

SPEECH BY MR LIM CHUAN POH, GUEST-OF-HONOUR OF SIMTECH ANNUAL MANUFACTURING FORUM 2008 ON FRIDAY, 18 JANUARY 2008, AT 9.15AM, AT AUDITORIUM, THE MATRIX, BIOPOLIS SINGAPORE

Distinguished guests

Ladies and gentlemen

INTRODUCTION

Let me first congratulate SIMTech on your 15th Anniversary.

I am also happy to be here at this Third Annual Manufacturing Forum.

This Forum is an important platform for manufacturing leaders to get together to discuss issues and trends facing the manufacturing industry.

I commend SIMTech for initiating and organising this annual event and bringing the manufacturing community together.

The theme for this year on medical technology is also a timely one.

THE NEXT PHASE FOR SINGAPORE'S MANUFACTURING SECTOR

Manufacturing has always been one of the key engines of growth for Singapore, and is a significant part of the Singapore economy.

We have progressively developed our manufacturing industry from being labour-intensive in the 1960s, skills-intensive in the 1970s to capital- and technology-intensive industries in the 1980s and 1990s respectively.

But, Singapore has reached another stage in our economic development.

It is no longer enough for us to be able to keep pace with and assimilate technology.

It is also not enough for us to be able to simply add value.

In order for us to sustain a healthy economic growth, we need to create value.

This means engaging in strong intellectual capital creation as part of our economic strategy to attract and grow knowledge-intensive companies and create high value-added jobs in Singapore.

Our aim is to increase Singapore's total manufacturing output from \$226 billion in 2006 to S\$300 billion in 10 years.

A*STAR plays a critical role in this transformation of Singapore into a knowledge-based, innovation-driven economy.

In the last 15 years, we have developed strong capabilities in science and engineering to support the key clusters of electronics, infocomm, chemicals and engineering.

In the last 7 years, together with our partners in other government agencies, we have laid a solid foundation for the biomedical sciences sector.

These strengths are critical in fostering intellectual capital creation in Singapore to generate made-in-Singapore technologies that have a global impact.

Meanwhile, we continue to nurture meaningful and beneficial partnerships with the industries.

How then should we move forward?

A*STAR has a total of 14 research institutes and 5 consortia.

A*STAR is actively fostering efforts to synergize the capabilities of these institutes.

Collectively, our research institutes will be able to provide more effective and impactful solutions over a wider range.

These efforts will receive a boost with the opening of Fusionopolis Phase 1 later this year.

When fully completed, Fusionopolis will see the co-location of 6 of 7 Science and Engineering Research Institutes in one compact area.

By then, within a 500m radius, we will have both Fusionopolis and Biopolis.

Not only will we have a spectrum of research capabilities from physical sciences and engineering to biomedical sciences, we will also have the laboratories of many of our industry and research partners.

We want to leverage on this public-private mix, the compactness of the One-North locality and the proximity to the university and hospital to truly achieve the fusion of our various capabilities to create new knowledge, innovation and create value for Singapore and the industries.

OPPORTUNITIES IN MEDTECH INDUSTRY

The medtech industry is a good example of how the collective capabilities of A*STAR can make a difference.

The medtech sector has been growing steadily at a Compound Annual Growth Rate (CAGR) of about 5% globally since 2001.

The medtech manufacturing output in Asia Pacific (excluding Japan) is the second highest after the Americas.

In 2005, its market size stood at US\$9.8 billion. By 2010, the market size will increase to US\$12.6 billion.

In Singapore, the total output of medtech manufacturing is S\$ 2.1 billion in 2006 and there are 25 manufacturing plants and 12 medtech R&D centres here.

The medtech products include syringes, catheters, intravenous sets, infusion pumps, hearing aids and pacemakers.

These products require capabilities in electronics and precision engineering at both the product development and manufacturing phases.

The fast growing medtech devices include Ultra-Violet/Infra-Red apparatus, therapeutic respiration apparatus, ultrasonic scanning apparatus, electro-diagnostic apparatus and orthopaedic appliances.

Today, Singapore manufactures 30% of the world's infusion pumps, 25% of the thermal cyclers and 10% of the safety syringes

The electronics and precision engineering industries with their track record in delivering high quality components, sub-assemblies and finished products efficiently are well-positioned to capitalise on the opportunities in the medtech market to support product design and manufacturing.

