation. We have, since April 1997, received 178 applications for MSC status, out of which 39 per cent are from foreign companies, 35 per cent from Malaysian companies, and 26 per cent from joint ventures between Malaysians and foreign companies.

Barely a year since we first launched the MSC, we are already beginning to see the value created from the information age business. MDC statistics on MSC-status companies show increased investment in high value-added activities, with a revenue to investment ratio of approximately 3:1.

There are also signs showing the formation of new service-based industry clusters, specifically in software development, content creation, animation and broadcasting, and telecommunications. For all the companies which have applied for MSC status, the combined revenue projected by the fifth year of operations is around RM13 billion, while projected profit for the same period is close to RM5 billion. This is on the back of an investment of around RM4 billion.

Additionally, based on all the MSC applications received, knowledge-worker requirement by the fifth year of operations stand in excess of 23,000. Recognising this need, we have recently extended MSC-status accredita-

tion to institutions of higher learning as one of the measures to help fulfill the companies' human resource needs.

As many of you would be aware, in order to spearhead the development of the MSC, seven flagship applications have been identified, one of which is to create the necessary framework and infrastructure to support e-commerce initiatives under the borderless marketing flagship application. Although the growth of e-commerce is essentially driven by the private sector, there is a need to monitor and regulate its development in order to create the right environment for e-commerce to flourish.

Many issues need to be examined and traditional barriers have to be overcome. One crucial element, however, is absolutely necessary to support the growth of e-commerce—the right telecommunications infrastructure. This is where the MSC will be especially well equipped. With a high-bandwidth communications infrastructure to support the most demanding of e-commerce applications, the MSC is an ideal base for companies wanting to develop cutting-edge technologies and innovative business models to unleash the full potential of e-commerce. The possibilities are endless. While technology developers can develop tools to facilitate e-commerce, such as security software and payment systems, content developers can harness Malaysia's multiple cultures to develop localised content for the region and for the world.

Apart from bringing many exciting opportunities, e-commerce also presents many challenges, not only to countries like Malaysia, but all countries wanting to take the right steps into the 21st century. The right approach to governance is therefore necessary in order to ensure that laws and policies are sensitive and responsive to technological developments.

The fundamental requirement for the successful take-off of e-commerce is trust, and the guarantee that transactions can take place safely and securely. This is especially true when intangible information, goods and services be-

come economic resources and products which are transmitted and transacted across borders. It is therefore imperative to develop a proper system of governance to manage this movement of information and knowledge-based resources with the growth of electronic commerce globally.

Amongst the prevalent issues associated with e-commerce are finance-related issues such as customs and taxation, electronic payment systems, Internet banking and Internet stockbroking. These need to be reviewed within the context of each country's existing financial, regulatory and legal system. Others include legal issues such as having a uniform commercial code and international harmonisation of legal frameworks to address different business practices and commercial codes existing in different countries. Cyberlaws, for instance, need to address issues relating to the assignment of liability of those involved in e-commerce transactions, including consumers, network service providers, solution providers and various intermediaries. The issue of consumer protection and privacy in cross-border transactions also needs to be addressed.

An effective legal framework in copyright, patent and trademark protection is required to prevent misuse and abuse of intellectual property and to protect content providers and content service providers. Intellectual property protection laws should also address the issue of trademarks used in cyberspace, the relationship between domain names and trademarks, jurisdictional limits of registered trademarks or copyright in databases.

Another important issue is that of international cooperation in technical standards and platforms, which will pave the way for a common platform for smartcards, common standards for interconnection and inter-operability, as well as cross-certification of public key infrastructures.

Countries with established infrastructure to support e-commerce in terms of human resource and quantity of

service suppliers, as well as a bigger market share and better access to the market, will no doubt have an edge over the others. However, the opportunity to develop e-commerce also presents itself to other countries in the Asean region which are in a good position to leapfrog into the information age.

As such, a regional initiative may be necessary to address the prevalent issues brought about by the 'digital economy' and e-commerce, some of which I have highlighted earlier. An Asean framework on e-commerce, for instance, may provide the platform for a collective vision of the emerging digital marketplace and outline the key issues as we enter the new electronic age of commerce. This framework will also provide the basis for discussions to facilitate the development of an Asean position to catalyse the growth of e-commerce.

I would like to reiterate the Malaysian government's commitment to support the growth of e-commerce. Through the MSC, we are dedicated to the development of multimedia technologies that will remove the barriers for doing business and promote borderless marketing. We would like to invite our Asean neighbours as well as everyone interested in ironing out possible wrinkles in the progress towards the electronic world to join us in this endeavour.

Commentary When J. Presper Eckert and John Mauchly, two mathematicians at the University of Pennsylvania's Moore School of Electrical Engineering, developed the electronic computational machine, the Electronic Numerical Integrator and Calculator (ENIAC), little did they know the impact it would have on the world. ENIAC, a direct descendent of today's microcomputer, was developed to speed up calculations for artillery-aiming tables. It weighed 30 tons and filled a very large room. It had 1,500 electromechanical relays as well as 17,000 vacuum tubes. When ENIAC was switched on, it

consumed 150,000 kilowatts of energy but could store only 80 characters of information. It is a long way since ENIAC. Today, our computers are running on Pentium 4 chips and can store many gigabytes of information with performance of enormous speeds. The advancements in the performance of computers converging with advances in telecommunications technologies have ushered in the digital era. It has since changed the way economies produce and consume goods and services.

The arrival of the digital economy has also seen the rapid development of electronic commerce (e-commerce). Business transacted over the Internet now amounts to billions of dollars and would rise to a substantial US\$186 billion in 2005. Gradually, as the issue of security is resolved with advanced encryption technologies, this amount will rise. Other issues that need to be resolved are business laws and practices, taxation issues and issues of common global standards. In this speech, Dr Mahathir Mohamad points out the importance and unprecedented role e-commerce would play in global business in the years ahead. He also offers an insight into how Malaysia is preparing itself to benefit from this unprecedented new way of doing business.

Before we look into some of the ways Malaysia is positioning itself to benefit from such a revolution, let us look at some of the issues and challenges the development in e-commerce has introduced to the world of business and policy. The development of e-commerce would challenge, first, our notion of shopping, procurement, financial transactions, to mention just a few. Today, a prospective customer can sit at home and shop as well as pay for his merchandise and have it delivered to his doorstep without leaving the comfort of his home. For example, a Malaysian can go online, buy a book from Amazon.com, pay for it with his or her credit card and it would be delivered to his door from the United States in a given time without him stepping foot outside his door. Before the arrival of e-

commerce, such a feat would have been unthinkable. Similarly, a company can go online and send out a bid proposal to several businesses to supply inputs. In the same day, he can receive quotations from different companies enabling him to settle on the cheapest and he can make his procurement through the net, in a fast simple and efficient manner.

But that is not the only way e-commerce has revolutionised business. Today the old legal system and laws that guide business yesterday do not apply. The development of e-commerce requires a revamping of legal systems and laws. Contracts and the exchange of information can be exchanged over the Internet. The relations between the customer in the previous times and now would also need to be reviewed. Many of the existing rules as we know it do not apply today. Since e-commerce is here to stay, developing nations who want to advance must embrace it.

Malaysia is bracing itself to benefit from this new way of doing business. It developed an information technology agenda to support its Vision 2020 of attaining developed-nation status by the year 2020. It is also hoped that coupled with other efforts, Malaysia can become a knowledge-based society. One of the efforts, which is hoped to lead Malaysia into the knowledge-based society, is the Multimedia Super Corridor (MSC). The MSC is on track to lead Malaysia into the knowledge-based society. E-commerce, which falls under borderless marketing, one of the flagships of the MSC, shows how serious the nation is preparing to benefit from this new way of doing business. To this effect, the government is providing the right telecommunications infrastructure, good governance, which would ensure that the laws and regulations as well as policies of the country support the nation's effort to move towards a knowledge-based economy. Thus the government of Malaysia is continuously reviewing its legal and regulatory system pertaining to customs, taxation, electronic payment systems, Internet banking, copyright,

patent and trademark protection, to mention just a few to make them amenable to its efforts to move towards the knowledge-based economy.

Despite Malaysia's efforts, it cannot go it alone. A concerted effort on the part of Asean countries would enable the region to benefit from e-commerce activities. Dr Mahathir proposes a regional initiative through which discussion can be held about how they could face the digital economy together. Such a view is important because it builds on the "prosper-thy-neighbour" concept that Dr Mahathir has always talked about.

13

On the Threshold of the Cyber Revolution

THE Internet and the explosion in global communications have brought mankind to the threshold of the cyber revolution. Information technology (IT) is moving literally with the speed of light—opening up endless opportunities and undreamed of options for businesses to explore. I would like to share with you some thoughts about the forces that will shape our common digital future—the promise it holds and the strategic response we in Malaysia are making to take advantage of that promise. Specifically, I would like to introduce the Multimedia Super Corridor (MSC) which we are currently developing, and to invite the active participation of Corporate Canada in this quite unprecedented initiative.

Transforming the world as we know it are two major forces: the new phenomenon of globalisation and the relentless advance of technology. We have no option but to traverse the information superhighway. From the moment

A speech delivered by Dr Mahathir Mohamad at the Canadian Investors Conference in Ottawa, Canada, on November 21, 1997

the microchip was invented our whole existence was transformed. It changed the way we live and the way we do business. For all of us, an IT agenda becomes imperative if we are to reposition ourselves for this new information age.

Malaysia's MSC is not just a physical location—it is not just another industrial park—it is not a far eastern imitation of Silicon Valley—it represents a new paradigm in the creation of value for the information age. MSC is envisioned to be a high-technology testbed which will unlock the full potential of multimedia. We aspire to be a world centre for the applications and testing of leading edge IT advances and discoveries. For us, this will be primarily the vehicle for our country's entry into the new knowledge-based economy, moving us from labour intensive to high-technology industry and so on to the information age. It will also be our fast track to the fully developed status we have targeted for ourselves in the second decade of the next century, which we call our Vision 2020.

You may find this somewhat audacious on the part of a small developing country. We are the first to admit that we are only just taking our first steps into the complex and sophisticated world of multimedia. But we can provide an ideal environment for technology to flourish. In fact, being a developing country helps. We offer a genuinely green-field site, unencumbered by industrial practices and legacies or entrenched interests, a site dedicated to new-age electronic commerce.

We have before us the United States as an example. Whilst Britain fathered the Industrial Revolution, it was America that brought it to its full development. America was then, one huge greenfield site with the opportunity to create the optimum conditions for technology and business to flourish, to be the catalyst for industrialisation. We have taken this as a model. In a modest way, we too, hope to assume a catalytic role. Our task will be to create an ideal environment for IT and multimedia, one which will

encompass the physical, economic, regulatory and policy framework that will unleash the creative dynamics for innovation and advances in this field.

For a country like Malaysia, which is far less developed in the new multimedia dimension, this will demand one giant technological leap. We have much to learn. We turn to you and others like you. We know the MSC can only be accomplished by an enormous collaborative effort, and we seek to collaborate with the whole world. We invite you to bring your high-technology operations, your R&D, your information technology know-how to experiment and to try on your own or alongside Malaysian companies in the MSC. We need a cross section of telecommunications, information and software companies, amongst many others, to help realise the vision we both have, to exploit the potential, for the benefit and enrichment of humankind really.

We are today already reconciled to the prospect of a borderless world in terms of communication. It will not destroy our identity but we will develop into a knowledge-based society, which is of great significance—for there are no frontiers to knowledge and technology. The idea of competitive advantage disappears in favour of a universal sharing of resources and skills while information technology will provide the instrument to achieve this.

The forces that drive the information age—like the massive communication network that can transmit information all over the world in real time—will serve to break down physical, social and economic barriers. This will then stimulate growth through mutual enrichment, should we choose to take up the opportunity. The mechanism will be that same principle of collaboration—in many different ways—across borders, unaffected by distance, involving alliances and permutations of alliances amongst corporations whose economic activities can no longer be contained within their respective borders. This is the platform on which the MSC is premised. It will be a

'web' of collaborating companies in the IT field—a multicultural web of mutually dependent international and Malaysian companies collaborating to deliver new products and new services across an economically vibrant Asia and beyond. And like a spider, it will weave ever more intricate webs of relationships and synergies amongst participating companies. Such a web could be the new model of development for the information age.

It is in this spirit of mutual enrichment that we invite Canadian companies to join the MSC. We in Malaysia have for some time now been advocating a policy of 'prosper-thy-neighbour' to replace the 'beggar-thy-neighbour' mindset of the present selfish mentality where one party's gain is another's loss. Partnerships should not be a zero-sum game. Instead both parties can gain and the total can be more than the sum of the two.

We have already promoted our concept of this multimedia haven in Hollywood, Silicon Valley, the United Kingdom, Hungary and Japan, where it received a heartening response. We have special reason to hope that Canadian companies will soon be represented in the MSC, along with our other distinguished pioneers.

Bell Canada are already involved in the MSC. The chairman, Lynton Wilson, has accepted our invitation to serve on the distinguished International Advisory Panel (IAP) set up to counsel Malaysia on the development of the MSC. And Simon Fraser University is the lead consultant recruited to help set up our Multimedia University located in the Corridor. We are also aware that Canada is at the forefront of fibre-optic technology and supplied the first submarine cable from Europe to Newfoundland. A fibre-optic network with the capacity to transmit 2.5-10 gigabits per second will provide the backbone for the MSC.

We consider Canada as a world-class IT country. The 400 multimedia companies operating here in 1995, have now increased to 600 serving education, information and the entertainment industries, as well as corporate needs.

Your cable, telephone and computer penetration is amongst the highest in the world. Business leaders in a recent survey, ranked Canada second amongst the G7 countries for information technology, just below the United States. It is no wonder that you have your own answer to California—your Silicon Valley North.

Canada's Nortel was a key player from the start in the industry's early beginning. Today, it is amongst the giants in the field, with already five plants in Malaysia. We have a special interest in Nortel. It has 8,000 scientists and engineers engaged in every aspect of communications research and spends 14 per cent of sales revenue on R&D—the kind of R&D spending we want that will translate into commercial production.

Although your renowned expertise in ice hockey cannot be emulated in my country because of its tropical climate, we look to you for technology and the transfer of technology. Canada, I am happy to say has been generous in this respect, and I thank you for it.

But I must warn you that whilst continuing to rely on the transfer of technology, we are getting even more ambitious. We don't want to be just passive recipients, but active participants—and with the help of people like yourselves, we have set ourselves the goal of developing new technologies indigenous to Malaysia. Specifically, we are hoping to attract R&D operations. We want to be part of the global industry's endeavour to develop intelligent multimedia solutions to manage today's exploding range of information options. But most of all, when the world gets the next generation of high-tech startups, Malaysia wants to be there.

There is already some foundation, a case for affinity between Malaysia and Canada that supports the idea of collaboration between us. We have a lot in common, not least, the factor of cultural diversity. Malaysia is a federation. Imposing a federal structure on a number of widely divergent states compounded by the multiracial, multire-

ligious profile of our population, was not easy. You will understand this. But we succeeded to become an exponent of federalism as a practical solution to the management of ethnic diversity. Our 'web' is a multicultural one.

The other consideration in coming here is the strong reputation this country has for internationalism. Canadian business is also no stranger to Malaysia. Two-way Canadian-Malaysian trade doubled in three years between 1993 and 1996 from just over US\$1 billion to US\$2.1 billion. In 1996, the value of Canadian exports to Malaysia totalled US\$536.5 million, while Malaysia's exports to Canada accounted for US\$1.6 billion, a balance in Malaysia's favour. Your exports to Malaysia include paper and paper keyboard, organic chemicals and spacecraft. Main imports are electrical machinery parts, machinery, rubber and rubber products, and clothing. In addition to merchandise trade, Canadian services exports are estimated at a further US\$200 million to US\$250 million per year.

We look forward to expanding our business links with you. In particular, we commend to you the ample business opportunities inherent in the MSC. What we are proposing is a smart partnership. It is presented not just as an exciting and innovative idea, but as a carefully conceived and sound business proposition. We have worked long and hard—and meticulously—for the past two years, developing the idea and deploying modern planning techniques, in which we may justly claim we have a long-established capability.

In physical terms, the MSC is a relatively large area, 15-by-50km, or 9-by-30 miles. By concentrating IT and multimedia operations in one dedicated area, a very special environment can be created, better facilitated and more efficiently managed. The Corridor begins at the Kuala Lumpur City Centre, which currently houses the world's tallest twin towers. Canadian technology contributed to the skybridge at the 41st-42nd levels. It runs south down to the new Kuala Lumpur International Airport,

which when it opens in March next year, will be the largest in the Asia-Pacific and will become a regional communications hub.

Two futuristic, future proof, intelligent cities—Putrajaya and Cyberjaya—will form the nuclei of the MSC. Putrajaya is the country's new administrative capital; the other is a cyber city—a mecca for IT companies providing operational quarters for multinationals to direct their worldwide manufacturing and marketing activities in multimedia, as well as their production and marketing of multimedia products and services.

It is not easy to describe in a few words the wide-ranging concept of the MSC. It will be purpose built with the intent to provide a fertile base for business to focus their unique skills and resources to develop the new age communications industry. It will have to incorporate many technologies and a technologically oriented business focused setting. We hope this concentration of companies in the one place will enable a strong collaborative environment to be created that will encourage linkages. But we are not just talking buildings, facilities and systems. The idea is to provide both the physical and the psychological space for creativity. We see the MSC as a place of enquiry and of intellectual curiosity. The concept is not new. The Cavendish Laboratory in Cambridge is just such an assembly of scientific intelligences. It has produced some of the world's greatest physicists. The MSC, being more business oriented, will be developing the practical applications of the multimedia for commerce and to meet the business and personal needs of the 21st century knowledge-worker. It will be a global testbed where new technologies can be tried out.

Putrajaya, the new administrative centre will be a testbed for electronic government, providing companies with the opportunity to provide and validate a near-paperless bureaucracy in the conditions of a real government envi-

ronment. Social research will be included—testing the implications for society of instant unlimited information.

Malaysia will provide the physical setting—7,000 hectares of lush green tropical forest, palm oil plantations and rolling countryside. Much of the green space will be preserved. The government will provide the incentives, groundbreaking commerce-enabling cyberlaws, business friendly policies and regulations. The private sector, it is hoped, will seize the entrepreneurial opportunity.

To test out this vision, we convened the first meeting of the International Advisory Panel for the MSC at Stanford University in California. Industry leaders of worldwide repute, subjected the proposal to the most stringent evaluation. We are talking about people like Jim Barksdale of Netscape, Bill Gates of Microsoft, Scott McNealy of Sun Microsystems, and many others. They gave it an enthusiastic thumbs-up. This, I feel, is due mainly to the fact that in addition to its intrinsic merit, we were serious about removing the outdated obstacles that Industrial Age policies, laws, practices and attitudes had posed for them. The IAP will continue to monitor the progress of the MSC and advise on policy at the strategic level.

Work is already well underway at the MSC. The 'hard' infrastructure is being put into place on a fast-track basis. However, we see the 'soft' infrastructure as the area where we probably need to innovate most. The Malaysian government, always business friendly and accustomed to dealing with foreign investors, promises to be even more friendly to the peoples of the MSC.

- Knowledge-workers who fall within the category of special guests will get in and out of the MSC without hassle or delay;
- We will allow 100 per cent ownership of companies and unrestricted employment of knowledge-workers from abroad;

- Incentives are generous with a tax holiday of up to 10 years;
- We will not censor the Internet, but if anyone downloads and distributes undesirable or illegal material, he will be subjected to the usual laws of the country;
- Companies will find a breath of fresh air coursing through the regulatory system. Bureaucratic procedures will be reduced to a minimum. Official requirements will be few and approvals expedited: a hassle-free 30-day turnaround on work permit applications, for instance, and multiple-entry visas;
- A one-stop agency system will streamline the entire process, handled by the Multimedia Development Corporation, to whom all your enquiries should be directed. This is where you obtain any official sanctions you may need;
- We have dispensed with the traditional and often cumbersome tenders in favour of "concept proposals", again simplifying the whole procedure.

