SPEECH

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MEGA SCIENCE 3.0 NATIONAL FORUM AND EXHIBITION

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Salutation

i. Yang Berbahagia Tan Sri Datuk Dr Ahmad Tajuddin Ali,
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ii. Yang Berbahagia Professor Dr Ramzah Dambol,
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iii. Professor Emerita Datuk Dr Mazlan Othman,
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v. Ahli-ahli Majlis dan Felo Akademi Sains Malaysia

Para hadirin dan hadirat yang dihormati sekalian

Salam Sejahtera dan Selamat Pagi

Terlebih dahulu, saya ingin mengucapkan terima kasih kepada Akademi Sains Malaysia (atau ASM) kerana menjemput saya merasmikan Forum Kebangsaan Mega Sains 3.0 serta Pameran di bawah Program Flagship ASM iaitu Malaysia 2050.

Saya juga mengambil kesempatan ini untuk mengucapkan tahniah kepada ASM sebagai badan pemikir STI yang ulung kerana melalui projek sebegini telah melahirkan idea-idea bernas untuk melakarkan masa depan Negara ke arah tahun 2050 secara strategik daripada perspektif STI. Pada pendapat saya, ini adalah satu usaha yang tepat pada masanya memandangkan kini malaysia berada di ambang 2020.

Para hadirin sekalian, izinkan saya meneruskan ucapan saya dalam Bahasa Inggeris.

Ladies and gentlemen,

It gives me great pleasure for me to be at this Malaysia 2050: Mega Science 3.0 Forum and Exhibition that showcases strategic economic sectors for Malaysia and more importantly, their positioning for future competitiveness.

In recent years, the global economy has often been characterized as “moderate”, “lackluster” or even “volatile”. This has caused the world to look for new and effective growth strategies. More and more countries are adopting growth strategies that are heavily underpinned by science, technology and innovation (STI). Indeed, the new economy is one that is driven by science, technology and innovation (STI). Knowledge is the currency of the new economy. As such, in order to bring the Malaysian economic sectors to the next level, we must ensure the proliferation of knowledge intensive enterprises that leverage on science and technology to bring about disruptive innovation.

In leading the national Science, Technology and Innovation (STI) agenda of the nation, I cannot over emphasise that STI cannot be considered in

isolation as it cuts across economic sectors, ministries and knowledge domains and should not be viewed as the purview of MOSTI alone.

As MOSTI repositions itself to champion the new economy, it is imperative to ensure an enabling ecosystem for STI to thrive not only now but in the future. This requires everyone to come together and play their part. Communication and collaboration must become the order of the day.

In shaping a Malaysia of tomorrow, firstly, the old mould of thinking and working must be cast away. As Albert Einstein once said, “We cannot solve problems by using the same kind of thinking we used when we created them”.

How do we ensure a more integrated and collaborative approach to make Malaysia a scientifically advanced nation? The answer lies in developing a National STI Masterplan. The STI Masterplan will serve as a crucial governance tool to harmonise, consolidate and focus all of the nation’s STI related initiatives and palyers in consonance with the national aspiration to become a high income, developed nation with an innovation-led economy. Of course this is easier said than done. However, we must start somewhere as the saying by Lao Tsu goes, “A journey of a thousand miles starts with a single step”. I am pleased to say that MOSTI in partnership with ASM will be embarking on developing the STI Masterplan next year.

As we move towards 2050, we have to ask ourselves what new economic areas should the nation identify now and develop to ensure Malaysia's competitiveness and socio-economic development in the future. We can no longer rely solely on the agriculture sector, the manufacturing sector as well as the oil and gas sector to be the main contributors to our economic pie. In this regard, the foresight initiative by ASM including the Mega Science studies play an important role in identifying new niche areas for R&D that would create value in the new economy.

The five sectors being showcased today, namely, Furniture, Automotive, Creative, Tourism as well as Plastics and Composites are key economic sectors of the nation that hold great promise to move up the innovation value chain. The challenge is for these sectors to migrate to the new way of doing things rapidly enough and increase innovation capacity to create significant impact.

As we usher industry 4.0, it will undoubtedly revolutionise the way people live, work and interact with one another. We will see an escalation in interconnectedness of people, services and things through the internet. To put this in perspective, by 2020, an estimated 50 billion devices around the globe will be connected to the internet. According to Deloitte and Forbes, if countries in Africa, Latin America, and Asia could raise internet adoption to the level found in developed economies, long-term productivity would rise by 25 percent, GDP growth rates would increase by 72 percent, and 140 million new jobs would be created.

Today, ICT has emerged as a key enabling technology that is impacting socio-economic development at unprecedented levels. Malaysia must also

participate in the digital economy as producers of technology and not merely remain as consumers.

ICT infrastructure is vital to ensure that everyone is connected to the internet and every sector of the economy including the services sector both by Government and industry is digitized. However, when it comes to implementing ideas and creating value to realise innovation, the key factor is people at the heart of global networks. People are the prime movers of innovation. As such, I cannot over emphasise STEM talent development.