New areas of medtech that Singapore can look at include bio-sensors, bio-imaging and medical informatics.

A*STAR CAPABILITIES FOR MEDTECH INDUSTRY

At the institute level, SIMTech has formed the Medtech Taskforce to leverage on the growing opportunities of the medtech sector.

The Taskforce aims to identify the rising needs of medical technologies, expands SIMTech's existing manufacturing technology portfolios into medical applications and build new capabilities to support the medtech industry.

Areas of R&D include manufacturing technologies for lab-on-chip for biomedical applications;

bio-degradable stents; stem cell manufacturing equipment as well as surgical tools and devices.

The medtech industry is able to tap on SIMTech's comprehensive manufacturing technology capabilities spanning product design, forming, machining, substrate and surface coating, mechatronics and precision measurements.

One such example is the SIMTech Microfluidic Research Foundry, which is developing cost effective processes to manufacture polymer-based microfluidic devices.

The Foundry offers one-stop solution for polymer-based microfluidic device from design, fabrication and characterisation for prototyping and pilot manufacturing.

SIMTech has also been engaged in several medtech-relevant R&D projects with industry.

One such collaboration is with Bio-scaffold International (BSI) to help them develop scaffolds for guided tissue engineering in 2001.

Despite more than two decades of research in this area, there has been limited commercial success due to inherent limitations of process methodologies and materials.

The collaboration resulted in the development of a new technology for processing scaffolds using biopolymers that have been approved by the Food and Drug Administration of USA (FDA).

The process technology was patented in 2004.

BSI has since successfully launched the product through a Focus Group of Dentists on 15 December 2007 in Singapore and is planning a product launch in Singapore and India in the near future.

I guess that was Christmas present for BSI.

Presently, BSI is strengthening its R&D and is working towards obtaining regulatory certification from FDA and Conformité Européen (CE) for product commercialisation.

BSI can be considered a leader in the local medtech scene.

BSI is among the world's first, if not the first bio-tech company to use its proprietary technology to produce bio-scaffolds for bone implants.

Two SIMTech researchers have since joined the company.

One joined the company directly, while the other joined BSI soon after his attachment with the company under the A*STAR T-UP initiative.

Through the EDB Proof of Concept, SIMTech has also worked with MediPurpose to develop and patent a safety needle.

Samples have been produced, and the response from the initial trials in the US has been positive.

Additional units are being manufactured to allow for more extensive trials.

Currently, SIMTech is also working with MediPurpose to redesign the lancet to facilitate automated assembly and to enhance the use of the lancet to incorporate drug delivery and diagnostic capability.

While SIMTech has been active in their contributions, other A*STAR research institutes are also busy developing capabilities of relevance to the medtech industry.

Just to illustrate, three A*STAR biomedical research institutes – the Institute of Bioengineering and Nanotechnology (IBN), the Institute of Molecular and Cell Biology (IMCB), and the Genome Institute of Singapore (GIS) – collaborated to develop a lab-on-chip device that can help medical or humanitarian aid workers detect the presence of the H5N1 virus directly from throat swab samples on-site in less than half an hour.

Moving forward, A*STAR will continue to catalyse multi-disciplinary research among the research institutes as well as foster partnerships and collaborations with hospitals, universities and companies across the board to tackle new challenges in medical technology.

A NOTE ON SIMTECH'S 15TH ANNIVERSARY

To conclude, let me once again congratulate SIMTech on your 15th anniversary.

15 years is not a long time, but it is significant given that Singapore's history since independence is only 42 years.

In these 15 years, SIMTech has been doing excellent, innovative work and has added much value to our industry partners.

The partners range from multinational corporations to small and medium-sized enterprises in industries including aerospace, automotive, biomedical, electronics, logistics, marine, medtech, precision engineering and semiconductor clusters.

Since its inception, SIMTech has completed 3539 projects with 890 companies.

In 2007 alone, SIMTech completed 218 projects with 113 companies.

I am confident that in the next 15 years, SIMTech will continue to work closely with the industries to ensure that manufacturing continues to be a key engine of growth in Singapore offering many high value jobs for Singaporeans.

CONCLUSION

Finally, to the industry representatives present here today, I strongly encourage you to leverage on the rich pool of R&D resources in A*STAR to enhance your competitive advantage, to exploit new opportunities, and to create new value particularly in the growing medtech market.

Thank you.