Greetings

Distinguished Guests,

Friends and colleagues,

Ladies and Gentlemen,

A very good morning to all of you.

Let me first welcome all of you to this inaugural A*STAR MedTech Convention 2013 and thank you for your interest and participation.

To all our speakers, especially those who have to travel considerable distance to be with us today, a special word of thanks.

This is a significant milestone for A*STAR, and our hope is that this will mark the start of many more MedTech Conventions to come.

Medical Technology Industry

Despite the challenging economic environments in the U.S. and Europe, and the tightening of regulation and reimbursement policies, the global MedTech industry is expected to grow significantly.
It is projected to reach over US$300 billion in 2017 with a CAGR of 6.0\%.

A significant contribution to this growth comes from the rapidly growing Asia Pacific market where the growth is projected to be more than 10\% over the same period.\(^2\)

Many of the companies have responded to this opportunity by establishing their presence in the region. Singapore has therefore seen companies like Baxter International, Becton Dickinson, Greatbatch and Medtronic among others, setting up their manufacturing, research as well as headquarter-functions here. At the same time, we also witness the growth of local companies such as Biosensors, Cadi Scientific and Veredus Laboratories. Correspondingly, the Singapore MedTech sector has grown by around 2.5x over the past decade, to $4.3 billion in output and 9,000 jobs today in 2011.\(^3\)

**MedTech Initiatives in A*STAR**

In late 2009, recognising the potential of the MedTech industry, we decided to give this sector a boost with three initiatives.  

**Singapore-Stanford Biodesign (SSB) Programme**

The first initiative is the Singapore-Stanford Biodesign (SSB) Programme.

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\(^2\) Source: Medical Device and Diagnostic Industry (MDDI), 30 May 2013, [http://www.mddionline.com/blog/devicetalk/asia-pacific-medtech-market-will-grow-10-over-next-3-years-mostly-cardio-infographic](http://www.mddionline.com/blog/devicetalk/asia-pacific-medtech-market-will-grow-10-over-next-3-years-mostly-cardio-infographic)

\(^3\) 2001: S$1.6 billion output and 3,900 jobs vs 2011: S$4.3 billion output and about 9,000 jobs.
This is a joint A*STAR-EDB training programme with Stanford University to nurture and develop Asian medical device innovators in Singapore. The programme has successfully seen the graduation of two batches of fellows and post-graduate students, with many of the fellows proceeding to assume leadership roles in MedTech innovation within their host institutions.

Dr Henry Ho (1SSB) is now Director of SGH Device Development Office and he is joined by Ms Fiona Loke (1SSB) and Dr Luke Tay (2SSB). They will spearhead medical device innovations in SGH. Mr Justin Phoon (2SSB) has become the first hire of Greatbatch’s Asian R&D centre in the QiG Group. Our medical doctor fellows are also spending time with A*STAR Research Institutes, as Clinicians-in-A*STAR, to help guide the MedTech research effort. Dr Pearline Teo (2SSB) and Dr Anthony Tang (1SSB) have, in addition to their research and clinical commitments, taken up leadership appointments in the SSB Programme Office.

SSB’s success in nurturing innovators in medical device is extended to the SSB Innovation Class. Within three years, the programme has successfully trained more than 50 post-graduate engineers, doctors and MBAs from NUS, NTU and SMU, and most recently, also participants from the industry. The competition to get into the SSB Class has just recently doubled.
In addition, SSB launched the corporate membership in July this year. This membership enables companies to gain direct access to SSB talent, training programmes and other initiatives. In just over a month since its launch, four companies, namely Biosensors International, Becton Dickinson, Hill-Rom and Medtronic, have signed up for the membership and I hope more will come on board over time.

A*STAR-CIMIT Collaboration

The second initiative is the A*STAR-CIMIT Collaboration which has also yielded encouraging results. CIMIT stands for Center for Integration of Medicine and Innovative Technology, and is a consortium of 13 hospitals and engineering schools in Boston such as Massachusetts General Hospital (MGH), Massachusetts Institute of Technology (MIT), and Brigham & Women’s Hospital, among others.

The integrated clinical solutions for improving patient care using CIMIT’s Background IP and Singapore’s Foreground IP have been testbedded in our hospitals and polyclinics.