While the Internet is a powerful enabler for people to connect and collaborate, we cannot stop at only developing infrastructure but must invest in ensuring that people are empowered through knowledge, creativity, skills, networks, values to bring about disruptive innovation.

In the manufacturing sector for example, industry players worldwide are preparing for greater automation and real time monitoring that can be executed through a push of a button. Machines are expected to fully take over the cumbersome, dangerous and routine tasks as they would be able to deliver greater productivity and efficiency. As for the role of people, how would this change in the new operating landscape? Their responsibilities will increasingly shift to knowledge work, process control and decision making. In order to remain competitive, our industries must embrace industry 4.0 and our talent must move to the knowledge paradigm. This calls for shaping of a new mindset and sharpening of skillsets.

A recent International Labour Organisation (ILO) study found that more than half of workers in five South East Asian countries are at high risk of losing their jobs to automation in the next two decades. About 137 million

workers or 56 per cent of the salaried workforce from Cambodia, Indonesia, the Philippines, Thailand and Vietnam, fall under the high-risk category. The study also showed that, "Countries that compete on low-wage labour need to reposition themselves. Price advantage is no longer enough". The report emphasized that workers have to be trained to work effectively alongside digitalised machines.

Whether it is carrying out R&D to discover new knowledge or applying knowledge to implement ideas and create value, talent is a key factor. The workforce of 2050 will be made up of today's Generation Z (or, Gen Z), the post millennials and Generation Alpha (Gen Alpha) comprising those born from 2010 onwards. Technology is a defining factor of Gen Z and Gen Alpha. Gen Alpha is predicted to be the most formally educated generation ever, the most technology supplied generation ever and the generation with the greatest wealth at their disposal. When they enter the workforce, spatial cognition, robotics, and artificial intelligence would be common place. Are our youth and young children being prepared for this future now? Will what they are being taught or learning today be relevant then? This is perhaps the reason President Obama challenged US educators to go beyond measuring students cognitive ability to assessing if they possess 21st century skills such as problem solving, critical thinking, entrepreneurship and creativity. We need to invest in nurturing the workforce of 2050, in particular by developing science, technology, engineering and mathematics (STEM) talent.

Ladies and Gentlemen,

The world is moving towards a collaborative or sharing economy based on the network model. This has not only sparked a new wave of disruptive innovation but also created an ecosystem for shared value. Uber and Airbnb have become billion dollar businesses based on this model. In a sharing economy, economic benefits are pursued alongside social progress. In fact, societal challenges are increasingly considered as business opportunities leading to social progress.

The twin forces of digitization and decentralization are transforming the old model of globalization to a network society model. It is time to recognize this and take action. In order to remain competitive, we need to understand the forces of change and facilitate the development of knowledge enterprises that can prosper in a diverse world that is driven by science, technology and innovation (STI).

STI is the most crucial and potent instrument for socio-economic development in the 21st century. Developed nations such as the United States of America, South Korea and several Scandinavian countries share a common feature that is a nation powered through STI. The new economy is science and technology driven, moving away from resource-based industries. This calls for knowledge intensification and enhanced innovation capacity. We need to raise our game to be competitive.

With this in mind, my ministry has recently established a Foresight Technology Division as part of our restructuring to study and monitor various mega trends, disruptive technologies and anticipated convergences. I invite all of you to work with this unit by giving your inputs

through dialogues, consultations and workshops that this unit will be organizing from time to time. This division will also work closely with ASM particularly in disseminating the relevant inputs from the Malaysia 2050 flagship initiatives and reports to facilitate strategic intervention and impactful investment.

Ladies and gentlemen,

In order to mainstream STI for socio-economic development, the ties between science, policy and society must be strengthened. Recognising this, UNESCO established the World Science Day for Peace and Development since the year 2001. This day is celebrated on 10 November each year. It is indeed significant that we are having this scientific discourse on this very day. The World Science Day provides an opportunity for the global community to renew their commitment to the responsible use of science for the benefit of society.

In order to create awareness, understanding and appreciation of science throughout the whole nation, I am honoured to announce that 10 November will also be observed as the National Science Day in Malaysia starting next year. MOSTI will lead this initiative to communicate the national STI agenda to the *Rakyat* and engage them through effective platforms. It will also be a day to highlight the national success stories related to STI. I hope this initiative will draw everyone to “Think Science, Celebrate Technology and Inspire Innovation”.

Ladies and gentlemen,

As I conclude, I would like to remind everyone of a quote by Abraham Lincoln that says, “The best way to predict the future is to invent it”.

As the nation’s ‘Thought Leader’ in STI, ASM has a huge role to play in designing the future beyond 2020 that is sustainable, harmonious and prosperous, driven by STI. I look forward to the the outputs of ASM’s Malaysia 2050 flagship projects starting with the Mega Science 3.0 studies being highlighted today and the ‘Envisioning Malaysia 2050 Foresight Report’ early next year.

With that, I would like to wish you all success in your deliberations and thank ASM once again for inviting me. Thank you.