We recognised early on the importance of intellectual property rights and the need for a special category of cyberlaws. The Multimedia Convergence Act 1997, already on the statute book, is designed to support companies engaged in electronic commerce and to resolve some of the issues with the convergence of the communications, computing and broadcasting industries.

Cyberlaws already tabled in the Parliament take the regulatory and legislative controls further than any tried before, a brave attempt to control computer crime, illegal access, commercial espionage and theft, using methods of validating digital signatures and computer transactions, together with a host of other protections not covered by existing laws. We realise at the same time that cyberlaws are still evolving. Amendments are sure to follow, to cater for new usages of multimedia and as new technologies

pose fresh problems. But there is sufficient legal framework already to raise the comfort level of would be investors and to make Malaysia a regional leader in intellectual property protection.

But while the system is in place, we also recognise that the pursuit of business is the pursuit of opportunity. The investment potential is wide and open ended, but we would like to draw your attention to some specific opportunities embedded in our 7 flagship projects—key areas of multimedia use aimed at spearheading the development of the multimedia industry within the MSC. They are calculated to test the role of information and multimedia in real-life situations, and in human society as we know it. For instance, we are currently studying various proposals for one national smartcard to replace the plastic tyranny of all the cards we are expected to carry in ever-increasing number. This will be a single all-purpose card with which all Malaysian citizens will be issued to serve as an identity card, credit card, electronic purse and many others. Ultimately, it will be used in all electronic transactions with the government.

The other flagship applications are equally innovative. Electronic government, using multimedia technology, will be introduced in Putrajaya. Its ultimate aim is for a more efficient and cost-effective delivery of government services to the people. Another example is telemedicine. The key elements here include remote consultation, diagnosed treatment, virtual patient records and a natural electronic medical network. This is quite uniquely suited to the needs of our remote rural population.

Research and development, which is a top MSC priority, will be furthered by collaborative R&D centres and linkages between the corporate sector and the universities. The Multimedia University is of course industry focused and will spearhead the emergence of an IT research community and the creation of more knowledge-workers. We are trying to accumulate more intellectual assets and

build up our intellectual capital. The MSC will accelerate the process.

As you can see, in developing the main components of the MSC, we have tried to be proactive in anticipating the world of the future and the world outside Malaysia. There are many areas here in which forward-looking companies can engage.

At the same time, we realise that a concern of the private sector is that government does not always understand the reality of operating a business on the ground, in terms of operating conditions and constraints. In Malaysia, we have a highly developed process of consultation with private enterprise which was built into the development of the MSC from the outset. MSC-status companies have direct access to me, as chairman of the MSC Implementation Council and the International Advisory Panel, and to the deputy prime minister, who heads the Founders Council.

If any further proof is needed of our serious intent and the good faith behind our business friendly philosophy, it will be found in our ten-point Multimedia Bill of Guarantees. The government of Malaysia formally commits to all companies receiving MSC status, the following:

- Malaysia will provide a world-class physical information infrastructure;
- Malaysia will allow unrestricted movement of knowledge-workers in and out of the country with no employment restrictions;
- Malaysia will ensure freedom of ownership of companies;
- Malaysia will allow freedom of sourcing capital globally for MSC infrastructure and freedom of borrowing funds;
- Malaysia will provide competitive financial incentives including no income tax or an investment tax

- allowance for up to ten years, and no duties on the import of multimedia equipment;
- The MSC will become a regional leader in intellectual property protection and cyberlaws;
 - Malaysia will ensure no censorship of the Internet;
 - The MSC will have globally competitive telecoms tariffs;
 - Malaysia will tender key MSC infrastructure contracts to leading companies willing to use the MSC as their regional hub; and
 - Malaysia will provide a high-powered implementation agency to act as an effective one-stop shop to ensure the MSC meets the needs of companies.

All that remains is a forward look. Phase II of the MSC project will see the Corridor linked to other cities in Malaysia and around the world. By then, we expect in excess of 250 companies within the MSC. By 2020, the entire country will be an MSC with a total of at least 12 intelligent cities linked to the global information superhighway and thus becoming a global link to all the other smartcities on this planet. MSC participants will have risen to 500 world-class enterprises.

It will even have a Cyber Court of Justice. And in terms of social concern, we hope that in addition to it being a testbed for new technologies it will help to develop and influence the new culture of global information, grappling as we must with the conflict between control and licence and offsetting the adverse social effects of a massive unremitting onslaught of instant, uncensored information.

There is nothing new—no technological breakthrough in what we offer—but we believe that this initiative is organised on a scale and is of a comprehensiveness hitherto unrivalled. When we invite you to participate, it is first as a matter of collective self-interest. Quite simply, we think it is a good deal for all—for you and for us.

Commentary Advances in information and communications technology (ICT) have opened up limitless opportunities for businesses and entrepreneurs. ICT have made our world smaller and spatial. One can conduct business 24/7 around the clock in the comfort of one's home. It is reshaping the way nations create and retain wealth. Previously, it was the ownership of natural resources that determines the wealth of a nation. While such are still important today, goods and services of the knowledge-based economy surpass it. For example, the world's richest man, Bill Gates, and others like Larry Ellison, Steve Jobs and Steve Case, all amassed their wealth in the information and communications industries. Malaysia, a small, open economy is thus positioning itself strategically to benefit from this new knowledge-based economy. It has set up the Multimedia Super Corridor (MSC) to help the country transit to a knowledge-based economy.

The Multimedia Super Corridor, according to Dr Mahathir Mohamad, "represents a new paradigm in the creation of value for the information age." It is envisioned as a high-tech testbed, which would unlock the full potential of multimedia. At the inauguration of the MSC, Dr Mahathir said, "Malaysia is crossing the threshold into the information age with hope and confidence. We are embracing the borderless world, and opening ourselves up to new forms of partnership and commerce made possible by revolutionary changes in computing, communications, capital flows and consumer tastes. While some see these changes as a threat, Malaysia sees them as an unprecedented opportunity to 'leapfrog' our development and achieve our Vision 2020 goals."

The delivery of this speech before Canadian investors is aimed at selling to them the idea of the MSC and inviting them to invest as well as set up companies in the MSC. But why Canada and why should Canadian investors invest in the MSC? The Malaysian government consider Canada a world-class IT country with numerous multime-

dia companies operating within its borders. It has one of the highest telephone, computer and cable penetrations in the world. Nortel, a Canadian telecommunications company, is one of the key players in the world. Besides, Canada is at the forefront of the fibre-optic technology revolution. It supplied the first submarine cable from Europe to Newfoundland. Furthermore, Simon Fraser University of Canada played a leading consulting role in the setting up of the Multimedia University. For Canada, investing in the MSC would not be a new trend. It already has trade and investment ties with Malaysia worth billions of ringgit. It would therefore be an opportunity to expand its business in the country.

Finally, the call for Canadian investors to invest in the MSC is because of collective self-interest. In the knowledge-based economy, *cooptition* (cooperation and competition) is the name of the game. Even competitors must cooperate to develop innovative products and services. Because technology advances rapidly and can be expensive for a single entity, governments and companies around the world must collaborate to survive and succeed in this new and challenging era. Canada and Malaysia can benefit if they collaborate to position their various countries to benefit from the knowledge-based economy.

14

Asean's Global Trade with Latin America

SUCH a conference is timely as Argentine businessmen are now placing an increased focus and importance to trade with Asia, particularly the Association of Southeast Asian Nations (Asean), considering the vast opportunities that are generated as the liberalisation process on both multilateral and regional levels is being undertaken.

Argentina's continued presence in Asean is felt as trade has exceeded US\$800 million, accounting for 14.0 per cent of Asean's global trade with Latin America in 1996. Argentina was also Asean's fourth largest trading partner in Latin America after Brazil, Mexico and Chile.

The recent entry of Myanmar and Laos into Asean has turned this regional grouping into a large entity with a population of 480 million and a combined GDP of US\$711 billion. With this, the Asean market is set for dynamic

A speech delivered by Dr Mahathir Mohamad at the joint launching of the Argentine Exporters Conference on Asean Countries in Kuala Lumpur, Malaysia, on October 3, 1997

growth and investors are therefore assured of attractive returns. Malaysia will serve as an ideal base for Argentine businessmen to locate their operations to tap the full potential of an expanding Asean market.

Asean is also moving towards establishing the Asean Free Trade Area (AFTA) by the year 2003. In realising AFTA, 93 per cent of our tariff lines is presently included in the list for AFTA concessions. Notably, only 1.4 per cent out of the total Asean tariff lines would be excluded from tariff reduction for security, health and religious reasons. Currently, 85 per cent of the intra-Asean trade is already subject to a tariff of between 0 and 5 per cent under the Common Effective Preferential Tariff (CEPT) scheme.

Asean is also moving towards establishing an Asean Investment Area which would further promote the flow of investments into the region. Asean has also signed the Asean Framework Agreement on Services which would lead to freer flow of services in the seven priority sectors such as tourism, construction, telecommunications, finance, air and maritime transport. With the establishment of the Asean Investment Area, tariff reductions and the liberalisation of services sector, investors would have greater scope and opportunities.

I would like to encourage Argentine entrepreneurs and investors to increase their business presence in this region by using Malaysia as a springboard for production and distribution of their products into the Asean region. Argentine companies can also enter into partnerships with Malaysian companies to venture into projects in third countries.

We in Asean acknowledge the dynamism and the aspiration of Mercosur to become a free trade area by the year 2000. We are also aware that Mercosur has recently been expanded to include Chile and Bolivia as its associate members, thus enlarging the market to some 201 million and a GDP of over US\$1 trillion as well as a per-capita income of US\$5,425.

We are confident that the realisation of plans in Mercosur will further stimulate the economic growth of member countries of the region and that this grouping will adopt an open approach to trade with countries outside the region. By adopting an open-regionalism approach, regional groupings such as Mercosur and Asean will also benefit countries outside their respective regions, as a result of increased economic activity within the region. This will invariably create greater opportunity and demand for goods and services from outside the region.

It is encouraging to note that Argentina's global trade in the last five years have expanded and recorded an average annual growth of 10.4 per cent. Argentina's global trade in 1996 was US\$47.6 billion, representing 9.8 per cent of Latin America's external trade. Mercosur, the European Union, United States and East Asia remained her principal trading partners which in total account for 72.9 per cent of her global trade.

In respect of trade with East Asia, the volume of trade between Argentina and East Asia had increased by 30.4 per cent to US\$6.0 billion in 1996 from US\$4.6 billion in 1995. The primary trading partners were the People's Republic of China, Japan and Asean which together accounted for 52.4 per cent of Argentina's total trade with East Asia.

Asean economies have registered high growth rates over the last 10 years. The Malaysian economy has been growing at an average of 8 per cent over the last decade and the growth is expected to remain robust with GDP growth projected between 7.8 and 8.2 per cent this year. The per-capita income of Malaysia in 1996 was US\$4,259, an increase of 9.2 per cent over 1995. The average import tariff in Malaysia is low at 9 per cent nominal and less than 7 per cent trade weighted. Malaysia also has a low inflation rate, currently running at below 4 per cent per annum.

centres. The government is seeking assistance from leading local and international companies to develop and implement these applications in the MSC to catalyse the development of a highly competitive cluster of multimedia or IT companies that will become world class over time.

Malaysia has always adopted a pro-business approach in its development policies. We have a clear and transparent set of guidelines to facilitate investments. They range from liberal equity conditions, flexible expatriate employment policies, liberal exchange control regulations and tax reliefs and concessions. Foreign investors are allowed to own 100 per cent equity if the projects are for 80 per cent export and above. In addition to the liberal investment policies, Malaysia offers attractive tax incentives which provides full or partial tax reliefs from corporate tax, now at 30 per cent. Tax incentives are also provided for reinvestments by existing companies in the form of a 60 per cent allowance on qualifying capital expenditure. The package of fiscal and non-fiscal incentives provided has been an attractive inducement to FDIs.

In the last five years, trade between Malaysia and Argentina continued to increase annually on an average of 28.3 per cent to US\$351 million in 1996 from US\$101 million in 1991. The balance of trade have been in Argentina's favour. This is not a matter that both our countries should be concerned with. Both countries especially the businessmen must work towards increasing the quantum of trade to a much higher level.

Currently, the exports of natural rubber and latex constitute 28 per cent of Malaysia's total exports to Argentina, and manufactured products such as telecommunications equipment, air-conditioner components, articles of apparel and clothings and office machines are beginning to feature prominently as they collectively amounted to 47.7 per cent of our exports in 1996. As a matter of fact, a number of Malaysia's manufactured exports are already of world-class quality. Today, Malaysia is the world leading

exporter of room air-conditioner as well as a leading global producer of semiconductors, latex examination gloves, catheters, rubber threads and audio-visual equipment.

I am also happy to note that the Malaysian national car, Proton, has gained entry into the Argentine market. Malaysia has been producing its own national cars for the past 13 years for both the domestic and international markets. Currently, Proton is exported to 46 countries and the leading markets are United Kingdom, Singapore, Germany, Australia and Belgium. The automotive industry has subsequently developed Malaysia's supporting automotive components sector, particularly rubber-based components, which in recent years have experienced significant increases in export performance.

Certainly, there is a considerable scope for expansion of bilateral trade and investment between Argentina and Malaysia. Given the numerous opportunities for trade and investment in our two countries, I believe the time has come for us to foster strategic linkages in order to create partnerships in economic development not only at bilateral but also at regional and global levels.

Furthermore, existing Malaysian port facilities were upgraded and new port facilities were developed to meet the accelerated increase in demand by trade and industry. Focus was also placed on improvements in efficiency and productivity of port operations through rationalisation of processes and procedures for cargo clearance. The new Kuala Lumpur International Airport (KLIA) which will begin operation in the first quarter of 1998, will have the capacity to handle one million tonnes of cargo and 25 million passengers. Hence, with the upgrading and the increasing efficiency of Malaysian ports and the upcoming Malaysian new international airport, I believe, Malaysia would be able to serve its best facilities to Argentina for doing business with not only Malaysia but also with the Asean region.

Commentary Argentina is one of the countries in Latin America whose trade with Asean countries accounts for over 14 per cent of Asean's global trade with Latin America. Dr Mahathir Mohamad, in this speech, is encouraging Argentine businesses to invest and increase their business presence in Malaysia and to use the country as a springboard to produce and distribute their products to other Asean countries. This would be more beneficial as the countries in Asean are moving towards establishing an Asean Free Trade Area (AFTA). Argentina is a member of Mercosur, a free trade area that comprises a lot of countries in Latin America, the benefits of AFTA to its businessmen investing in Malaysia to benefit from the Asean market is well appreciated.

Some of the areas of possible interest for Argentine investors in Malaysia could be in the high-tech sectors as it pertains to new and emerging technologies, such as electronics, biotechnology, automation and flexible manufacturing systems, electro-optics and non-linear optics/advanced materials, optoelectronics, software engineering, alternative energy sources and aerospace. Furthermore, for Malaysia to be able to stay competitive in the digital era, it is investing in IT and numerous projects to advance its vision of attaining the developed-nation status by 2020. One of such projects is the Multimedia Super Corridor (MSC). The MSC is an area of about 15-by-50km with one of the best infostructure and infrastructure. The government has also established new cyberlaws and special policies for those who invest in the MSC. It is thus the perfect environment as a testbed for IT and multimedia products.

Some of the flagship applications of the MSC are: electronic government, telemedicine, smartschools, national multipurpose card, R&D clusters, worldwide manufacturing webs and borderless marketing centres. The government has put in place a pro-business approach in the country's development efforts as well as to develop the MSC to propel the country into a knowledge-based soci-

ety. Some of these include: liberal equity conditions, flexible expatriate employment policies, liberal exchange-control regulations and tax relief as well as other concessions. Specifically, foreign investors in Malaysia are allowed to own 100 per cent equity if the projects are 80 per cent for export and above. Investors can also enjoy tax incentives such as full or partial tax relief for corporate tax as well as reinvestment tax incentives for existing companies. It is hoped that the recent financial crisis in Argentina would not affect its investment plans in Malaysia and in the MSC. The benefits are mutual and it would further strengthen the existing relations between Malaysia and Argentina.

15

Inventing Our Common Future

SINCE its launch in August 1996, the Multimedia Super Corridor (MSC) concept has spread across the international community like wildfire. There is not a single country which does not know about the MSC. I hear people talking about the MSC all the time, wherever I go, even in Mongolia. They asked me about the MSC and how they can learn from it. The MSC is a giant testbed for experimenting with not only multimedia technology, but also, and more importantly, the evolution of a new way of life in the unfolding age of information and knowledge. The MSC is therefore, Malaysia's "gift to the world", a creation that welcomes the involvement of the global community in sharing the useful lessons of multimedia development.

One year has gone by and much water has flowed under the bridge. Since then, eyebrows have been raised as

A speech delivered by Dr Mahathir Mohamad at the Multimedia Asia 1997 (MMA 97) Conference in Seri Kembangan, Malaysia, on September 16, 1997

to whether Malaysia can pull it off. On the other hand, there has also been much support for the MSC. Both the international community and Malaysians alike, I believe, understand better the concept of the MSC now. I am sure as more programmes under the MSC roll out, greater understanding and clarity will ensue.

Several groundbreaking events have taken place since the launch of the MSC in 1996. In January 1997, we had the first meeting of the MSC International Advisory Panel (IAP), a panel made up of CEOs from leading global IT companies. In May, the foundation stone for Cyberjaya, MSC's dedicated intelligent city for multimedia companies, was laid. Furthermore, the other anchor projects in the MSC, Putrajaya—the smart new administrative capital—and the new Kuala Lumpur International Airport (KLIA) are progressing well. Four cyberlaws were also tabled and passed in the Malaysian Parliament in May. In July, the Multimedia Development Corporation (MDC) issued the Concept Requests for Proposal (CRFPs) for bids by private companies to spearhead four of the seven flagship applications—electronic government, smartschools, telemedicine and the multipurpose card. And today, the MMA—with the theme, “Benchmarking Smart Solutions”—is our attempt to invite and emulate best practices from around the world. We want to learn from the best.

We have a clear vision for Malaysia called Vision 2020, the purpose of which is to attain developed-nation status by the year 2020. We want to become a developed nation in our own mould. Malaysia's IT agenda defines the content of the mould as the creation of a civil society. By “civil society” we mean a community which is self-regulating and empowered through the use of knowledge, skills and values inculcated within the people. Such a society will allow every Malaysian to live a life of managed destiny and dignity, not just in the here and now, but also in the future. The million-dollar question is, of course, how can we achieve it.

The manufacturing sector has become the mainstay for Malaysia's sustained economic growth of between 7 and 8 per cent over the last two decades. According to our calculations, to achieve our target of a developed nation, the growth rate must continue to average at least 7 per cent until the year 2020. However, we anticipate that the manufacturing sector's contribution to GDP will peak at around 38 per cent by the year 2005. It is obvious to us that we need a second engine of growth if we are to achieve Vision 2020. This second engine has to be jumpstarted by the year 2005. The question now is, can we do it?

We have read the charts and studied the trends. We have tried to put our finger on the pulse of the forces that will shape the socioeconomic tapestry of the future. One consistent pounding beat was digital technology. Thus, we decided to make information and communications technology (ICT) the engine of growth within all economic sectors. To obtain a clearer focus on this new and powerful agent of change, we formed the National Information Technology Council (NITC) in 1994.

The basic role of the NITC is to advise the government on ICT policies and strategies and to help operationalise them. Since we are literally moving into the unknown and we expect rapid and radical changes, it is only prudent that we test our ideas first before implementing them nationwide to avoid costly mistakes. Hence, the MSC as a testbed. We hope the MSC will make the first ripple which will turn into a tidal wave and engulf the whole country, transforming it into a global multimedia hub in its wake. The National IT agenda provides the broad policy framework for propelling this transformation towards the creation of a civil society. The Agenda outlines a three-pronged strategy to achieve a knowledge-based society through people, infrastructure and application development. Needless to say, digital technology will provide the underlying creative force.