Project HAWKS developed Health and Wellness Kiosks to triage patients with Upper Respiratory Tract Infection (URTI). This optimises the use of staff resources, while providing timely and safe delivery of care and reducing patient waiting time.
Since its implementation in April 2012, it has been serving hundreds of patients every day in Woodlands Polyclinic.

You will be able to try out the actual kiosk at the exhibition outside.

Additionally, Project Safe Hands, a wireless hand hygiene monitoring system that wirelessly documents compliance and provides prompt reminders when non-compliance is detected, was successfully trialed in three wards in NUH and CGH. This is also showcased here.

In November last year, the first regional hospital system in Singapore, Eastern Health Alliance (EHA), formally participated in the A*STAR-CIMIT Collaboration.

This allows A*STAR to effectively pilot and scale its MedTech activities and outreach to EHA.

With the expanded network of partnerships, innovations in healthcare delivery can be brought more swiftly to fruition, and patients can expect a higher quality of care through the wider spectrum of technologies available.

**Biomedical Engineering Programme**

The third initiative is the A*STAR Biomedical Engineering Programme or BEP. This seeks to build synergies between our strong clinical expertise and engineering capabilities in Singapore.

Over 1,200 clinicians, allied health practitioners, engineers and scientists have interacted through regular BEP forums, workshops and outreach activities.
Three Programme Leaders were appointed in February this year, to lead and build peaks of excellence, in the domains of Ophthalmology, Cardiology and Neurotechnology.

They are respectively Prof Aung Tin from Singapore Eye Research Institute (SERI), Prof Philip Wong from the National Heart Centre and Dr Guan Cuntai from A*STAR’s Institute of Infocomm Research (I²R).

BEP has also funded a portfolio of MedTech projects via multidisciplinary competitive grant calls.

Let me now share some examples of BEP projects, which have advanced into clinical trials as well as progressed into commercialisation.

The first is ArtsBCI, or **Advanced rehabilitation therapy for stroke based on Brain-Computer Interface**.

This is a rehabilitation therapy for stroke, awarded under the 2009 BEP Grant. Developed by Dr Guan Cuntai of I²R, it enables a holistic and personalised rehabilitation regime for stroke patients.

NeuroStyle, a Singapore-based joint venture company between Brilliant Medical Systems (Singapore) and Shanghai NCC Electronics (China), has commenced a Research Collaboration with I²R with the intent to commercialise the technology.⁴

⁴ Source: AsiaOne, 12 Jul 2013. [http://yourhealth.asiaone.com/content/new-rehab-device-give-stroke-patients-feedback](http://yourhealth.asiaone.com/content/new-rehab-device-give-stroke-patients-feedback)
Next is AGLAIA, or **Automatic GLaucoma diagnosis and its genetic Association study through medical Image informAtics.**

It is one of the BEP projects under I²R’s Ocular Imaging Lab.

In July this year, I²R established a joint-lab with Topcon Corporation to develop advanced technologies that can better detect major eye disorders and diseases including glaucoma, myopia, and age-related macular degeneration (AMD).\(^5\)

As a world leader in the global ophthalmic diagnostic equipment market, Topcon has a 24% market share in the segment.\(^6\)

We can look forward to a suite of ophthalmic diagnostics with this strategic partnership.

Again, some of these prototypes will be on display outside.

**Biomedical Sciences and Biopolis 10th Anniversary**

The robust growth and increasingly vibrant MedTech sector is part of the broader A*STAR’s Biomedical Sciences (BMS) R&D strategy, to capitalise on the growing Asian markets and to go beyond the Pharmbio sector.

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We are therefore excited to witness the growing presence of MedTech companies setting up R&D centres in Biopolis especially as we prepare to celebrate its 10th Anniversary in October.

Some of these companies include Illumina, Life Technologies and ThermoFisher as well as a growing cluster of Japanese companies such as Nitto Denko, Panasonic Healthcare and Akray.

**Closing Remarks**

In closing, this inaugural A*STAR MedTech Convention 2013, incorporating the SSB Thought Leaders Series Lecture, brings together Key Opinion Leaders and innovators to share their perspectives and insights about this rapidly evolving sector.

At the same time, it is also a showcase of MedTech projects and innovations in Singapore to show where we are and also to spur everyone towards even more impactful innovations.

More pertinently, this is another useful occasion for everyone to network and seek opportunities for more meaningful collaborations to be created.

On this note, let me wish all of you a fruitful convention.

Thank you.