You may have noticed that I used the word 'creation' with reference to Vision 2020. This was deliberate. 'Evolution' or 'development' would imply maintaining the *status quo*, of mere continuity. The digital wind is the harbinger of discontinuities. Breaks will take place and breaks will have to be made in the way we think, work and live. To our minds, the break from the past will be the most crucial and the yawning gulf to the future must be bridged. The MSC is our tentative first bridge. It is within this context that the MSC must be viewed. We see the MSC as the seed that will sprout the civil society. The MSC is our first investment for the future. In fact, the MSC is our experimental tool for inventing our common future.

Inventing the future does not mean forecasting the future; no ordinary mortal can do that. It means setting in motion certain agents of change now, taking into account current realities and future uncertainties, in the hope that what we envision may be attained. This implies reinvention—reinvention in virtually every field of major significance. This is precisely what we are attempting to do with the MSC. For example, through the electronic government flagship, we hope to reinvent governance; through the smartschool flagship, we hope to reinvent education; through the telemedicine flagship, we hope to reinvent healthcare; and, through the borderless marketing flagship, we hope to reinvent business practices.

I see governance as the 'umbrella' concept embracing and defining this process of reinvention and therefore is the most important. Reinventing governance is not something that we have just thought about. In fact, we have been doing it for some time. As a first step, we started to restructure the government machinery by trimming and slimming it down to make it more efficient and effective. The idea is to hold only strategic public portfolios within the government machinery such as defence, justice and finance, and to privatise much of the rest. In this respect, public good service functions such as telecommunica-

tions, power and railway transportation, traditionally under the aegis of the government, have now been privatised. This process is tied closely with another idea we experimented with—the Malaysia Incorporated concept—where the government and the private sector worked closely together to develop the nation. And I must say we have been quite successful in implementing both these concepts.

The idea of an electronic government is the second stage in our ongoing quest for rightsizing governance. Electronic governance is not merely governing through electronic means. Technology is just a means to an end—the end being revamped structures, systems and procedures to implement change and striving for excellence above and beyond levels previously attained. Therefore, the move from Kuala Lumpur to Putrajaya is more than a physical migration. It is also symbolic of discarding old legacies and mindsets—a move towards information-driven frameworks for performance-based management and services. And, we hope, this move will set in motion a paradigm shift in our ways of thinking, working and living.

We are fully aware and realistic that inventing the future and by implication reinventing existing realities is not as easy as it sounds. The journey is going to be difficult, dotted with pitfalls and challenges all the way. We are also aware that we cannot do it all by ourselves. We admit that we do not possess the required technologies nor the knowledge to do what we want to do. But our spirit is willing; our bodies are strong; our economic fundamentals are right; and we are willing to work with others and to learn—and to learn fast. Learning by doing—that is how we did it in the past and that is how we intend to journey forward. Through the Malaysia Incorporated concept, we successfully evolved from an agricultural-based economy to an industrial one within two decades. And concerns for distributive equity were not ignored either. We now have

time-tested techniques and we are confident they will stand us in good stead for a repeat performance.

We would like to take the Malaysia Incorporated concept a step further with the MSC—towards global smart partnerships. We would like to invite the world community to join us to shape a common future together. We welcome collaboration instead of confrontation, enrichment instead of exploitation, sharing instead of grabbing. These should remain the catchwords; these should provide the basis towards evolving a just and equitable global society.

The United States' recent "Framework for Global Electronic Commerce" initiative advocates non-regulated private-sector leadership. The market, as we know, rewards the efficient and punishes the inefficient and the less able. Efficiency and equity do not go hand in hand. Therefore, leaving the digital economy to a self-regulating market will only widen the gap between the info-rich and info-poor. The *laissez-faire* market is myopic, interested only in the bottom line, with no concern for social justice. Can a free market really replace responsible governance? Laws and regulations are irksome. We should reduce their roles, but anarchy certainly cannot be better for the marketplace.

In the information age, the new basis for power, wealth and influence will be knowledge. No one has a monopoly on knowledge or wisdom, meaning no one can have all the power, wealth and influence. Potentially, therefore, anyone can add and acquire power and wealth. This should lead to a more open and equitable society. Currently, however, knowledge tends to stick with the well-endowed: the children of the well-to-do and the well-educated will have a head start to a good education over the less fortunate, giving them access to power and wealth. This will lead to a society where the rich and educated will get richer and more powerful, while the poor and uneducated, poorer and weaker. How then do we prevent this from happening?

These questions, more than anything else, point to the need for a new framework of governance, where the concerns of distributive justice exist alongside a free-market system for the digital economy. There is thus a need for the international community to begin a dialogue towards formulating a new global framework for governance in the information age and towards nurturing a global civil society. May I suggest a virtual forum called the "Virtual Commonwealth of Nations" where all nations are equally represented and the participation truly democratic.

The world, figuratively speaking, is shrinking rapidly. Multimedia and networking technologies will, through videophony and videoconferencing, put people from around the world in face-to-face contact. Multiculturalism will be the way of life in the future. The signs of a global village are already here. We need to make the necessary adjustments so that our closeness to each other will not result in our stepping on each other's toes too frequently. Instead, our closeness and more frequent exposure to each other and to information about ourselves should enable us to develop a strong sense of neighbourliness. In time we should be able to develop a multicultural global society.

As we witness the death throes of the industrial era ethos and the sense the birth of another—one that will be founded upon information and knowledge—should we not take it upon ourselves to manage our destinies instead of leaving it entirely to the free-market system? We are not retreating from the borderless world and unfettered trade. It is simply that human society needs order and a degree of certainty for it to function at all. Occasional chaos can be managed, but endemic chaos must affect society and life negatively. The disappearance of borders between nations simply means that a bigger entity or a new world-encompassing nation will emerge. Knowledge by itself is not going to make this huge single human tribe live in peace. Certainly, unregulated free trade, even though

backed by massive information, will not result in wealth and happiness for everyone.

We can all plunge into the information age with our eyes shut. But why should we when there is the possibility of testing and finding out how things will work or turn out. Malaysia's MSC is an attempt at creating an environment for testing not just the technology but the way of life itself. The opportunities for experimenting are unlimited. We need only to think of possible scenarios in order to experiment and test. We will not get all the answers, but we should not be groping in total darkness as we enter the next millennium and the information age.

Commentary Ralph Waldo Emerson, the American essayist and poet (1803-1882), once said, "Most of the shadows of this life are caused by standing in our own sunshine." A parallel can be drawn from Dr Mahathir Mohamad's speech, "Inventing Our Common Future." Thus, if one does not want to create a shadow of one's life, we must not stand in our sunshine. As our world witnesses the death of the industrial era and the birth of a new digital era, where information and knowledge are the key levers to a nation's prosperity, should Malaysians continue to stand in their sunshine? Rather, they should take it upon themselves to manage their own destinies instead of leaving it entirely to others. This synopsis captures the gist of Dr Mahathir's speech.

One may ask, why the need for Malaysia to invent its future? After all, its economy is doing well with the mainstay, the manufacturing sector that has helped the country to attain between 7 and 8 per cent growth rates for the last two decades. Such an observation is true but if Malaysia is to attain its vision of becoming a developed nation by the year 2020, it needs to attain not less than an average of 7 per cent growth rates until 2020. Studies conducted by the government have shown that such is not going to be possible in this era of increased competition if the country has

to rely on the manufacturing sector alone. In fact, it is projected that by 2005, Malaysia's manufacturing sector could peak. There is therefore the need to develop a second engine of growth. The information and communications technology (ICT) sector seems to hold the answer. It was in this vein that in 1995, the government established the National Information Technology Council (NITC). The role of the NITC was to advise the government on ICT policies and strategies and to help operationalise them.

The Multimedia Super Corridor (MSC) was formed as a testbed to test out ideas before they are implemented. It is the hope of Dr Mahathir that the MSC would make a ripple that would cause a tidal wave that could engulf the country, and hopefully transform it into a global multimedia hub in its wake. Malaysia's IT agenda would provide the policy framework to help the country realise this transformation. But this transformation would not happen if Malaysia clings to the *status quo, videlicet*, "the old production economy." Malaysia must embrace the new "knowledge-based economy." According to Dr Mahathir, "The digital wind is the harbinger of discontinuities. Breaks will take place, breaks would have to be made, in the way we think, work and live. To our minds, the break from the past will be the most crucial, and the yawning gulf of the future must be bridged." The MSC is one of the bridges that would help Malaysia embrace the knowledge-based economy. In a nutshell, it is one of the efforts Malaysia is embarking on to invent its future.

The invention of Malaysia's future is not going to be easy; there are going to be mountains to climb and valleys to trudge through and many pitfalls along the way. But such shouldn't deter Malaysians. With zeal and courage and a "can do" attitude, they would be able to invent their future. Malaysia would need to collaborate and cooperate with other countries along the way. Each of these countries would have their interests and would not cooperate or collaborate with Malaysia out of altruism. The impor-

MAHATHIR MOHAMAD

tant questions to ask: Are Malaysians ready? Are they willing to pay the price to embrace the digital economy? The answer is not far-fetched. Dr Mahathir answers it best when he said: "Our spirit is willing; our bodies are strong; our economic fundamentals are right; and we are willing to work with others and to learn—and learn fast." With this faith and by this determination, I am sure Malaysia would invent its future.

16

A Global Bridge to the Information Age

I HAVE come to the world's entertainment capital here to share a vision of building a bridge between peoples and places, to connect your creativity and entrepreneurship with a very special environment we are creating in Malaysia. By doing so, we can reap rewards together that neither of us would be able to develop on our own.

The success of a country depends on its ability to adopt and adapt to global forces and not on the basis exclusively of comparative advantages such as natural resources, population or labour costs. Visionary countries can choose to create value rather than merely struggle to make the most of existing circumstances. Just as companies cannot succeed by trying to do everything themselves, the same is true of countries, especially developing countries. Malaysia is not trying to build a replica of Sili-

A speech delivered by Dr Mahathir Mohamad at the Conference for Investors in the Multimedia Super Corridor at the University of California, Los Angeles, on January 15, 1997

con Valley or Hollywood. We would be deluding ourselves if we expect storyboards not to be created in Hollywood or R&D on the highest value-added components not to be done in the Silicon Valley.

We realise you are more advanced and that we have much to learn, but precisely because you are so developed there are very important things that we can do that you cannot. Malaysia is offering the world a special greenfield environment designed to enable companies to collaborate in new ways and reap the rich rewards of the information age. There are no legacies of artificial constraints created and perpetuated by entrenched interests. We offer the Multimedia Super Corridor (MSC) as a gift to the world, a global bridge to the information age that will enable genuine mutual enrichment for our partners possessing the vision to participate.

The MSC is truly a world's first, the careful creation of a region with the infrastructure, laws, policies and practices that will enable companies to explore the information age without the usual constraints which frustrate them. The MSC is a 15-by-50km corridor that runs from the world's tallest buildings in the Kuala Lumpur City Centre, down to what will be the region's largest airport when it opens in 1998.

More than two years of careful study have gone into developing a package with four key elements which will make the environment within the MSC very special.

First, the MSC will have the best physical infrastructure that can be offered in the world. This includes the Kuala Lumpur City Centre, a new airport, rapid train links to Kuala Lumpur, a dedicated highway, and two new intelligent garden cities. Kuala Lumpur City Centre is the northern gateway to the MSC. The Kuala Lumpur International Airport to be commissioned in 1998 will initially have 80 gates with two parallel runways. The airport will also become an integrated logistic hub with the latest in IT to facilitate the movement of people and goods.

The first intelligent garden city, Putrajaya, will be our new administrative capital where most ministries will be relocating, beginning with the Prime Minister's Office in 1998. Putrajaya will be Malaysia's new electronic government administrative centre served by state-of-the-art communications and transportation systems. The neighbouring Cyberjaya is a city designed to provide the physical and psychological spaces needed for creativity, the pursuit of information-age technologies and businesses and relaxation. It will be built around the new Multimedia University. Cyberjaya will provide top-quality intelligent buildings, multimedia enterprise estates, residential housing, leisure and recreational facilities, and state-of-the-art supporting infrastructure. It will support a working population of approximately 150,000 and a living population of over a hundred thousand.

Second, the MSC will have the world's best soft infrastructure of supporting laws, policies and practices. This includes a comprehensive framework of societal and commerce-enabling cyberlaws on intellectual property, digital signature, computer crime, distance learning, telemedicine and electronic government. For example, our new Digital Signature Act creates a regulatory framework for certifying authorities and severe penalties for cyber-fraud. In addition, we are developing a Multimedia Convergence Act that will merge and update our telecommunications, broadcasting and information laws to reflect today's rapid technological convergence. Finally, we know how critical skilled workers are and have a series of educational and training initiatives across the country. All schools will be connected to the Internet by the year 2000 and a Multimedia University will produce graduates that will meet MSC companies' skill requirements.

Third, the MSC will leapfrog available information infrastructure with a 2.5-10-gigabit Open Multimedia Network that will use the latest ATM switches to provide fibre to the building. This network will have a 5-gigabit interna-

tional gateway with direct links to the United States, Japan, Europe and other Asean countries. This will be in operation by 1998. Value-added service providers will be able to compete freely on this network with no restrictions on foreign ownership and cost-based interconnect tariffs. Telekom Malaysia has committed to offer competitive tariffs that are comparable to or better than that of other global carriers and will provide world-class network performance standards.

Fourth, a fully empowered one-stop shop called the Multimedia Development Corporation (MDC) has been created to manage and market the MSC. The MDC will be opening ten offices around the world over the next two years so it can be close to the companies who will be its clients. In addition, the MDC has been incorporated under the Companies Act 1965 so it will be able to operate independent of civil service rules and regulations. The MDC has a free hand to hire the best people in the world, and a business plan to serve the needs of companies relocating to the MSC both before and after they decide to establish operations in Malaysia. The deputy prime minister and I will personally oversee the activities of the MDC and will resolve issues brought to our attention.

Malaysia will be changing the way its people live and work, particularly within the MSC. This special area will be a global testbed for new government roles, new cyber-laws and guarantees, collaborations between government and companies, companies and companies, education, delivery of healthcare and applications of new technologies. We are looking for 'smart partnerships', win-win relationships between companies and the government. For instance, we will no longer require multimedia companies to go through a traditional Request for Proposal (RFP) process that requires us to have a crystal-clear concept of exactly what the company must deliver. Leading companies told us this was inappropriate for new areas of multimedia where the solutions are developed rather than as-

sembled from existing knowledge. Instead of traditional tenders and RFPs, we will ask companies for 'concept proposals' that describe the approach they would take to developing or achieving the benefits we have requested. This allows us to select a consortium of companies as a smart partner to innovate new products and services in the MSC. We will be doing this in several application areas that I will describe shortly.

In short, Malaysia is taking a single-minded approach to developing the country using the new tools offered by the information age. The MSC will be the R&D centre for the information-based industries to develop new codes of ethics in a shrunken world where everyone is neighbour to everyone else, where we have to live with each other without unnecessary tension and conflicts. Indeed, the MSC is a pilot project for harmonising our entire country with the global forces shaping the information age. Phase I involves making the MSC a success by learning from our partners and utilising the experience we gain; phase II will link up with other islands of excellence within Malaysia; and phase III involves making all of Malaysia a Multimedia Super Corridor that is connected to other smart regions around the world. I expect Malaysia to be in the final phase by 2020, by which time we hope to be a developed nation.

No other country is even contemplating anything similar to what Malaysia has in mind. Other plans may sound similar because all of them use 'IT', 'Cyber' or 'Multimedia' to market one development or another. However, we are not adding new facilities to existing ones or adapting a concept to an existing area; we are building and installing the latest technology on a huge 15-by-50km greenfield site designed to realise the full potential of multimedia. I hope others will link up with the MSC and become one of the central pillars in our global bridge connecting the smartcities of the world. It is in our mutual interest to collaborate

rather than undermine each other because all of us will benefit from it.

As we approach the 21st century, fantastic changes are taking place which make what was impossible in the old economy of the Industrial Age suddenly possible in the information age. For practical purposes, borders have already disappeared because knowledge, capital, company activities and consumer preferences ignore lines on a map. Where countries once competed with one nation's trade surplus resulting in another's trade deficit, in the future, both companies can benefit because networks of companies collaborate across borders to deliver value to customers in the most economically sensible way. Although none of this activity is captured by the economic statistics developed in the Industrial Age, its impact is clear and will require new types of international institutions. In short, the information age has created conditions for the first time in history that will enable countries and companies to mutually enrich one another; it is no longer a zero-sum game with winners and losers. This is a tremendous opportunity for those companies and countries with the courage to embrace these changes. For a limited time, this will be a relatively level playing field where both developed and developing countries can work together in ways that create benefit for both. This is because many of the healthier developed countries are locked into obsolete industrial structures and legislative frameworks and vested interests in these systems stubbornly oppose any change. Fortunately, these corporate interests have not had time to develop and become powerful in developing countries like Malaysia.

The MSC is the first place in the world to bring together all the elements needed to create the kind of environment to engender this mutual enrichment. I see the MSC as a multicultural 'web' of mutually dependent international and Malaysian companies collaborating to deliver new products and services to customers across an

economically vibrant Asia and the world. I fully expect that this 'web' will extend beyond Malaysia's borders and out across Malaysia's multicultural links to our neighbours. Component manufacturing can then be done in China, on machines programmed from Japan, with software written in India, and financing from Malaysia's Labuan International Offshore Financial Centre (LIOFC). The product may be assembled in Penang and shipped to global customers direct through our new airport.

Malaysian companies are already working with world-class international companies and technology transfer is taking place. Moreover, companies and neighbouring countries are benefiting as well because certain parts of these products are produced in other locations. The consumer benefits most of all because they get top-quality products at the best possible price. In short, all parties linked by this 'web' will benefit and be enriched.

Phase I of establishing the MSC will be complete when the MSC is home to hundreds of large and small companies working collaboratively with one another and with partners across the Asia-Pacific region and the world. Some of these companies will certainly be today's leaders. Many others will be the smaller companies which are members of each of these companies' 'web'. Hopefully, a few of tomorrow's leaders will be from Malaysia with new products and services in the MSC.

I like multimedia because the most successful companies are those which collaborate with many partners and truly transfer technology to them, not out of charity, but out of collective self-interest. These companies know that they cannot stay at the leading edge if they try and do everything themselves. They realise that a web of smaller companies working to common standards can deliver more benefits to the consumer. I hope to see some multicultural Malaysian companies alongside international companies, thus mutually strengthening the capabilities of both.

Phase II of linking the MSC with other islands of excellence will be completed when the MSC becomes far more than a business development. By then, the MSC will be a global community living at the leading edge of the information society. The citizens' smart homes will be connected to a network through which they can shop, receive information, be entertained, interact with one another and educate themselves.

Phase III of leapfrogging all of Malaysia into the information age will be complete when the entire country is living and working in these new ways. Of course, when they grow tired of all these newfangled developments, they can always enjoy the pristine environment which we have preserved in Malaysia.

To achieve this vision, I believe it is important to define a path that leads to it. By 2000, I expect to see *seven flagship applications* being developed in the MSC by 'webs' of international and Malaysian companies.

First, Malaysia will be a pioneer in electronic government. This will be a multimedia-networked paperless administration linking Putrajaya to government centres around the country to facilitate inter-governmental collaboration and citizen access to government services. It will start with the Prime Minister's Office when it moves to Putrajaya in 1998 and roll out across the other ministries as they relocate.

Second, Malaysia will have the world's first national multipurpose smartcard. A single platform will have the individual's ID and electronic signature and access to government, banking, credit, telephone, transport and club services. Of course, security will be critical but the technology is, I believe, already here to enable all of these services to be on one secure platform. Imagine the convenience as we are freed from having to carry a huge pack of plastic cards and selecting one every time we need to use a card. Imagine the opportunity for companies of having no

uncertainty that this one card will be in the hands of every Malaysian.

Third, Malaysia will have a comprehensive programme for smartschools. All schools within the MSC will be connected to the Internet by 1998, and the rest of the country will follow after that. A new curriculum is being developed, and our teachers will be retrained so that they can work with technology to do more than convey knowledge the traditional way. World-class distance-learning facilities will be built at the Multimedia University and we hope to hold virtual classes with teachers and students in other universities around the world. Students will be equipped with the skill and ability to make sound judgements from the overwhelming amount of information. We will use our schools to help students learn the skills required to choose between the overwhelming amount of information that will be available to them.

Fourth, the MSC will become a collaborative cluster of academic and corporate R&D centres, using distance learning to produce world-class graduates and next-generation innovations. The Multimedia University will be the centre for this, and I would like to invite faculty and students from the University of California, Los Angeles to help develop our new institutions in Malaysia through exchanges of students and faculty. I would also like to invite companies interested in partnering with the Multimedia University to contact us. This university will have close links to MSC companies to ensure it will produce graduates with the right skills.

Fifth, Malaysia will be a regional centre for telemedicine. With our Chinese, Ayurvedic, Malay and Western medical knowledge and vast biogenetic resources, we are a natural hub. Rural clinics can be connected to medical experts from within the country and to the great clinics worldwide using new tele-instruments for remote diagnosis, therapy or even surgery. The doctor no longer has to be in the same room as the patient. Key information can

be gathered and transmitted using new instruments such as electronic stethoscopes operated by nurses or technicians. The world's best doctors can then view and compare key information of other patients and, of course, data of millions of patients already in the world's computers.

Sixth, I hope the MSC will be a remote manufacturing, coordination and engineering support web that electronically enables companies in high-cost countries to access plants across Malaysia and Asia as virtual extensions of their domestic operations. While we have real strengths in manufacturing, we recognise the need for companies to operate a network of facilities around the region.

Seventh, the MSC should become a marketing and multimedia customer service hub leveraging Malaysia's unique multicultural links to provide electronic publishing, content localisation, telemarketing and remote customer care to a market of 2.5 billion people. For example, a Japanese company's catalogue can be translated into Chinese, Malay, Indonesian or the Indian languages by a company that takes orders through a system that automatically localises the sizes and currencies.

Over time, each of these flagship applications will generate a web of world-class and Malaysian companies, collaborating to develop and deliver innovative products and services. They will take root and grow in an environment that provides the required lifestyle, infrastructure, laws and policies. Equally important is the development of links that will connect each of these webs into a larger MSC web. Indeed, it is these links which will allow the MSC to sustain its competitiveness over time.

Malaysia is a country with a vision and a strategy to achieve what we call Vision 2020. Our goal is to attain developed-country status by the year 2020. These inter-linked webs will allow us to achieve the goals of Vision 2020 by developing a strong services sector to balance our already strong manufacturing sector while helping to improve the productivity and quality of life in the nation.

Equally important, the MSC will provide a platform to tie us together and celebrate our culture while helping to educate us in new and different ways.

Beyond Malaysia, the MSC becomes a global bridge when its web is interlinked with those of other regions around the world. This bridge, I hope, will connect with the digital entertainment community in Hollywood and the high-technology companies in the Silicon Valley. For example, storyboards can be developed in California while animation executed in the MSC, and then electronically transmitted back to Los Angeles for editing, sent back to the MSC for colour-balancing, and transmitted back to the studio for final approval and distribution. Let us explore ways to mutually enrich one another through the MSC, Malaysia's gift to the world.

The breadth of what I am describing has probably never been attempted anywhere else in the world. You may be thinking, "Why Malaysia?" The optimism surrounding the MSC's potential is boosted by the success of Malaysia in attracting global investment and promoting international business and industry. The advantages of Malaysia as a regional centre for multinational operations are many. The country continues to exploit its natural and traditional attributes while improving on its technological, physical and soft infrastructures to ensure that it remains a profit centre of choice in the region. Malaysia has at least eight key strengths.

First, Malaysia's strategic location at the heart of Southeast Asia, one of the world's fastest growing regions, with access to the three Asian markets of India, China and Indonesia. Historically a thriving entreport, Malaysia continues to serve as an important entry point into Asia, services as it is by all major air and shipping lines. We are only a few hours' flight from major Asian capitals. Blessed with an agreeable climate, rich tropical resources and a population drawn from Asia's oldest civilisations, Malaysia is

becoming increasingly attractive for trade, investment and tourism.

Second, stable economic growth. Over the past decade, Malaysia has achieved consistently high growth of over 8 per cent in GDP terms. A well-managed economy, supported by strategic development policies, ensured stability over the long term. Malaysia's series of five-year development plans are executed against a backdrop provided by an Industrial Master Plan and Vision 2020. These ensure a continuing agenda and have resulted in the country moving from its role as a leading producer and exporter of primary commodities to one of a world manufacturer and exporter of electronic products and resource-based consumer goods. Malaysia's current thrust is towards high-technology and knowledge-based industries.

Third, political stability. Having gained its independence peacefully in 1957, Malaysia has demonstrated the benefits of political prudence and regard for good neighbourliness in its governance and international relations. The country is managed by a coalition of political parties which harmonises the political needs of the different ethnic communities, thus providing political stability under a pragmatic leadership for the past 40 years. The government, assuming the role of facilitator for private enterprise under the Malaysia Incorporated concept, will work diligently to lay the groundwork for industrial growth.

Fourth, a multicultural, multilingual and multiethnic environment. Drawn from many Asian civilisations, Malaysia's multiethnic population has given a unique vitality to Malaysian life. Malaysians are multicultural by upbringing and attitude, and they place a high premium on respect and tolerance for people from other communities and cultures. They speak a variety of languages (including English, Malay and Mandarin) and various Chinese and Indian dialects. Malaysia's population of more than 23 million is relatively young and energetic, with 42 per cent falling within the 15-39 age group.

Malaysia and its multicultural links with the biggest Asian markets are unique. Malaysians are made up of people of Malay, Indonesian, Indian and Chinese origin. We have language skills and cultural knowledge that can be very helpful. Most people speak English as well as one or more languages such as the different Chinese or Indian dialects, or Malay.

Fifth, developmental track record. Malaysia makes no excuses for putting its infrastructural and superstructural projects on the fast track. Its construction sector recorded its eighth year of double-digit growth in 1996, reflecting the successful execution of several megaprojects in the residential, commercial and industrial sectors. The new North-South Expressway, Kuala Lumpur International Airport, Telecommunications Tower, a second link to Singapore, Light Rail Transit System, Commonwealth Games Village and East-West Expressway are only a few examples of recent infrastructural developments that have been completed or are nearing completion. With these new communications infrastructure being built, Malaysia will be a highly efficient and effective hub for the region.

Sixth, cost advantage. Malaysia still has a cost advantage as compared to the other 'tigers' in the region. In fact, a recent study done by international consultants on the cost of doing business in Malaysia indicated it is amongst the most competitive in the Asean region. To sustain this, the government will continue to provide the enabling environment. Our people are amongst the most productive in Asia.

Seventh, the newness of multimedia to Malaysia provides an important advantage—we have no inherited systems or entrenched interests determined to defend their current positions. We have the political will and the power to rapidly change any existing laws or policies that impede the ability of companies to capitalise on the benefits afforded by the information age. We will not be diverted by excessive politicking in Malaysia. In Malaysia, things that

need to be done will be done quickly, unobstructed by corruption.

Finally, we are highly committed to making the MSC a success and we have a track record of meeting our commitments. We are a pragmatic government which has consistently proven our critics wrong even when we adopt unconventional policies and strategies. Malaysia's history since independence has shown consistency and predictability so that long-term investment will not be threatened by the twists and turns of volatile local politics. The Malaysian government sees multimedia as the strategic sector to achieve our Vision 2020, the attainment of developed country status through productivity-led growth, with the MSC at the leading edge of this key sector. Consequently, we simply cannot and will not allow the MSC to fail.

We have been very busy over the last two years working with leading companies such as Nippon Telephone and Telegraph (NTT) to understand the future needs of world-class companies. McKinsey & Co has interviewed hundreds of companies to understand their requirements and is working with us to learn lessons from the experience of other countries.

To ensure that the MSC will not fail, Malaysia is offering a ten-point Multimedia Bill of Guarantees. The government of Malaysia formally commits the following to all companies receiving MSC status from the Multimedia Development Corporation: (i) Malaysia will provide a world-class physical and information technology infrastructure; (ii) Malaysia will allow unrestricted employment of foreign knowledge-workers; (iii) Malaysia will ensure freedom of ownership of companies; (iv) Malaysia will allow the freedom to source capital globally for MSC infrastructure and the right to borrow funds globally; (v) Malaysia will provide competitive financial incentives, including no income tax or an investment tax allowance, for up to ten years, and no duties on the import of multimedia equipment; (vi) the MSC will become a regional leader in intellectual

property protection and cyberlaws; (vii) Malaysia will ensure no censorship of the Internet; (viii) the MSC will offer globally competitive telecommunication tariffs and service guarantees; (ix) Malaysia will tender key infrastructure contracts to leading companies willing to use the MSC as their regional hub; and (x) Malaysia will ensure that the newly established MDC, a high-powered implementation agency, will act as an effective one-stop shop to meet the needs of companies.

These companies must be providers or heavy users of multimedia or IT products and services and employ a substantial number of knowledge-workers. The MDC is registering interested companies and will be taking formal applications for companies seeking MSC status in March. In addition to seeking world-class companies, the MDC is also seeking world-class employees to help it build the MSC.

To the students, I invite you to submit your resumes to the MDC and fill out the employment application on its website. There are opportunities at its ten worldwide offices and at its headquarters in Malaysia. To the companies, I welcome your participation and input. We need your vision, creativity, entrepreneurship and skill to give life to the MSC. To the international community, we offer you a perfect environment to try and find solutions to some tough questions whose answers must cross borders: (i) how will value that is collaboratively created in several countries but sold in another be taxed? (ii) how can intellectual property rights of knowledge-based products and services be defined and protected? (iii) how can responsibility for the accuracy and integrity of information on the Internet be ensured? (iv) how can society be protected from new forms of fraud, counterfeiting, piracy and viral attacks on the systems that run companies or even countries?

In Malaysia, we are looking at the possibility of creating a new Cyber Court of Justice as an international centre to look into these issues. We may sound very ambitious

for a small country, but America itself was a small country in the 19th century. At that time, England launched the Industrial Revolution but America won it. Why? Because the technology could be moved to an environment much more conducive to realising its full potential. Malaysia has come late to industrialisation, and this has given us the will and skill to make sweeping changes that others cannot because we have much less to lose.

The MSC provides all the critical components required to create the perfect environment to achieve the promise of the information age. Today, it is much easier to move technology and knowledge than it was a century ago. This is why we believe we can build the global bridge needed to move beyond the limits of the Industrial Age. While I may be an optimist, I believe this path to prosperity will be chosen over the alternative of hegemony and win-lose economic relationships. The globalising and harmonising forces of the information age will prevent a clash of civilisations or the Asian Century. It will create the World Century, the true Commonwealth of the World.

We hope you will become our partners in this exciting endeavour to build a bridge to the promise of the information age. The MSC cannot succeed alone, or we will have an island instead of a bridge for the global aspirations, capabilities and vision of many leading-edge companies who are prepared to collaborate in a new environment. We hope you will join us in constructing an enduring bridge into the information age and realise the promise of the upcoming World Century.

Commentary During the era of the Cold War between the United States and the former Soviet Union, the Soviets were the first to put the first man, Yuri Gagarin, in space. In the ensuing months, a young American president, John F. Kennedy told his people that he was going to put the first man on the moon. At that time, it was beyond the imagination and comprehension of anyone about the

possibility of sending a man to the moon. To the naysayers, such was a folly and was impossible. President Kennedy was asked by one of such sceptics, why he was going to send a man to the moon. He answered by saying, "because it is there." President Kennedy the visionary delivered, America put the first man on the moon. Today, in the digital era, another visionary in a different part of the world has the vision of moving his country from a production economy to a knowledge-based one. Dr Mahathir Mohamad is his name and the country in question is Malaysia. Each of these visionaries is best described by George Bernard Shaw's view that life is no brief candle. They see life as a sort of splendid torch, which they have got a hold of for the moment. Whiles it is in their hands, they want to make it burn as brightly as possible before handing it on to future generations. Their visionary acts are a testimony to such and ideal.

In this speech by Dr Mahathir delivered at the Conference for Investors in the Multimedia Super Corridor (MSC) at the University of California in Los Angeles, in January 15, 1997, he said, "I have come to the world's entertainment capital to share a vision of building a bridge between peoples and places, to connect your creativity and entrepreneurship with a special environment we are creating in Malaysia. By doing so, we can reap rewards together that neither of us would be able to develop on our own." Such a profound statement points to two important issues. The first issue is that in this new information age, no single country can go it alone. It requires collaboration between developed and developing. The other issue is his vision of a Multimedia Super Corridor, which he sees as the vehicle that would lead Malaysia into the knowledge-based economy. Just like the naysayers in president Kennedy's time that questioned his ability to put a man on the moon, Dr Mahathir is also going to confound those doubters who question the viability of the MSC.

Dr Mahathir see the MSC as a “a global bridge to the information age.” The government of Dr Mahathir has thus put in place the necessary infrastructure and infrastructure, cyberlaws, policies and practices that would enable companies from around the world to be able to use the MSC as a global bridge to the information age.

The MSC would be a global testbed for new ideas and products. It would also be the R&D centre for information-based industries to develop new codes of ethics for our global village. The MSC project is divided into three phases. Phase I would be the phase of learning from its partners and effectively using such experience. Phase II would be the linking up of the MSC with other islands of excellence within Malaysia. Phase III would be the making of all of Malaysia into a MSC and connecting it to other smart regions around the world. It is the vision of Dr Mahathir that this would culminate with Malaysia attaining a developed nation status by the year 2020.

To make sure that such a vision is attained, the Multimedia Development Corporation (MDC) was created to serve as a one-stop centre to manage and market the MSC. With offices around the world, the MDC is also mandated to hire the best people in the world to help see this vision to fruition. To show how serious Dr Mahathir is about the MSC, he and his deputy would personally oversee the activities of the MDC and would help resolve any issues that could serve as a bottleneck to the progress of the project that are brought to their attention. Furthermore, to assure the success of the MSC, the government of Dr Mahathir has put in place a ten-point Multimedia Bill of Guarantees. These include:

- Malaysia would provide a world-class physical and information technology infrastructure;
- Malaysia will allow unrestricted employment of foreign knowledge-workers;

- Malaysia will ensure freedom of ownership of companies;
- Malaysia will allow the freedom to source capital globally for MSC infrastructure and the right to borrow funds globally;
- Malaysia would provide competitive financial incentives, including no income tax or an investment tax allowance, for up to ten years, and no duties on the import of multimedia equipment;
- The MSC will become a regional leader in intellectual property protection and cyberlaws;
- Malaysia will ensure no censorship of the Internet;
- The MSC will offer globally competitive telecommunication tariffs and service guarantees;
- Malaysia will tender key infrastructure contracts to leading companies willing to use the MSC as their regional hub; and
- Malaysia will ensure that the newly established MDC, a highly-powered implementation agency, will act as an effective one-stop shop to meet the needs of companies.

Fast-forward to the year 2001, about four years ago since this speech was delivered. What is the progress of the MSC? Despite the Asian financial crisis and the current global economic downturn, the MSC has achieved and exceeded its target of attracting companies of world-class stature to locate in the corridor. Most of the infrastructure is in place and most of its flagship applications are in place. These flagships range from electronic government to a multipurpose card. This card has undergone the pilot test stage and it would soon be replacing the plastic identity cards of all Malaysian citizens. The MSC has also introduced a new flagship initiative called Technopreneur development. A drive through the MSC today sees it abuzz with activity. Gradually but surely, it is moving towards the goal it was set up to achieve. Then one can

confidently say that the vision of Dr Mahathir to set up the MSC and to steer it to lead Malaysia into the knowledge-based economy is on the right course and come the year 2020, Malaysia would attain its developed nation status as envisioned by its architect. The sad part is that Dr Mahathir may not live that long to see the nation attain this status. A collary can be drawn when Martin Luther King, the American civil rights leader, during the fight for the civil rights of his people told them about the "promise land" that he see his people entering but he shall not get there with them. When the American government passed the civil rights bill, King was not around to celebrate it. Albeit, he left his people and this world a better place than he met it. Similarly, when all is said and done, Dr Mahathir might not be around in the year 2020 when Malaysia attains a developed nation status, but he would have left his people and the country better off than how he met it. When that day is here, it would be commonplace to read in the newspapers "Multimedia Super Corridor is the global bridge to the information age."

17

The Multimedia Super Corridor: Realising a Vision for Malaysia

I WOULD like to welcome you all to Multimedia Asia—both those who are physically present here in Kuala Lumpur but also those who are with us through the magic of the Internet. I am delighted to have this opportunity to use this new medium for a live broadcast which will later be available on the MSC homepage for reference.

Our goal for this conference is to launch the Multimedia Super Corridor (MSC) and explain to the world all that we are doing to make it a reality. I hope you will all leave here with a full understanding of what we truly believe is a world-first—the careful creation of a region with an environment especially crafted to meet the needs of leading edge companies seeking to reap the rewards of the information age in Asia.

A speech delivered by Dr Mahathir Mohamad at the opening of the Multimedia 1996 Conference on the Multimedia Super Corridor in Kuala Lumpur, Malaysia on August 1, 1996

No other country is even considering anything similar. I see the MSC as a global facilitator of the information age, a carefully constructed mechanism to enable mutual enrichment of companies and countries using leading technologies and the borderless world. Other plans may sound similar because they all use 'IT', 'Cyber', or 'Multimedia' to market one development or another. But we are not adding new facilities to existing ones; we are building and installing the latest on a huge 15-by-50km greenfield site. We are not just upgrading.

We are talking here about something much more far-reaching. We are talking about changing the way we live and work within the MSC. This special area will be a global testbed for the new roles of government, new cyberlaws and guarantees, collaborations between government and companies, companies and companies, new broadcasting and new types of entertainment, education, delivery of healthcare, and applications of new technologies. We are taking a single-minded approach to developing the country using the new tools offered by the information age. The MSC will be the R&D centre for the information based industries, to develop new codes of ethics in a shrunken world when everyone is a neighbour to everyone else, where we have to live with each other without unnecessary tension and conflicts.

Malaysia had industrialised so rapidly that where once commodities made up 100 per cent of our exports, today manufactured goods constitute 78 per cent of our exports valued at US\$75 billion. Yet we are not a developed country. To become a developed country according to our Vision 2020 we cannot continue with conventional manufacturing industries. We have to move into the information industry. We need to tap the talents of the whole world in order to do this. As in the past those who respond to our invitation to invest in Malaysia will reap a rich return.

As usual, in Malaysia we move very fast. In the information age and instant communication, there would be

people working at any time in 24 hours who will want to be serviced. Malaysia takes this fact seriously. Not only do we work 24 hours a day to construct and manufacture, but we expect to provide information service 24 hours a day through our MSC. Consequently we have already readied a blueprint for the massive 750-square-kilometre site. We have almost completed the Kuala Lumpur International Airport and the Kuala Lumpur City Centre at both ends of the corridor, started work on the new wired high-technology intelligent administrative capital to be served by dedicated road and rail linkages. To protect intellectual property rights, new cyberlaws are being formulated and a Multimedia Bill of Guarantee is being worked out to ensure hassle-free operations by foreign and local companies operating out of the MSC.

The MSC is both a physical area and a new paradigm for creating value in the information age. Physically, the MSC will be a 15-by-50km square area spreading south of Kuala Lumpur. It begins with the Kuala Lumpur City Centre in the North and runs to Kuala Lumpur International Airport at Sepang in the South. It is bounded by the North-South Expressway in the East and the new Coastal Link Highway in the West. The MSC includes two other megaprojects in its centre—Putrajaya, the new administrative capital, and an IT City, a development of smart-buildings with the latest information infrastructure that is being tailored to meet both the living and business needs of the knowledge-worker. Most of these projects are underway and each is exciting in its own right:

KLCC is the northern gateway to the MSC and is graced by the tallest towers in the world. They already dominate our skyline at 450 metres each and constitute a city within a city.

KLIA will be ready before the Commonwealth Games in 1998 and will have initially 80 gates with two parallel runways. It will be an airport in the forest to ensure it is an appropriate international gateway to the environmentally

beautiful MSC. KLIA will also become an integrated logistic hub with the latest in IT to facilitate movements of people and goods.

Putrajaya is Malaysia's new electronic government administrative centre and will also be developed as an 'intelligent' garden city. It will provide a balanced urban environment for 250,000 people served by state-of-the-art communications and transportation systems.

IT City will be located in West Putrajaya and provide top quality business facilities, residential housing, leisure and recreational facilities, and state-of-the-art supporting infrastructure. It will support a working population of approximately 150,000 and a living population of over 100,000. In between these megaprojects, there will be ample land to be developed especially for the multimedia industry and other companies using leading edge information infrastructure to provide products and services to their clients. The entire area will be served by a 2.5-10 gigabits, 100-per-cent digital fibre-optic network that will directly link the MSC with Asean, Japan, United States and Europe. There will also be high speed road and rail links. Its location between the airport and Kuala Lumpur puts the MSC in the most convenient location for industrial IT innovators and knowledge-workers.

That describes the physical aspect of the MSC, but we are talking about creating something much greater. The best way to fully describe the MSC is to provide a vision of what it will hopefully become by the year 2020.

As we approach the 21st century, fantastic changes are taking place which make what was impossible in the old economy of the Industrial Age suddenly possible in the information age. Borders are disappearing due to ease of global communications, capital flows, the movements of goods and people and location of operational headquarters. Where countries once competed with one nation's trade surplus resulting in another's trade deficit, in the future both countries can benefit because networks of com-

panies collaborate across borders to deliver value to customers in the most economically sensible way.

In short, the information age has created conditions for the first time in history that will enable countries and companies to mutually enrich one another—it is no longer a zero-sum game with winners and losers. I believe neighbours prosper more when they help each other than when they are selfish or envious. Sometimes neighbours need new ideas and tools to help them move beyond petty conflicts of the past. These may be frightening at first—because they require fundamental attitudinal changes—but once accepted, people will forget their petty jealousies simply because they are racially or nationally different. If we can imagine how our grandparents felt about the freedom of movement when automobiles were first introduced, we can appreciate the sense of freedom which the Internet, for example, has made possible in the information age. Many of us, however, are still afraid to go for a test drive.

I hope the MSC will change this in Malaysia. The MSC is the first place in the world to bring together all of the elements needed to create the kind of environment to engender this mutual enrichment. I see the MSC in 2020 as a multicultural 'web' of mutually dependent international and Malaysian companies collaborating to deliver new products and services to customers across an economically vibrant Asia and the world. I fully expect that this 'web' will extend beyond Malaysia's borders and out across Malaysia's multicultural links to our neighbours. Component manufacturing can then be done in China, on machines programmed from Japan, with software written in India, and financing coming from the Labuan International Offshore Financial Centre. The product may be assembled in Penang and shipped to global customers direct from our new airport at Sepang.

Malaysian companies are already working with world-class international companies and technology transfer is

taking place because each company will really be adding value to the product. Moreover, companies and neighbouring countries are benefiting as well because parts of the product are produced in other locations. The consumer benefits most of all because they get a good quality product at the best possible price. In short, all parties touched by this 'web' will benefit and are enriched through their contribution to it.

By 2020, I see the MSC having hundreds of large and small companies working collaboratively with one another and with partners across Asia. Some of these companies will certainly be today's leaders. Many others will be the smaller companies that are members of each of these companies 'web'. Hopefully, a few of tomorrow's leaders will be from Malaysia with new products and services in the MSC. I hope the MSC will be far more than a business development by 2020. I see a global community living at the leading edge of the information society. Their smarthomes will be connected to a network through which they can shop, receive information, be entertained, interact with one another, and educate themselves. Of course when they grow tired of all these newfangled things they can enjoy the pristine environment which we have preserved in Malaysia.

By 2000, I expect to see seven specific applications being developed in the MSC by 'webs' of international and Malaysian companies:

First, Malaysia will be a pioneer in electronic government. This will be a multimedia-networked paperless administration linking Putrajaya to government centres around the country to facilitate inter-governmental collaboration and citizen access to government services.

Second, Malaysia will be a regional centre for telemedicine. With our Chinese, Ayurvedic, and Western medical knowledge, we are a natural hub. Rural clinics can be connected to medical experts from Malaysia and to the great clinics worldwide using new tele-instruments for

remote diagnosis. The doctor no longer has to be in the same room as the patient. Key information can be gathered using new instruments such as 'electronic stethoscopes' operated by nurses or technicians. This can be viewed and compared with other patients by the world's best doctors and of course data on millions of patients already in the world's computers.

Third, I hope the MSC will become a collaborative cluster of universities and corporate R&D centres, using distance learning to produce world-class graduates and next-generation innovations.

Fourth, I hope the MSC will be a remote manufacturing coordination and engineering support hub that electronically enables companies in high cost countries to access plants across Malaysia and Asia as a virtual extension of their domestic operations.

Fifth, the MSC should become a multimedia customer service hub leveraging Malaysia's unique multicultural links to provide electronic publishing, content localisation, telemarketing and remote customer care to a market of 2.5 billion people. For example, a Japanese company's catalogue can be translated into Chinese or Tamil or Hindi by a company that takes orders through a system that automatically localises the sizes and the currencies.

Sixth, the MSC will be an environmentally beautiful and highly convenient financial haven with direct multimedia links to the Labuan International Offshore Financial Centre and the world's financial centres. This will enable 'reverse investment' outward from Malaysia and will benefit our neighbours.

Finally, Malaysia will have the world's first national multipurpose smartcard. One card will have the individual's ID and electronic signature and access to government, banking, credit, telephone, transport and club services. Of course, security will be critical but the technology enables all of these services to be on one secure platform. Imagine the convenience as we are freed from having to

carry a huge pack of plastic cards and selecting one every time we need to use a card.

The MSC is the leading edge of a new national strategy for Malaysia to achieve the goals described in Vision 2020. I fully expect to see a few world-class Malaysian companies emerge from the MSC. It will accelerate the development of a strong services sector to balance our already strong manufacturing sector while helping to improve the nation's productivity and standard of living. Equally important, the MSC will provide a platform to bring us together and celebrate our culture while educating us in new and different ways. It will open us to a world of multicultural knowledge and relationships which will enrich our partners, neighbours and ourselves.

What I have just described has probably never been attempted anywhere else in the world. You may be thinking, "Why Malaysia?"

First, Malaysia's physical location at the centre of Asean and its multicultural links with the biggest Asian markets is unique. We have language skills and cultural knowledge that can be very helpful. Most people speak English as well as one or more languages such as different Chinese or Indian dialects, or Malay. With the new airport and communications infrastructure being built, Malaysia will be a highly efficient and effective hub for the region.

Second, Malaysia still has a cost advantage as compared to other NIEs in the region. Third, the newness of multimedia to Malaysia provides an important advantage—we have no inherited systems or entrenched interests determined to defend their current positions. We have the political will and the power to rapidly change any existing laws or policies that impede the ability of companies to capitalise on the benefits afforded by the information age. We will not be bogged down by excessive politicking in Malaysia.

Finally, we are highly committed to making the MSC a success and we have a track record of meeting our com-

mitments. We are a pragmatic government which has consistently proven our critics wrong even when we adopt unconventional policies and strategies. Malaysia's history since independence has shown consistency and predictability so that long-term investment will not be threatened by the twists and turns of volatile local politics. The Malaysian government sees multimedia as the strategic sector to achieve Vision 2020, i.e. the attainment of developed country status through productivity-led growth, and the MSC is at the leading edge of this key sector. We are actively talking to companies to understand their needs, and creating advisory panels to ensure we in government fully understand all that is required to provide the perfect regulatory, administrative, and social environment within the MSC.

We have been very busy over the last several months to understand your needs and respond to them by making the required changes in the MSC. We conducted a comprehensive study last year and a follow-up study this year and identified several key factors for success. These are access to sufficiently skilled human resources and flexibility in hiring; access to world-class telecoms and information infrastructure; liberalised financial environment with no local content, ownership or partnership requirements; quality of life as good as home countries with every convenience and ease of doing business.

To address these, we are undertaking several major initiatives. First, the Prime Minister's Office will be setting an example for the rest of the country. It will be paperless by 1998 when the office moves to Putrajaya. Ministries will need to interact with the Prime Minister's Department electronically which will encourage them to make themselves paperless.

Second, all schools within the MSC will be connected to the Internet by 1998 and the rest of the country will follow. The Ministry of Education is leading several initiatives to increase the role of multimedia in education. We

plan to dramatically increase the number of engineers graduating every year. Teachers will need to change their role in the electronic classroom from being information providers to counsellors in order to help students select information sources, to make judgements about what they are downloading. In short, high technology requires high touch because the key to success in the information age will be making the right judgements between an awesome array of choices. We are examining our education system to create a curriculum where people learn how to learn so they can continue their education throughout the rest of their lives. The measure of our success in 2020 will be the number and quality of our people who can add value to information. To that end, we will be creating a Multimedia University and technology schools within the MSC.

Third, while these long-term solutions are important, we also need to close the gap immediately if the MSC is to succeed. This will require us to undertake an experiment and allow MSC companies the unrestricted import of knowledge-workers for the next ten years. In addition, there will be no employment restrictions on MSC companies and there will be no restrictions on foreign ownership within the MSC.

These commitments, along with several others, will be part of a Multimedia Bill of Guarantees for MSC companies:

- Multimedia or IT is the priority sector for achieving Vision 2020 and the MSC will be home to Malaysia's leading edge multimedia development;
- The MSC will have the best environment in Asia by creating MSC specific laws, policies and practices;
- The MSC will have a world-class physical and information infrastructure;
- MSC companies will have access to a workforce of sufficient size and skills;

- The MSC will become a regional centre of excellence in multimedia education, research and leading-edge applications;
- There will be no employment or ownership restrictions for MSC companies;
- The MSC will become a leader in multimedia regulations; 'cyber-laws' for using IT to deliver value in new ways (e.g. telemedicine, distance learning, electronic signature) and intellectual property protection will be legislated;
- The MSC will offer the best, tailored incentives and financial or venture capital environment;
- Key MSC infrastructure contracts will be tendered to companies willing to use the MSC as their regional hub;
- The MDC will be empowered to act as a one-stop shop to ensure that the MSC meets the needs of companies;
- The incentives that will be made available to MSC companies are still being detailed but will include corporate tax exemption for 5-10 years depending on proposed applications to be performed within the MSC for companies committing to the MSC within the next year;
- Infrastructure contracts will also be awarded on a preferential basis to MSC companies; and
- Opportunity to sit on an advisory panel to provide direct input to the prime minister or the deputy prime minister on the environment provided within the MSC.

We have invited multimedia experts and CEOs from various countries to sit on the distinguished International Advisory Panel (IAP). The IAP will be chaired by me and provide advice on a continuing basis about the quality of the overall MSC environment. I look to the members of this panel as partners in ensuring the success of the MSC.

In addition, the cabinet has set up the MDC with the mission to ensure MSC companies have the world's best environment for harnessing multimedia services. It has a mandate to be the one-stop shop to manage and market the MSC. The MDC will have governmental powers but will be run like a private corporation that serves MSC companies as its clients.

The MDC will be taking applications for companies seeking MSC designation. This entitles the company to the incentives and Multimedia Bill of Guarantees described above. You can electronically file the application through the MSC homepage.

We hope you will become our partners in this exciting endeavour. The MSC cannot succeed alone. Its power comes from harnessing the energy, capabilities and vision of many leading-edge companies who are prepared to collaborate in a new environment. By bringing these pioneering companies together with Malaysian and Asian companies, we believe we can spin a web that will mutually enrich all those participating or coming into contact with it. At the same time, it will serve as a better interlink for the global village and give the world a place where the full potential of the information age can be explored without any artificial limits.

Commentary The absolute truth about visionaries is that they are people with guiding principles, dreams and a sense of focus. The visionary has a crystal clear idea of what he or she wants to accomplish. But these visionaries are also mortals and as mortals, fear is part of their lives. The most dangerous of all these fears is "the fear of failure," and it more often than not stops a lot of mortals in their tracks to take the leap. Bertrand Russell, the English philosopher encapsulates this view solidly when he wrote, "in the daily lives of most men and women, fear plays a greater part than hope: they are more filled with the thought of the possessions that others may take from

them, than of the joy that they might create in their own lives and in the lives with which they come in contact." In no uncertain terms, such is not the case with Dr Mahathir Mohamad. The vision to set up the Multimedia Super Corridor (MSC) is a case in point. If he had inculcated in his mind the fear of failing, he would not have embarked on such an ambitious project. Would non-visionaries try to ridicule his efforts? Yes they will and have. Would many simpletons try to discourage him? Yes they will and have. But those are the facts of life, for people would try to discourage you if you set ambitious goals for yourself and if you are a leader like Dr Mahathir, for your country. Yet, we all know all too well that without goals there would be no achievements. Dr Mahathir's vision of transforming Malaysia into a knowledge-based society and a developed country by the year 2020 is the future that is taking shape today, it is the unreachable that is becoming the reachable and it is confounding the naysayers.

In this speech, which is delivered at the conference on the MSC, Dr Mahathir laid out his vision of the MSC as a "global facilitator of the information age, a carefully constructed mechanism to enable mutual enrichment of companies and countries using leading technologies and the borderless world." The MSC would then be a global test-bed for e-government, cyberlaws, multimedia and the application of numerous new technologies. More important, it would be a centre for the development of new code of ethics for the information age by information industries. It is also the vision of Dr Mahathir to see the MSC as a "multicultural web" of mutually dependent international and Malaysian companies collaborating to deliver new products and services to customers across an economically vibrant Asia and the world.

The vision of Dr Mahathir is to see the MSC contributing and leading Malaysia's efforts into the knowledge-based economy. It is Dr Mahathir's vision to see Malaysia:

MAHATHIR MOHAMAD

- Be the pioneer in electronic government;
- Be the regional centre for telemedicine;
- MSC being a collaborative cluster of universities and corporate R&D centres using distance learning to produce world-class graduates and next generation innovations;
- MSC would be a remote manufacturing coordination and engineering support hub;
- MSC would become a multimedia customer service hub;
- MSC would be an environment with multimedia links to the Labuan International Offshore Financial Centre and other world financial centres; and
- Malaysia would have the first national multipurpose smartcard.

Most of Dr Mahathir's visions as it pertains to the MSC have been attained so far and some are in the pilot stage. For a developing country, such achievements are laudable. Indeed many developed countries took centuries to arrive at their current stage of technological sophistication. Malaysian is arriving at such a stage in a much lesser time. The MSC has attracted numerous world-class companies since its inception based on the vision of Dr Mahathir. So far, it has surpassed most of its goals despite external shocks to the Malaysian economy, a small open one.

With the Multimedia Bill of Guarantees for companies set up in the MSC and the guidance of a distinguished Internal Advisory Panel (IAP), the MSC would surely achieve all the targets set out for it. Yet it cannot be emphasised enough that the achievements attained so far by the MSC can be rolled back even eroded if Malaysians rest on their laurels and become complacent. Complacency according to the sages is the recipe for failure. On the other hand, if Malaysians have an iron will to see through the vision of Dr Mahathir to the end even when he is not around, Malaysia would become a knowledge-based soci-

ety and a developed one by the year 2020. To stress the importance of this point, let us borrow a leaf from Benjamin Disraeli, a former British prime minister and writer. According to Disraeli, "Nothing can withstand the power of the human will if it is willing to stake its very existence to the extent of its purpose." Nothing can stop the success of the MSC if Malaysians in their very existence exercise the will to the extent of assuring the purpose and vision of this project.

Thus, it is incumbent on the next generation of leaders of Malaysia to carry this torch forward. They must pass it on to the next generation of Malaysians making sure that it burns brighter than they received it. To those who might not be aware, Gunnar Myrdal, in his book, *The Asian Drama*, quoted Jawaharlal Nehru as saying countries in Asia including his, India "are not going to spend the next hundred years in arriving gradually, step by step, at the stage of development which the developed countries have reached today. Our pace and tempo of progress has to be much faster." The MSC is an example of such a reality. It is a vision and idea whose time has come, and its importance cannot be emphasised enough in our current information age.

18

Application of Information and Communications Technology for Development

INFOTECH Malaysia '96 is an annual dialogue with the planners, developers and implementors of information technology (IT) applications. The discussions at this dialogue hopefully will form the basis for formulating an integrated IT agenda for the country.

Malaysia has been involved in the global electrical and electronics (E&E) industry since the 1970s and it is today the nation's largest export sector. Nevertheless, the development of the E&E sector has been primarily driven by MNCs and the local value-added content of the exports remains marginal. Most of the local value-added has come mainly from testing and assembly operations with little or no national focus on finished products. Similarly, the computerisation effort within both the public and private sectors has also developed only the hardware infrastructure or technology acquisition capability, with limited work on

A speech delivered by Dr Mahathir Mohamad at the official opening of the Infotech '96 Conference in Kuala Lumpur, Malaysia on December 19, 1996

software or content development and customisation. As a result, today, the national capability in information technology design and development is still rather limited. The bottom-up approach to IT development has obviously not resulted in much technology transfer in terms of indigenous design capability either in production of IT-related products or even in the development of IT applications. With the convergence of computing, telecommunications and broadcasting in the multimedia industry, it is now imperative that we develop our own socio-technical capability for a smoother transition into the information age.

This reengineering of the national capability must first of all begin with a more determined top-down leadership in the development of IT applications. It is equally important that the new approach brings about radical changes in the shape, structure and quality of relationships amongst the key players. IT and the knowledge-based industries must be able to generate a new impetus for change and growth. The information age demands that second wave technologies be transformed into new industrial structures associated with what are today called "webs".

The government, through the National Information Technology Council (NITC), has therefore assumed the role of providing the necessary leadership for the development of IT in Malaysia. The NITC is a partnership of public-private sector captains formed in 1994 to discuss, deliberate and articulate the IT agenda for the nation. The MSC is one direct, clear and strategic outcome from the NITC deliberations. The MSC is a conscious national attempt at developing multimedia applications within the designated area. The MSC will also leverage the transformation of the rest of the country into the information age and the digital economy. Such a transformation will involve every sphere of life, whether social, political, economic, cultural, intellectual or psychological. The scope

must also extend to the entire nation and improve the total quality of life for all Malaysians.

The MSC will begin with the development of eight flagship multimedia applications to propel Malaysia into the information age. The improved connection through better telecommunications capability within the MSC would also allow the rest of the country and the world to participate in its development. For instance, one of the flagship applications within the MSC is the development of an R&D cluster. In fact, through the MSC the person should even be able to collaborate with R&D centres around the world to undertake research. That is exactly our vision for the MSC: by investing in the hard and soft infrastructure necessary for multimedia applications, we will make it possible to create a truly borderless community within and through the MSC. Through this borderless research concept, the researcher should for example be able to undertake concurrent design engineering of a new car engine in collaboration with partners in France or the United Kingdom without even leaving his office.

Apart from the leadership and the technology push provided through the MSC, the real challenge will also be the creation of the demand pull for high quality IT services by the rest of the country. Such a demand pull will make the MSC flagship applications even more meaningful. Therefore, while the MSC becomes the focus of our effort, the rest of the country, be it industry or R&D institution or government agencies, must also contribute directly to the success of the MSC. The successful development of the MSC is fundamentally linked to the preparedness of the rest of the nation to usher in the information age.

The 'e-worked' electronic global village today offers us many lessons about the speed and influence of the information explosion. This explosion, if carefully applied to national and local problem resolution, can actually create the demand pull for service applications within the MSC. Through the power of information networking, our

schoolchildren can do research through electronic libraries accessible via the Internet. Consumers will be able to pay their taxes and dues via the to local authorities. Soon, even the electoral process may use electronic means to determine governments. The Internet as an early signal of the information age has already begun its revolutionary impact.

Vision 2020 calls for the building of a developed nation in our own mould. The mission of the IT agenda must therefore be to nurture a knowledge society premised on our own history, tradition, culture and development experiences. This knowledge society must also become a civil society. The transition from merely accessing information to infusing knowledge and becoming a civilisation is subtle but critical. The creation of a civil society will be the ultimate vision of the IT agenda.

A civil society of the future must be a society where the wise rule and the people actively participate in determining their destiny. The ownership of knowledge may be less privatised and personalised but will become trusteeships of civil property. The pursuit and application of knowledge will continue for the personal and public good. Electronic governance may help realise the ideals of a participative democracy with greater transparency. One cornerstone of civility will remain the notion of human dignity. The right of individuals against poverty and starvation is also a basic and an inalienable human right. This is our notion of a genuinely caring society, one which is duty-bound to take care of the interests of everyone in society.

Many civilisations in the past have attempted to develop the civil society. Yet most have failed. Some are still carrying on with their experiments. Therefore, in our desire and enthusiasm of becoming a knowledge society, we must keep in context a few key issues related to the downside of the IT and the Internet-driven transformation.

The information age also brings with it concomitant problems and challenges. In the old days, when some-

thing happened somewhere it took time for others to hear about it. Today news travels almost instantly. Distant truth is almost virtual reality. In such a context, one of the effects of the decentralisation of the medium and the messages is a loss of control over events. The government alone will no longer be able to control content once it is processed through the electronic media. Therefore, censorship and control of content becomes a serious issue. Censorship may not remain administratively the sole responsibility of public agencies. It may have to be transferred to all societal organisations and institutions. As a result, the family unit and the school, in particular, the corporation and the community will have to undertake responsibility for censorship and the strengthening of values in the information age.

From the national perspective, the use and application of information technology must lead to a better quality of life for all Malaysians. The two issues of equity and universal access will continue to remain key issues in our multi-racial, multireligious society. The application of IT must consider how to improve the quality of life for all Malaysians, whether urban or rural. Our vision of creating a developed nation by 2020 includes the challenges of ensuring an economically just society, a fully caring society, and a mature, liberal and tolerant society. The IT agenda must consciously seek to address these socioeconomic issues as well.

From the international perspective, the IT agenda clearly places our national aspirations at the centre of the global technology, trade and investment context. The real challenge is to ensure that IT-related investments produce not only profits for the investors but also result in Malaysians moving from being mere consumers to producers and innovators of technology. Malaysians must attempt to become new service providers through leveraging on IT. Therefore, priority is no more assigned merely to the quantity but quality of investments which Malaysia at-

tracts and the degree to which indigenous technology and domestic partners contribute to value-added activities. We hope that the MSC can be viewed as an IT framework for smart partnerships.

With the MSC we are actually creating an investment haven in the middle of palm oil plantations to usher in the third wave of information and knowledge industries. Would this create dysfunctionalities within the nation? Would the initiative crowd out the locals? Is it giving unfair advantage to technology owners? Would it destroy and pollute our environment? These are all valid questions but they may beg the issue of who we really are.

Having initiated a ripple effect through the MSC for the IT agenda, the greatest challenge facing the MSC and the nation is content creation. Content creation will determine the substance and success of the IT agenda of turning the ripples into tidal waves of change and transformation. The IT agenda would have a three-pronged strategy with a clear mission of building a knowledge society. The foundational strategy remains that of building and developing the appropriate physical infrastructure and infostructure. The second strategy would be the creation and development of enrichment systems or IT-based applications that are demand driven. Again, the MSC's eight flagship applications provide an opportunity for both participation and learning. We are negotiating for the support and assistance of some of the best companies in the world to share their technology and know-how with us. These companies are also looking for a platform to test their products and ideas. When they come, the Multimedia Development Corporation (MDC) will ensure that they will cooperate with locals to create smart partnerships because we are creating some of the best platforms in the world for such multimedia applications. Again, multiple opportunities are available for local entrepreneurs to collaborate on the development of new applications.

The third strategy of the IT agenda will remain the human development effort. Both individuals and groups have to acculturate themselves to deal with 'intelligent' or 'smart' systems while still remaining smarter than the systems or applications they help create. The human development effort would involve all educational and training systems, whether formal or informal, from the primary to the tertiary and continuing education systems.

Through the MSC, I believe, we have jump started a process for change, particularly the legal framework for IT as an accepted medium for business and commerce. The Bills for three of the cyberlaws will be tabled in Parliament at its next sitting early next year. The success of all these new initiatives is dependent on people being ready to adapt and adopt to the changes. Knowledge-workers can drive the change process, especially in creating demand-driven content and developing the applications. The education and acculturation process must finally lead to complete transformation of both society and individuals.

The government has set the target of beginning the electronic government project with the Prime Minister's Department. Beginning with this department, the government will become the role model. This provides not only business opportunities for the private sector but also a conceptual challenge to all public servants. The aim of electronic governance is to improve the efficiency and effectiveness of government services. The federal government will begin with Putrajaya. I believe this can be a key impetus for nationwide transformation of government services.

This conference, through the different panel discussions, will generate alternative views on how we can proceed. We hope that the dialogue framework we have created would give opportunities for everyone to feel included. Even this process is an evolving one and we will improve as we move along. As the adage goes, the IT

agenda is not merely a destination but a journey that Malaysians need to travel together. There will be some key challenges that the delegates may want to address within the IT agenda. These include:

- While developing and defining a civil minimum for IT access and capability, how does one balance between the rights and duties of individuals, and that of society and the environment?
- In ensuring the regional distribution of IT and knowledge-based industries, how do we ensure that resource allocation policies continue to offset infrastructure limitations already present in certain regions?
- What new opportunities are offered through the convergence of IT and telecommunications technologies to reenfranchise to include the different disadvantaged groups into the mainstream of development?
- What indicators and evaluation systems can we put in place to ensure the move from an Information to a Knowledge Society and ultimately to a civil society?

The MSC is our own bold new initiative to turn IT ripples into waves of change. The MSC flagship applications are designed to mobilise the total resources of the nation. This will, however, take place only if the nation as a whole commits itself to becoming a knowledge society.

Commentary One of the criticisms of multinational corporations (MNCs) is that they only set up their factories in developing countries to utilise its abundant resource of cheap labour or exploit other natural resources that may be available which would determine the localisation of a specific industry. It is further contended that the local value-added content of the exports of these MNCs are

marginal if any. Malaysia is no stranger to this problem. It has firsthand experience from its electronic export sector. With the convergence of ICT, the country realised that its capability in information technology design and development is rather limited; it was thus a challenge to develop its socio-technical capability to help the country transit to a knowledge-based economy.

As the ICT revolution and the knowledge-based economy are going to determine the growth and development of nations, it is imperative that the leadership of Malaysia take a proactive role and set the agenda for the nation's move towards a knowledge-based economy. One of the proactive roles of the government was to set up the National Information Technology Council to provide the requisite leadership to prepare Malaysia to benefit from the IT revolution. Another proactive effort is the Multimedia Super Corridor (MSC) that has been talked about a lot in these speeches. The MSC is a national effort to help in the transformation of Malaysia and help in its smooth transition to the information age and the digital economy. In this aspect, the government has invested in the hard and soft infrastructure necessary to make the MSC a true borderless community and one in which multimedia applications can be developed. If Malaysia succeeds, the benefits are numerous. They range from realising its vision of becoming a developed society by 2020, realising quantum leaps in its growth and development efforts and a better quality of life for its people.

Despite the numerous benefits in the transformation of the country to the digital era, there are also problems associated with it. The inability to control content once it is let loose in the digital era is one of them. Such information can be amplified many times over and disseminated to many parts of the world in seconds. The issue of the digital divide is another. This era would introduce a wide gap between the "digital haves" and "digital have-nots" between countries and between different sections within

countries. Such can exacerbate the poverty and opportunity gaps within countries. For multiracial and multireligious societies like Malaysia, the governments must put in place the requisite safety nets to rectify such an impending problem.

The government of Malaysia should be applauded for the efforts to move its people into the knowledge-based era. Several policy measures have been put in place to mitigate the effects of the digital revolution. However, one thing that the government must pay closer attention to is that of knowledge-workers. Without the adequate supply of knowledge-workers to drive the nations efforts to move towards a knowledge-based economy, it could be elusive. The government must therefore develop short- and long-term measures to solve the issues. It is a *sine qua non* to Malaysia's efforts to move to a knowledge-based economy.

19

The Multimedia Super Corridor: An Opportunity for Japanese Industry

AS we approach the dawn of the 21st century, the world is experiencing changes it has never experienced before, especially in the economic and technological spheres. In the old economy, national borders defined the location of raw materials, energy sources, transportation infrastructures and markets. In the New Economy, distance and borders are slowly disappearing. Because of new telecommunication technology, what is becoming more important are the footprints of satellites, areas reached by radio signals and the electronic media, unlimited information and news. Old tastes, social norms, values and even political inclinations are being transformed by the access to information. These linkages in the international economy has opened up and has resulted in truly transnational cooperation making the European Community (EC), North American Free Trade Area (NAFTA) and Asia-Pacific Economic Cooperation (APEC)

A speech delivered by Dr Mahathir Mohamad at a gathering of Japanese Business Leaders on the Multimedia Super Corridor in Tokyo, Japan, on May 15, 1996

more real than ever before. Manufactured products are no longer just made in a single country. It may be designed in Japan, with components supplied from Taiwan, assembled in Malaysia and finally packaged in Thailand for the world market.

The Asia-Pacific region is very much a part of this new economic scenario. As the world economy looks for more profitable locations to manufacture and produce, the old unskilled labour-intensive and resource-intensive sweatshops of the Asia-Pacific region are transforming into skilled and capital-intensive industrial economies. The newly-industrialised countries of the Asia-Pacific region are consistently registering positive growth rates. The 1995 *World Competitiveness Report* records that the GDP of the Asia-Pacific region (excluding China) is already 80 per cent that of NAFTA and has surpassed the European Community by 20 per cent. The *World Development Report* estimates that the size of the economy of the Asia side of the Pacific region will overtake that of the United States. Because of their strategic position and relatively younger industrial economies, the so-called Asian tigers will be enjoying a much stronger economic growth of between 7 and 10 per cent annually as compared to those of other countries in the Pacific region.

Malaysia is a leading member of the Asean countries in terms of economic growth. Guided by Malaysia's Vision 2020, all sectors of industry in Malaysia are undergoing rapid growth. The manufacturing industry grew at 15 per cent in 1995, while the services industry grew at 9 per cent. Now Malaysia has launched a new strategy and programme to switch to high-technology, capital-intensive industries with special focus on information and telecommunication-based industries, which include a very ambitious plan for what we call a Multimedia Super Corridor (MSC).

The MSC is located in an area south of the capital of Malaysia, Kuala Lumpur. It encompasses two megapro-

jects that are already under construction and another megaproject under implementation, namely the Kuala Lumpur City Centre Complex, Putrajaya, new administrative capital of Malaysia and the new Kuala Lumpur International Airport. The Kuala Lumpur City Centre is graced by the tallest towers in the world, which at 450 metres each, stand taller than the Sears Tower in the United States. It is being designed as a self-contained, integrated, multiple-towered city-within-a-city. It will have the latest in telecommunications infrastructure and will be built as an intelligent building complex surrounded by beautifully landscaped parklands. The new Kuala Lumpur International Airport will be a very green airport in the forest because it will be lavishly dotted with trees, flowering plants and shrubs. It will be in operation before the Commonwealth Games in 1998. For a start there will be 80 gates and two parallel runways. Putrajaya is Malaysia's new electronic government administrative centre and will be developed as a garden city with 'intelligent' features. It will provide a balanced urban environment for 250,000 people served by state-of-the-art communications and transportation systems. These three megaprojects will form the nucleus for the MSC.

In between these three centres there will be ample land to be developed specially for the multimedia industry, both hardware and software as well as locations for headquarters for design and direction of multinational industries utilising the communication network which will be put in place. Already well-known telegraph and telephone companies are planning to locate their headquarters for the international operations in the MSC.

The MSC will be built fresh from the ground. Your input into the design stage and therefore your participation are welcomed. It will house knowledge-intensive and information-intensive industries, the kind of industries that will propel the Asia-Pacific region into the information age. Future high-growth multimedia industries such

as remote manufacturing and operations processing, semiconductor development, distance learning, telemedicine, integrated computing and communications solutions can be located in the MSC and can act as a multicultural production and coordinating centre.

By leveraging on the current three megaprojects that are being implemented, the MSC will have access to one of the world's most modern airports with every likelihood of becoming an important Southeast Asia hub. The MSC will be in close contact with the most modern paperless government, thereby facilitating financial and investment activities. The MSC will be close to homes of the knowledge-workers, creating very comfortable working conditions. With all this advanced infrastructure and the help of information technology and multimedia, the MSC can enhance your organisation's productivity and reach to the fastest growing economies of East Asia and indeed the world.

Malaysia has many other strengths that will place the MSC as a leading multimedia catalyst centre.

Malaysia still has a cost advantage as compared to other NIEs in the region. Malaysia has a growing pool of skilled engineers who can cooperate with foreign investors in developing local and regional multimedia content. Malaysia has cultural links with all the major NIEs in the Asia-Pacific region. The population of Malaysia also speaks Malay, Indonesian, different dialects of Chinese such as Mandarin and Cantonese and different dialects of the Indo-Pak continent. Most speak English fluently while workers have a working knowledge of the language. So Malaysia can service both East and West from the MSC. As an example, the MSC can serve as a multimedia hub that will be able to sell multimedia products designed and produced in the Asia-Pacific region on the Western hemisphere. This is possible by using the multicultural resources in the MSC to translate the various languages of the Asia-Pacific region into English.

The Malaysian legal and governmental system is based on those of the United Kingdom. Additionally, Malaysia has the political will to change any existing laws that may impede the speed and accessibility of the new information age. The advent of multimedia brings with it demands for rethinking and revision in the traditional laws governing communication. The need for using electronic signatures, the admissibility of electronic documents in court, intellectual property laws will have to be changed to accommodate the new multimedia environment. The stability of the Malaysian political scene will ensure that legal and other changes will not be bogged down by excessive politicking. Malaysia's history since independence has shown consistency and predictability so that long-term investments and gestations will not be threatened by the twist and turns of volatile local politics.

Our commitment to the development of information technology and multimedia in the country is proven with the creation of the National Information Technology Council (NITC) in 1994. This council comprises representatives from both the public and private sectors. It formulates strategies for the utilisation and development of IT, including the MSC. One of the NITC's recommendations is the setting up of the Multimedia Development Corporation (MDC) which will be responsible for the operation of the MSC once it is established. The MDC has been approved by the Malaysian Cabinet with an initial budget of RM30 million and incorporated under the Companies Act 1965 and will thus be free from the constraints of bureaucratic red tape. The MDC's role is to serve clients located in the MSC and to provide effective solutions for them. We are looking into the possibility of the MDC having offices throughout the world to market the MSC and to provide a single point of contact for industries interested in investing and relocating within the MSC.

Besides the MSC, the NITC is already forming an international advisory panel to provide expert advice and

help guide Malaysia to ready itself with all the necessary infrastructure. This panel will consist of international players in the field of entertainment, news, multimedia, information technology, and other critical areas. This panel of international experts is being invited to Malaysia to participate in the first Multimedia Asia Exhibition to be held in Kuala Lumpur on August 1, 1996. Multimedia Asia '96 will be, with apologies to our neighbours, Asia's premier multimedia exposition and conference. The focus of this major event will be to showcase the MSC to the entire world. You are all most welcome to participate in this exposition.

As part of the programme to attract foreign investors to relocate within the MSC, the Malaysian government is looking into preparing a packet of incentives aimed specifically at the MSC. This packet of incentives will include tax exemptions for five to ten years and other incentives. On top of this normal set of incentives, because of the nature of multimedia, the government is looking into a set of guarantees to ensure that foreign investors will be able to maximise their investment in the MSC. This 'bill' of guarantees can include a provision to ensure the availability of world-class physical and information infrastructure so that all the required capabilities and supporting services will be available to investors. The government is looking into providing access to sufficient human resources with the required skills by expanding educational and training programmes to teach multimedia and IT skills. Unrestricted access can be provided to foreign expertise and knowledge-workers located in the MSC by expediting immigration procedures and removing stumbling blocks. Employment restrictions in the MSC can be relaxed to enable investors to hire and fire without regard to ethnicity, race and religion. The Malaysian government will enforce laws that will protect intellectual property in order to encourage creativity and more investment. All these incentives are geared towards making the MSC physically, envi-

ronmentally and culturally the most attractive place to work as far as multimedia is concerned.

The MSC is a one-time opportunity for Japanese industry to get ahead of world competition. The window of opportunity for this project is closing up very rapidly. As we speak, other organisations in the United States and Europe are already planning their multimedia parks and intelligent cities. Malaysia can spearhead this effort in the Asia-Pacific region and offer to Japanese industry a chance to extend its enterprises while enhancing profitability and productivity. I therefore would like to invite all of you to look into this opportunity to expand your organisation's access to the entire world through the MSC in Malaysia.

Commentary The die is cast; no amount of tears is going to stop the crossing of the Rubicon. The New Economy Rubicon, that is. Every country that wants to survive and prosper in this millennium and beyond must cross this Rubicon. This is not a doomsday pronouncement; it is a statement of fact. No one can dispute it that advancements in information and communications technology (ICT) has changed the way we live and conduct business. Today we can shop online, communicate much faster by e-mail than during the periods of the Pony Express, or through the conventional "snail mail." Even a more profound example can be given drawing on the conventional wisdom in economics that holds that value comes from scarcity. In the New Economy, value does not come from scarcity but from abundance. While things like land, labour and capital are scarce in the Old Economy, in the New Economy, ideas and knowledge are abundant. These ideas and knowledge build on each other and can be reproduced at a cheaper cost. One can then say that ideas and knowledge do not obey the laws of diminishing returns.

Dr Mahathir Mohamad's speech to the Japanese business leaders at the MSC point to such a trend afforded by the arrival of the New Economy. According to Dr Mahathir, "in the Old Economy," national borders define the location for raw materials, energy sources, transportation infrastructure and markets. In the New Economy, distance and borders are slowly disappearing ... old tastes, social norms, values and even political inclinations are being transformed by access to information." If the Asia-Pacific region is to survive, then it has no choice but to embrace the New Economy. It must be willing to transform itself, develop a new mindset synonymous with the new shift, the new paradigm to be able to maintain and attain growth.

Malaysia is one of the countries in Asean that is aware of this wind of change. Its economy has grown consistently to around 7 per cent apart from the time of the Asian financial crisis of 1997. It could have afforded to rely on its major revenue generating sectors, electronics and manufacturing. Yet, the country has decided to march to the beat of a different drum, so to speak. It has switched to high-technology, capital-intensive industries with a special focus on information and telecommunications-based industries. Pursuant to that, it has set up the MSC which comprises of an area spreading from the Kuala Lumpur International Airport to the Petronas twin towers with important destinations like Putrajaya, the new administrative capital of Malaysia and Cyberjaya, the new intelligent city. Putrajaya, the new administrative centre, would be where electronic government would be implemented.

The MSC itself would be where knowledge and information intensive industries in areas such as remote manufacturing, operations processing, semiconductor development, distance learning, telemedicine, integrated computing and communications solutions would be located.

It is the hope of Dr Mahathir that the MSC would propel the Asia-Pacific region into the information age and

has thus invited the involvement of Japanese businessmen in the project. How would it benefit Japanese investors? With its excellent infrastructure and location, the MSC can enhance the productivity of their companies located in the corridor as well as enable them to reach the fastest growing economies of Southeast Asia and the world. Malaysia also has a pool of skilled engineers that would be able to help Japanese investors to develop local and regional multimedia content for the Asia-Pacific market. It has a stable government and the political will to change existing laws that may impede the ushering in of the information age. The MSC is thus an opportunity for Japanese industry to extend its enterprises while enhancing their profitability and productivity. At this writing, the Japanese economy is facing many internal and external challenges. One of its largest export markets, the United States is in a recession. The impact on its export revenues cannot be emphasised. Some of the large technology companies in the country have announced layoffs. Yet, it is hoped that between now until the passing of the storm, that more Japanese companies would invest in the MSC.

20

Evolution of a Global Information Society

EVOLUTION in our society is by no means influenced by natural processes alone. It is also the result of human reaction to his environment and attempts to influence it. Thus defence needs through the ages had resulted in the fashioning of weapons which later found peaceful usage. Of course, the opposite was also true. The process is far from over. Much of today's technology had their origins in the search for more effective weapons of war. But war and defence is not always the reason. Thus the quest for food and clothing resulted in trade, initially through barter, then the exchange of precious metal tokens, and now paperless trading.

Where before human communities can be totally isolated and independent, we now see not just interdependent societies but a borderless global society emerging. The science fiction writers and futurists are often right about the shape of things to come. But the reality may take quite

A speech delivered by Dr Mahathir Mohamad at the Teleport 1996 Conference in Tokyo, Japan, on May 13, 1996

a different form from what they had predicted. Thus the microchip and its influence on human society and the way we communicate was never really prophesied or thought of. For that reason we were not quite prepared for the information explosion and the advent of the information rich society.

This conference will hopefully contribute something towards our understanding of the new information age and indicate the direction and possible usage of mass information and the management of the flood of information which threatens to drown us sometimes.

The development in the telecommunications and information industries has given a new definition to what constitutes a rich or a poor nation. Today the defining character of a rich or poor nation is based on its economic wealth and the state of its industrialisation. In the future, the determining character of a rich or poor nation may be the accessibility to information resources and the use they are put to. Through information countries may benefit from the wealth and economic activities of others or produce goods and services from material and facilities that they may not have locally.

The globalisation of trade and industry will accelerate with the progress of information technology. Corporations are now more able to look beyond their national borders to take advantage of cheaper resources, skills and knowledge for research, production and marketing. Cyberbusiness companies or virtual offices are beginning to sprout. Conventional policy instruments for the management and regulation of trade and industry are becoming increasingly ineffective. Governments have to look into new regulatory instruments to deal with these new forms of business entities, indeed to deal with the spread of information itself.

In the political sphere, national borders are becoming quite irrelevant in the information age. As mass information is disseminated through the fast emerging global

communication networks, it will become more difficult for governments to control trans-border social, economic and political interaction. It will be equally difficult to control the access to information within the country's own borders. As citizens avail themselves freely of information, the role of governments and governance will have to be re-defined. Since knowledge is power, the availability of knowledge to everyone must disperse power and power centres. These new centres of power will undermine the traditional authority of governments and even international regulatory bodies.

With the rise in networked societies and organisations, sharing, in the true sense of the word, will be enhanced. Regardless of social status, economic diversity and distance, people of all walks of life will be able to share knowledge and experiences with unprecedented facility. Multimedia networks will enable this exchange to take place using virtual reality in order to be more authentic. The learning process will thus be more effective as virtual experience can be actually repeated until the lessons are truly learned.

Our world today has grown very small due to the web of interconnected information networks such as the Internet. With more than 35 million users and still increasing, with worldwide and new networks being added to the existing 35,000 networks, the aggregate number and wealth of information going back and forth is truly unimaginable. The numerous means of acquiring information has ignited a revolution which has profoundly affected us, much more than what the steam engine did to the Industrial Revolution of the 19th century. In the same way that the Industrial Revolution transformed the socioeconomic fabric of the past, the Information Revolution will radically change our social and economic landscapes. The effect defies imagination, challenging mankind's capacity to envision and shape the future. In the not-too-distant future, I

believe informatisation rather than industrialisation may be a better reflection of the development of a nation.

The development and speed of the modern information network has facilitated the growth of the global economy. Intraregional and interregional trades have flourished with vast movements of goods, capital, people and technology. Supported by the transportation, banking and financial services, all utilising telecommunications and new commercial data, the movement of goods and services will soar to greater heights. Accessibility to new markets has already fostered the founding of new international corporations even in the developing countries. With the capability to send complete and detailed information, manufacturing need no longer be restricted to the countries possessing the technology and the resources. And so manufacturing will now be truly global, with design being done in one country, engineering in another, sourcing of parts from all over the world and production in the most competitive countries. Technical information can be culled from literature worldwide through the numerous libraries in the networks.

Even in the field of social and cultural activities, the information revolution can bring about greater international understanding. People can learn about other cultures and values which can hopefully eliminate the tendency to become insular, regarding other people as abnormal. This can give a new dimension to our lives, reducing narrow nationalism and creating more globally oriented citizens.

The new information era brings not only opportunities but also many challenges to the global community. Recent developments necessitate changes in family, social, economic, political and governmental structures. Easier communication tends to create and facilitate new values—most notably freedom of expression, reciprocity in the interchange of views and universality of access. The power of the media to highlight only what it chooses while

blacking out counter arguments or opinions will be diminished as everyone can reply through the net without editorial vetting.

These freedoms are at the core of the liberal-democratic political system and the free-market system which most nations now subscribe to. With the universality of access comes the need for universal public policies, particularly to prevent the abuse of the free access to information. No country by itself will be able to prevent these abuses. It must be remembered that access for everyone means also access for terrorists and criminals for whom information can mean greater sophistication and sophistry in their unwelcome activities.

Of course, on the plus side the availability of infrastructures for electronically transferring and accessing information is critical for the realisation of greater economic, social and cultural objectives. For the developing and less developed countries, the availability of the information infrastructure is the only way to leapfrog the development process and to run after the rest. Adequate access to telecommunications facilities will boost industrialisation, reduce the rate of unemployment and contain the exodus from the rural to the urban environment, from the poor countries to the rich. Thus, the previously underemployed programmers in developing countries can now work for and earn good incomes by doing work for industries in many countries without leaving their shores in search of employment.

I strongly believe that the developing and less developed nations must regard it as vital to join the global effort in the formation of the information society as it will open windows for quantum leaps in technology development. The availability of global infrastructure for communications will help in the realisation of economic, social and cultural progress as well as reducing the lead of the advanced nations. At this point, the developing and underdeveloped countries should reassess their paradigm and

be bold enough to participate actively in the formation of an information-rich society. The path to a radical change, to a paradigm shift is not without difficulties. There will be many constraints; financial, trained manpower, access to advanced technologies, to name a few. A helping hand from the rich nations will be crucial. If we subscribe to the view that helping others to prosper will eventually benefit ourselves, then the rich should not be reluctant to help the poorer nations join the information society.

While there may be many benefits, social imbalances may actually be accentuated by information technology, widening the gap between the haves and the have-nots. Already the huge telecommunication companies of the developed nations are grabbing huge segments of the telecommunication networks worldwide. The poor countries may lose their chance of getting a piece of the action even in their own countries. In the process they may lose control of their economy as well.

There is also and there will continue to be an increase in unhealthy trends such as more widespread and difficult to detect dissemination of pornography, white-collar crimes and loss of privacy and security of information.

However, for the global community the benefits of the new technology promises to outweigh these misapplications. The release of man from the more routine and mundane thinking tasks, thus enabling him to devote his thoughts, time and energy to more value-added knowledge work through information technology is in itself sufficient compensation. Man's intellectual contribution to society's development can thus be enhanced.

Information technology will of course enable the sharing of information and knowledge much more widely. As far as these are concerned a more equitable level will emerge. It can produce a high level of synergy between global communities to address national and global problems and issues which will, hopefully, help create a more

peaceful and a higher quality of life for the world's population.

The information technology paradox is that, while current trends may be widening the gap between the haves and the have-nots, it can, if properly guided, bring them closer together. Information technology-based social services such as telemedicine, distance learning and the provision of services over the network can be used to bring the less privileged and more remote communities into the mainstream of social and economic development.

Information technology has the capacity to maximise the global potential. Consumers of the world can benefit from the lower cost of research and production by facilitating the sourcing of knowledge, materials and goods from the best and cheapest sources. The economies of less developed nations should gain from this. However, such sharing will only be possible if there are no artificial barriers erected either by governments or the private sector to obstruct the free flow of information or to link them with extraneous political and economic issues.

This immense potential of a networked global society should be used in the creation of a one world society which places a premium on the quality of life for all. This can only happen if the information age and the concept of sharing are based on common values and the principles of equality, fairplay and justice. At this moment, the enormous capital required to put in place the infrastructure can only result in a few giants monopolising the commercial benefits at the expense of the capital and technology-poor economies. This is being aggravated by the demand through the WTO for opening up markets. While the developing and less developed countries must be prepared to help realise the vision, they must be helped to develop their human and financial resources together with their management and technological skills. Without some kind of a head start and affirmative action the potentials of the

manpower in these countries to contribute to the Global Information Infrastructure will be wasted.

For our part, Malaysia is committed to the evolution of a global information society. As a developing nation, we realise that we need to change our existing paradigm if we want to be part of the ongoing process of change. Notwithstanding the constraints, we are prepared to lay the foundation of an information-rich society. Accordingly, we have formed a National Information Technology Council (NITC) to guide the government and the nation in progressing towards a meaningful role in the global information society that is fast advancing. A joint-venture project between the government and the private sector, NITC will coordinate and synergise the functions of the two parties. Its primary task is to evaluate the government's and the private sector's needs and efforts in the development of information technology and other related industries. It will also recommend regulatory public policy that is conducive to the convergence of the telecommunications and broadcasting industries. To this end, we have embarked on an ambitious programme of a sophisticated information technology infrastructure build-up between Kuala Lumpur and the new Kuala Lumpur International Airport called the Multimedia Super Corridor (MSC). Putrajaya, the proposed new administrative capital of Malaysia, will be built in between. Based on the latest advanced information technology hardware and software, the MSC will in fact become a teleport which will enable real time retrieval and dissemination of information. It will be the nerve centre to steer and lead the nation to meet the challenges of an information-rich society. It is hoped that the MSC will spearhead a structured approach to embrace the latest technologies in accessing information, linking Malaysia to the global information base and expertise, thus providing invaluable assistance for both the public and private sectors to execute strategic decisions as well as optimising productivity and efficiency on a worldwide

scale. Computer, broadcasting and communications, as well as multimedia industries will merge along this corridor. Indeed, the MSC will be a significant boost to foreign and local investors from these industries, taking advantage of the advanced technologies to develop multimedia and related products and value-added services, thereby accelerating the pace of Malaysia's progress to become an information-rich society. With the MSC firmly in place, both foreign and local investors can also utilise Malaysia as a springboard to expand their horizons into emerging markets in the Asia-Pacific region. Needless to say, we are aware that a concerted effort is needed to implement the MSC successfully. A Multimedia Development Corporation (MDC) will facilitate direct investments in the project.

Predicting the future is not easy. But in this case, I have no doubt of the eventuality of the information society. The achievement of this vision will require concerted effort on the part of everyone. But it will more than pay off as the reward will be enormous for all. We require a common stand and global cooperation to realise the shared vision. I am happy to note that the members of the G7 have initiated a bold and farsighted move to provide the necessary support for the developing and less developed nations to have equal access to information and ultimately achieve the formation of a truly global information society.

Commentary The convergence of information and communications technologies (ICT) is changing our world and our way of life. ICT has defeated the challenge of distance and the problem of time. Today, messages can be sent to distance lands from remote parts of the world in the form of electronic mails (e-mails), or by mobile phones that use satellite as transmitters. Similarly, one can shop from the comfort of their homes using just a computer, a modem that links them to the World Wide Web and an electronic means of payment, say a credit card. Few people often sit

down to ponder how such technologies came about and how they are changing our world.

Today most people would not remember names like Alan Turing, John Atanasoff, John Mauchly, J. Presper Eckert, John Von Neuman, Tim Burners-Lee and the list continues. On the backs of these greatest minds, most of whom are dead and long gone that, this new information age had its beginnings. Turin, Atanasoff, Mauchly, Ekert and Von Neuman are those who can be credited with the development of the modern day personal computer (PC). They have contributed in numerous ways to develop "the computer," especially, Mauchly and Eckert with the development of the Electronic Numerical Integrator and Computer (ENIAC) in 1946. Others like Tim Burners-Lee single-handedly designed what is today called the World Wide Web (WWW) when he was on a short-term attachment at CERN in Switzerland. These technologies coupled with the changes in telecommunications and their subsequent convergence has brought about our information rich society of today.

In Dr Mahathir's speech about this global information society we are in today, delivered at the 1996 Teleport Conference in Tokyo, Japan, he sees such an emergence as what would determine a nations wealth or poverty into the future. He goes further to outline the general benefits and consequences to both poor and rich countries and suggests some ways of combating some of the consequences of such a convergence. He ends by outlining how Malaysia is preparing to position itself to benefit from the new information age. First, it is a truism that ICT has facilitated the growth of our global economy. It has facilitated intraregional and interregional trade, helping to move large quantities of goods, people and capital around the world. Today, one can confidently say that there is nothing like a 100 per cent "American-made car". Such car may have most of its parts coming from all over the world and the final assembly may be in America. It brings

about quality and subsequently makes the car cheaper for the consumer, because each producer of the part has a comparative advantage in the production of the said component than others, hence a lower production cost.

Indeed it can be argued that with the advent of ICT, if developing countries have adequate access to these facilities, it will boost their industrialisation by helping them to leapfrog the development process. It would also result in the reduction of unemployment within these countries and would help stem the rural-urban exodus, which is a common feature in most developing countries. It could also help stem the brain drain of many experts in developing countries who leave to work in developed countries. It would also lead to the ability of developing countries to be able to develop their technological capabilities and help them in their developmental process. But such advantages of the information society are not only limited to economic development. It has sociocultural benefits as well.

The new information era according to Dr, Mahathir can foster greater international understanding amongst countries. Using ICT, people can learn about other people, cultures, way of life and values. This would contribute to creating more globally oriented citizens, weaning most narrow-minded people away from their parochialism. The fostering of understanding and the brotherhood of man would foster peace and prosperity for all in this information age.

But the new information era also poses some challenges to our world. Technology has always been regarded as a double-edged sword; it saves man from one encumbrance to introduce another. The information era is no exception. For example as it pertains to developing countries, the new found freedom of easier communication can create and facilitate new values, such as the ability to revert to the Internet to express their views without any editorialising. It is true there are many who would use such new outlets judiciously but there would be those who

would abuse such an opportunity. According to Dr Mahathir, these may include terrorist and criminals who may use such a new medium to engage in their dubious activities. Such misuse of the new medium can have disastrous consequences for developing countries. Dr Mahathir calls for the establishment of universal public policies to prevent the abuse of such a system.

In addition, the new information era may also accentuate the gap between the digital haves and have-nots. There are two dimensions to this problem. The first is between developed and developing countries. The second is between the poor and the well to do within the borders of developing countries. This problem if not tackled on the global and national levels would further exacerbate the yawning poverty divide between the developed and developing countries and within developing countries. Other problems, which are the result of the emergence of the information era, are the increase use of these mediums to undertake white-collar crimes and pornography. There is also the fear of the lost of privacy as well as the fear of information theft. George Orwell orchestrated these fears in his book, *1984*, as this information era began to take root. There are many more challenges that this information era poses. On the balance, this new era offers more benefits than problems. This feature of the new information era is what Dr Mahathir calls a "paradox." The fact that it would widen the gap between the have and have-nots but also have the ability if it is properly guided can bring them closer is the basis of such a paradox.

Malaysia is positioning itself to benefit from the new information era. Its policymakers have realised that if it has to continue grow and develop, it must change its paradigm from a production-based economy to a knowledge-based one. One of the ways it is preparing to benefit from this new era is setting-up the National Information Technology Council (NITC). The role of the NITC is to guide the government and the country in its efforts to move to-

wards a knowledge-based economy. In such a role, it would recommend policy options for the government to adopt as well evaluate such policies from time to time to see how effective they are.

Apart from the NITC, the government of Malaysia has also set up the Multimedia Super Corridor (MSC). It is seen as the vehicle that would accelerate the pace of Malaysia's move towards a knowledge-based society as well as to attain a developed nation status by the year 2020. The MSC, which stretches from the Kuala Lumpur City Centre, the Petronas twin towers to the Kuala Lumpur International Airport is huge. It is earmarked to be the test-bed for cutting-edge technologies and techniques in the areas of multimedia, computer technology, communications, and other related industries. At the time of this commentary, the MSC has exceeded most of the targets set for it since its inception. It has attracted numerous world-class companies as well as local ones in the area of multimedia. Despite the up and downs in the global economy, the MSC is well on its way to moving Malaysia into the knowledge-based economy.

21

The Digital Economy and the Borderless World

MALAYSIA has been very fortunate to experience rapid growth in recent years. Our continued economic and social progress has contributed to the overall stability and prosperity of the country.

Now that we are at the threshold of the 7th Malaysia Plan, it is time we review our strategies. Their relevance and effectiveness in achieving national objectives and targets must be assessed. This is particularly critical in the light of rapid technological changes—both nationally and internationally.

Sustaining growth in the increasingly competitive world economic order will be our major challenge. This is because 85 per cent of the world's wealth is still shared amongst the richest 20 per cent. Amongst other things, this is due to the fact that capital and technological resources are still under the control of industrialised countries.

A speech delivered by Dr Mahathir Mohamad at the Official Opening of the Infotech Malaysia '95 Conference in Kuala Lumpur, Malaysia, on November 1, 1995

Economic competition and political restructuring are now being reinforced by the combined effects of a new factor: the digital economy and the borderless world. Information technology (IT), integrating the power of computers and telecommunication, is providing easy access to information: to anyone, at any time, in any place and in any form. Unfettered information flow across boundaries, in real time without regard for distances while providing new opportunities, can also be a threat to the well-being of countries politically, economically and socially.

However, IT is more than just a new technology. It involves a fundamental shift in the way we think and function. The demand for IT products and systems stems from the need to increase efficiency and productivity in a competitive world. We have learnt that first by automating, and then lately by transforming work processes, we can gain a quantum jump in productivity. Socially, people have discovered the utility of instant global communication. A fundamental psychological need is being fulfilled and at the same time the floodgates to enhanced intellectual interchange have been opened.

The knowledge society is therefore not merely a new manifestation of technological inventiveness. It marks the rise of information and knowledge as new parameters in economic advancement and social progress. The essence of the knowledge society lies in its contents. The key human skills are cognitive, mental and intellectual. Thus human resources become the ultimate resource for any nation.

The application of IT in all critical areas has been promoted in this country for many years. As a corollary, the electronics industry has become one of the major manufacturing activities, contributing about 25 per cent to our GDP. Use of IT in both the public and private sectors has been encouraged, resulting in per-capita expenditure on IT becoming one of the highest amongst developing countries. In the mid-1980s we also deregulated the telecom-

munications industry by privatising the Telecoms Department. We have now gone one step further by introducing competition in the telecommunications business. More importantly education and training in IT has been vastly expanded through encouraging local institutions to venture into new areas and by stimulating the growth of private educational institutions. Additional human resources possessing new skills have been produced, even though we still do not have enough.

In the past we facilitated the development and application of IT through the bottom-up approach. This is a necessary phase to enable people to experiment and experience, to learn and to gain expertise. Lately, we have decided that the bottom-up approach has to be complemented by the top-down policy planning and management scheme as well. The formation of the National Information Technology Council (NITC) is geared towards the establishment of national policy imperatives which will propel us into the information age. We need to know the priorities in order to optimise the use of resources available. Key industries, their main players and the related success factors have to be understood. Critical applications in economic and social development must be identified and implemented. Top-down policy planning and management therefore serves to steer the national IT programme towards achieving our development objectives more efficiently.

Already we have embarked on an ambitious programme to establish a Multimedia Super Corridor (MSC) in Malaysia. This corridor stretches all the way from Kuala Lumpur to the new Kuala Lumpur International Airport in Sepang, encompassing an area of about 15 kilometres wide and 40 kilometres long. This corridor will not only house the new KLIA with the most advanced Total Airport Management System (TAMS), but also the new government centre of Putrajaya, which is being planned to be an Intelligent City.

The objective of the MSC is to showcase the development and application of multimedia in industry and business as well as for life and work in general. Software, hardware and systems companies in the computer, telecommunication and broadcasting industries will be attracted to locate their operations in the MSC. Businesses integrating both the print and electronic media, including publishing, information services, broadcasting and movie industries will be prioritised. World-class companies in these business areas will be invited and local companies encouraged to become their business partners.

In order to attract these companies the best infrastructure will be provided. A network of highways crisscrossing the MSC is already being implemented. To complement the highways, there will be a Light Rail Transit (LRT) as well as an Express Rail Link (ERL). These links will provide rapid and efficient transport between the major centres such as the airport, Putrajaya and the ports, and of course, to the rest of the country. The electronic super-highway will also be in place. Broadband telecommunications is already being implemented through fibre-optic transmission, synchronous digital hierarchy (SDH) and satellite links.

Multimedia cities will be created in the MSC catering to various industries. Around the KLIA, the Airport City will facilitate and synergise air travel. This city will not only cater to the needs of passenger and freight air transport businesses but also integrate passenger transport with the travel and tourist business globally.

The needs of IT in government will spawn another major area of business activity. Putrajaya will see the creation of new kinds of government services made possible through IT and multimedia. Higher levels of efficiency and productivity will be achieved by using IT to transform the internal operations and processes of government agencies. Services offered to the public will also be reengineered such that the clients will be able to interact directly

with public servants through electronic means and in some cases even avail themselves of the services by direct interaction with intelligent and automatic IT systems.

The MSC will fulfill four primary objectives. First, it will demonstrate the effectiveness of multimedia in increasing the efficiency and productivity in the production and delivery of goods and services in both the public and private sector. Second, it will introduce a new supply and demand spiral for the multimedia industry located in Malaysia for the world market. Third, it will add value to the infrastructure already put in place in the MSC, including KLIA, Putrajaya, the transport network and the electronic superhighway. Fourth, Putrajaya will stimulate the growth of electronic governance: one that is more open, transparent, responsive and entrepreneurial; in short, more suited to the information age.

The viability of the MSC concept has been accepted, both by the government as well as by many companies we have interacted with. Multimedia, its coordination and development, including the proposed Multimedia Development Corporation will be placed under the Prime Minister's Department. Coordination is necessary as multimedia touches upon many kinds of information infrastructure and information content. The MDC will be the master planner and strategic arm for the creation of the MSC. It will also promote the MSC throughout the world in order to attract the best companies to work with us.

These new initiatives will not be possible without strong economy and political stability. Although we have done rather well in the manufacturing industry, we should now look at the services sector, particularly those services that are information-intensive with high value added.

As for the MSC itself, having state-of-the-art technology at hand will mean nothing if we do not prepare ourselves to apply it. There is a need for a more balanced approach to IT development and application. We should not view IT and multimedia merely as technological artefacts.

Rather there should exist a more harmonious balance between the technological imperatives and the social needs of society.

Towards this end, five key principles must be considered:

- First, the technology push through rapid advances should be balanced by the social pull represented by the economic, social and cultural needs of the people. The proper application of IT requires the creation of socio-technical systems which must meet social objectives.
- Second, our information superhighway should be equally balanced between technological sophistication and the efficacy of the information content.
- Third, while the government can take the lead by forming new strategies and facilitating their implementation, the private sector must play its part. Malaysian companies must be more innovative and creative by venturing into the multimedia industry.
- Fourth, there should be greater focus on transformation as opposed to automation. Knowing that IT has the potential of transforming organisational structures, we should reengineer our processes to gain even higher benefits from IT investment.
- Fifth, we need to reemphasise the importance of human resources in realising these aspirations.

Many kinds of balance must be achieved. Not only must people gain competence and literacy in IT, they must also know their specialised areas well, so that they may be able to reengineer the necessary work processes. At the same time, knowledge and skills must be balanced with the right values and attitudes towards information and knowledge so that they will create the required culture in the work environment.

Malaysia has reached a crossroads in its economic development. The choice seems to be clear: the need to embark on a programme to apply multimedia more intensively in business and in society at large. The MSC is a major initiative in this direction. The synergies created will bring into sharp focus the key success factors and the problems that may arise.

Commentary When Malaysia attained independence in 1957, it had a lower GNP per capita than many other developing countries that had also attained their independence from colonial rule. It has since transformed itself from a rubber and tin producer to a major exporter of electronic and manufactured products. In the process, it has now surpassed most of the developing countries in terms of a higher GNP and has been able to provide in the process a better quality of life for its people. Today, with the advancement in information and communications technology and the arrival of the digital economy, Malaysia is faced with a new challenge. The challenge of a knowledge-based economy, an economy where quantum leaps in growth is now dictated by the ability of nations to develop knowledge products.

For a multiracial and multireligious society like Malaysia its progress and prosperity has contributed to its stability. As it moves towards the knowledge-based society, it now needs to re-evaluate its strategies to make them amenable to attaining the requisite national objectives of the country in a knowledge-based era. At the opening of Info-tech '95, Dr Mahathir wanted to share with Malaysians some of the strategies and policy objectives his government is putting in place to propel the country into the knowledge era. Dr Mahathir cautions his fellow Malaysians that a move towards a knowledge-based economy is more than just information technology (IT). It entails a fundamental shift in the way Malaysians should think and function. He adds, "the knowledge society is therefore not

merely a new manifestation of technological inventiveness. It marks the rise of information and knowledge as new parameters in economic advancement and social progress. The essence of the knowledge society lies in its contents. The key human skills are cognitive, mental and intellectual. Thus human resources become the ultimate resource for any nation."

Some of those strategies that the government of Dr Mahathir has put in place to propel Malaysia into the knowledge-based era is the deregulation of the telecommunications industry in the country, establishment of a National Information Technology Council (NITC), to formulate IT policy for the country in its efforts to move towards a k-economy, and the establishment of the MSC. Of all these strategies, the MSC is the boldest and it is proposed to be the most innovative in the region. Yet according to Dr Mahathir, that the MSC is going to have state-of-the-art technology is without any doubt. What Dr Mahathir is concerned about is if Malaysians are preparing themselves to apply such state-of-the-art technology. A balance must be sort between the socioeconomic and cultural needs of Malaysians and technological innovation. There should also be a greater focus on transformation, or reengineering to benefit from the process rather than relying on automation. All these goals are attainable but it would depend if Malaysians want it to be. "Malaysia has reached a crossroads in its economic development, the choice is clear." They must seize this opportunity for no condition in life is permanent. Dr Mahathir's generation of Malaysians have laid the foundation and brought the nation into the information age. It is now the responsibility of the next generation to carry the baton further into a post knowledge-based economy era. Such efforts must begin today by all Malaysians embracing the knowledge-based economy and preparing for its impact on their lives.

Index

- AFTA, *see* Asean Free Trade Area
- Amazon.com, 13, 18, 46, 52-53, 126
- America Online, 19
- AOL, *see* America Online
- APEC, *see* Asia-Pacific Economic Cooperation
- Asean Free Trade Area, 27, 144, 150
- Asean, *see* Association of Southeast Asian Nations
- Asia-Africa Forum, 43, 52
- Asia-Pacific Economic Cooperation, 210
- Asian financial crisis of 1997, 9, 77, 80, 181, 216
- Asimov, Isaac, 17
- Association of Southeast Asian Nations, 27, 69-73, 101, 124-125, 128, 143-145, 149-150, 166, 175, 186, 190, 210, 216
- Atanasoff, John, 228
- Barksdale, Jim, 111, 136
- Bell Canada, 132
- Bilateral payment arrangements, 49, 146
- Blue Circle, 26
- BP (British Petroleum), 26
- BPA, *see* Bilateral payment arrangements
- BT (British Telecom), 26, 28, 30
- Burners-Lee, Tim, 228
- Case, Steve, 115, 141
- CEPT scheme, *see* Common Effective Preferential Tariff scheme
- Civil society, 154-156, 159, 202, 206

- Cold Storage, 26
 Common Effective
 Preferential Tariff scheme,
 144
 Commonwealth Partnership
 for Technology
 Management, 39
 Commonwealth
 Telecommunications
 Council, 7
 Commonwealth
 Telecommunications
 Organisation, 6, 8, 10
 Companies Act 1965, 166, 213
 Concept Requests for
 Proposal, 154
 CPTM, *see* Commonwealth
 Partnership for Technology
 Management
 CRFPs, *see* Concept Requests
 for Proposal
 CTO, *see* Commonwealth
 Telecommunications
 Organisation
 Cyber Court of Justice, 114,
 140, 178
 Cyberjaya, 5, 16, 110-111, 135,
 154, 165, 216

 Da Vinci, Leonardo, 93
 DHL, 15
 Digital Signature Act 1997,
 165
 Disraeli, Benjamin, 197
 Druid, 28, 30

 EAEC, *see* East Asia
 Economic Caucus
 East Asia Economic Caucus,
 51

 Eckert, J. Presper, 125, 228
 Ellison, Larry, 115, 141
 Emerson, Ralph Waldo, 160
 Entertainment village, 5, 9, 28
 EU, *see* European Union
 European Union, 23-24, 26-27,
 145

 FDIs, *see* Foreign direct
 investments
 Financial Stability Forum, 78
 Foreign direct investments,
 25, 35, 50, 77, 97-98, 146, 148

 G7, 133, 227
 G20, 78
 Gagarin, Yuri, 178
 Gates, Bill, 111, 115, 136, 141
 Global Coalition of Africa, 52
 Globalisation, 29, 33-36, 37-41,
 47, 49-50, 52-53, 58-59, 71,
 75-76, 78-85, 98, 100, 109,
 129, 220
 Greenspan, Alan, 17

 Highly leveraged institutions,
 77, 79
 HLIs, *see* Highly leveraged
 institutions
 Hollywood, 108, 132, 163-164,
 173

 IAP, *see* International
 Advisory Panel
 ICT, *see* Information and
 communications
 technology
 IMF, *see* International
 Monetary Fund

- Industrial Revolution, 107, 130, 178, 221
- Information Age, 6, 46-47, 53, 58, 59-60, 64, 66-68, 90, 105-108, 112, 116, 122, 125, 130-132, 141, 158-160, 163-164, 167-168, 170, 176, 178-180, 182-187, 190, 192, 194-195, 197, 200-203, 207, 211, 213, 216-217, 220, 225, 228-229, 235, 237, 240
- Information and communications technology, 9-10, 18, 27, 29-30, 37, 40, 52-53, 58, 73, 88-92, 94-95, 99-100, 103, 115, 141, 155, 161, 207, 215, 227-229
- Information society, 170, 188, 219, 224, 226-227
- International Advisory Panel, 28, 119, 122, 132, 136, 154, 194, 196
- International Monetary Fund, 11, 23, 37, 51, 77, 80
- International procurement offices, 100
- Internet, 3, 6, 10, 14-16, 19, 27, 52, 64, 81, 89, 94, 105-106, 113, 119-120, 124, 126-127, 129, 137, 140, 165, 171, 177, 181, 183, 187, 192, 202, 221, 229
- IPOs, *see* International procurement offices
- Jaring, 89, 92, 94
- Jobs, Steve, 141
- K-Economy Master Plan, 61-62
- Kankeiren (Kansai Economic Federation), 69-73
- Kennedy, John F., 179
- King, Martin Luther, 182
- KLCC, *see* Kuala Lumpur City Centre
- KLIA, *see* Kuala Lumpur International Airport
- Kuala Lumpur City Centre, 134, 164, 185, 211, 231
- Kuala Lumpur International Airport, 4, 9, 110, 116, 134, 149, 154, 164, 175, 185-186, 211, 216, 226, 231, 235-237
- Labuan International Offshore Financial Centre, 169, 187, 189, 196
- LIOFC, *see* Labuan International Offshore Financial Centre
- Look East Policy, 72
- Lotus, 26-27
- Madge, 28, 30
- Malaysia Incorporated, 44-45, 157-158, 174
- Malaysian Industry-Government Group for High Technology, 39
- Malaysian Institute of Microelectronic Systems, 87-95
- Mauchly, John, 125, 228
- McKinsey & Co, 176
- McNealy, Scott, 111, 115, 136
- MDC, *see* Multimedia Development Corporation

- Mercosur, 144-145, 150
 Microsoft, 111, 136
 MIGHT, *see* Malaysian
 Industry-Government
 Group for High Technology
 Mimos, *see* Malaysian
 Institute of Microelectronic
 Systems
 MMU, *see* Multimedia
 University
 MSC, 4-5, 9, 19, 27-28, 30, 90-
 91, 95, 107-112, 114-117, 119,
 121-123, 125, 127, 129-132,
 134-136, 138-142, 147-148,
 150-151, 153-156, 158, 160-
 161, 164-173, 176-197, 200-
 201, 204-207, 210-217, 226-
 227, 231, 235-237, 239-240
 Founders Council,
 114, 139
 Implementation Council,
 114, 139
 Multiculturalism, 159
 Multimedia Bill of
 Guarantees, 139, 176, 180,
 185, 192, 194, 196
 Multimedia Convergence Act
 1997, 113, 137, 165
 Multimedia Development
 Corporation, 92, 95, 109,
 112-113, 117, 122, 137, 154,
 166, 176-177, 180-181, 193-
 194, 204, 213, 227, 237
 Multimedia University, 4, 9,
 28, 30, 132, 138-139, 142,
 165, 171, 192
 Mydral, Gunnar, 197

 Nafta, *see* North American
 Free Trade Area
 National Agriculture Policy
 (3rd), 49
 National Information
 Technology Council, 88-89,
 155, 161, 200, 207, 213, 226,
 230-231, 240
 National Power, 26
 Nehru, Jawaharlal, 197
 Netscape, 111, 136
 New Economy, 7, 12, 17-19, 28,
 33, 40, 52-53, 60, 98, 115,
 120, 209, 215-216
 Nippon Telephone and
 Telegraph, 176
 NITC, *see* National
 Information Technology
 Council
 Nortel, 133, 142
 North American Free Trade
 Area, 209-210
 NTT, *see* Nippon Telephone
 and Telegraph

 ODA, *see* Official
 Development Assistance
 Official Development
 Assistance, 71
 Orwell, George, 230

 Pacific Research Exchange
 Center, 70-73
 Petronas twin towers, 4, 9,
 110, 116, 134, 216, 231
 PREX, *see* Pacific Research
 Exchange Center
 Prime Minister's
 Department, 191, 205, 237
 Privatisation, 45-46
 Putrajaya, 110-111, 135, 138,
 154, 157, 165, 170, 185-186,

- 188, 191, 205, 211, 216, 226, 235-237
- R&D, *see* Research and development
- Research and development, 5, 9, 87, 91-92, 95, 98-99, 101-103, 108-109, 121, 131, 133, 138, 147, 150, 164, 167, 171, 180, 196, 201
- Reuters, 28, 30
- Rolls-Royce, 26
- Royal Dutch Shell, 26
- Russell, Bertrand, 55-56, 67, 195
- 7th Malaysia Plan (1996-2000), 147, 233
- Seven Sisters, 7
- Shakespeare, William, 58
- Shaw, George Bernard, 179
- Silicon Valley, 107-108, 130, 132-133, 163-164, 173
- Smart partnership, 38-39, 41, 49, 109, 134, 158, 166, 204
- Solow, Robert, 17
- Soros, George, 4, 11
- Sun Microsystems, 111, 136
- TAMS, *see* Total Airport Management System
- TICAD, *see* Tokyo International Conference on African Development
- Time Warner, 19
- Toffler, Alvin, 17
- Tokyo International Conference on African Development, 43, 52
- Total Airport Management System, 235
- Trade liberalisation, 33-35, 39, 81, 85
- Turing, Alan, 228
- UN, *see* United Nations
- UNCTAD, *see* United Nations Conference on Trade and Development
- Unilever, 26
- United Nations Conference on Trade and Development, 75, 81-85
- United Nations, 52, 80
- UPS, 15
- Verne, Jules, 17
- Vision 2020, 60, 62, 90-92, 95, 127, 130, 141, 154-156, 172, 174, 176, 184, 190-192, 202, 210
- Von Neuman, John, 228
- Wilde, Oscar, 57
- Wilson, Lynton, 132
- World Bank, 80
- World Economic Forum in Davos, Switzerland, 51, 53
- World Trade Organisation, 79, 81, 225
- WTO Ministerial Meeting in Seattle, 36, 51, 53, 59, 82
- World War II, 58
- Yahoo.com, 18

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Islam and the Muslim Ummah

Mahathir Mohamad

One subject which is dear to Dr Mahathir Mohamad's heart and which he takes seriously is Islam and the Muslim *ummah*. In this collection of speeches, he shares his thoughts on Islam, the Muslim world today and his concern that the Muslims are in disarray, unable to cope with the changes taking place in the world, and thus are sliding further and further backwards.

With characteristic directness and aplomb, Dr Mahathir laments the debilitated state of the Muslim world and its apparent inability to resolve the real problems confronting Muslims. Though endowed with rich resources, he regrets that Muslim countries are unable to put their resources to optimal use to serve and defend Islam and its adherents. He feels that Muslims have done nothing to help themselves. Instead, they have weakened themselves by their constant feuding, their confusing and contradictory interpretations of Islam, and their failure to obey the injunctions of their religion to help themselves.

Dr Mahathir also takes a look at Islam's commitment to justice, Islam as a tolerant and moderate religion, and why Islam is probably the most misunderstood religion often associated with unsavoury activities. He attributes the Muslim condition today in part to ignorance and continuing prejudice against Islam and Muslims.

Entering the 21st century, he calls on Muslims to take up the challenges of the Information Age and globalisation. They also need to draw lessons from Islamic history.

This collection of speeches will provide readers with a better understanding of Islam and the Muslim *ummah*. Dr Mahathir's sincere, frank, profound and lucid views should make interesting reading.

ISBN 967-978-738-9

Globalisation and the New Realities

Mahathir Mohamad

There is now a worldwide public backlash against the effects of globalisation, which had once been thought of as an inevitable and universally good force. In this book, Dr Mahathir Mohamad provides an incisive critique of the main aspects of globalisation and an explanation for this changing tide of opinion against the concept of globalisation.

Globalisation, deregulation and liberalisation in a borderless world must be handled with care as they are a means to an end, not ends in themselves. Globalisation must result in a better life for all. Though the mobility of capital flows across borders is an efficient way of allocating resources globally and channelling them to developing countries, such mobility creates volatility and provides an opportunity for speculative attacks against currencies that threatens the economic stability of less developed countries.

Dr Mahathir has been warning the world of the inequities and dangers of globalisation years before it was fashionable to criticise this concept. His lack of inhibition in speaking his mind (even when his opinions go against conventional wisdom) is now well documented. He pulls no punches when he describes the events of the Asian financial crisis of 1997, the mechanics of currency speculation and the effects of the volatile inflows and outflows of foreign funds, as well as the measures Malaysia took to counter the crisis.

Policymakers, researchers and those who want to know about the current trends in globalisation (and the increasing anxiety about the pitfalls of globalisation) will find this timely and compelling reading.

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