

# CIP X-ray Sterilisation

## 29<sup>th</sup> May 2013

### PE COI MedTech Initiative

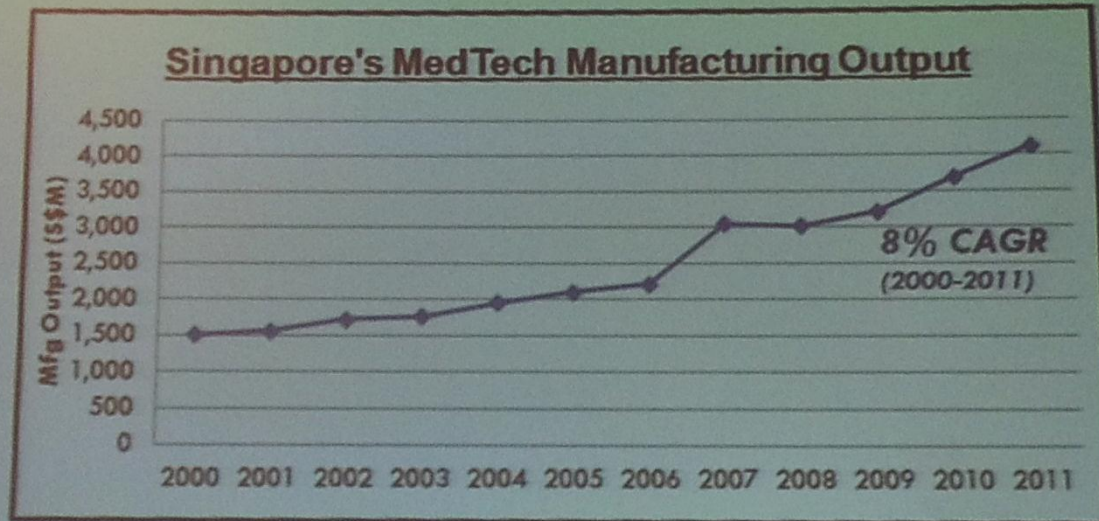
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*John LIM - Lead MedTech*

# Growing MedTech Industry

- Tripled its manufacturing output from S\$1.5 billion (2000) to S\$4.3 billion (2011).
- Manpower base more than doubled from about 4,000 to 9,000.
- By year 2015, targets to achieve S\$5 billion in manufacturing output.

# Singapore's MedTech Manufacturing Sector

**Strong & consistent growth**



**Diversified manufacturing base with regional/ global manufacturing plants**

**Life Science Tools**

AB SCIEX

life technologies

BIO RAD

Waters

THE SCIENCE OF WHAT'S POSSIBLE™

Agilent Technologies

**Cardiovascular  
Implants**

E  
Edwards



Medtronic

BIOMEDICAL INTERNATIONAL

**In Vitro Diagnostics**

Abbott  
A Promise for Life

TECAN

sysmex

**Hospital Consumables  
& Equipment**



BD

RESMED

Baxter

**Hearing Aids**

SIEMENS

medical

**Eyecare**

Alcon



Menicon

HOYA

# Do You Know?



Singapore manufactures 25% of the thermal cyclers in the world.

Singapore also manufactures 30% of the infusion pumps in the world



.....and 10% of the safety syringes in the world.



# Medical Technology Cluster in Singapore



**35** Manufacturing Plants  
8,400 workers

**26** R&D Centers  
500 Researchers & Engineers

**29** Regional HQs  
2,500 employees

# MedTech Initiatives

## Objectives

- To help **build the capabilities** of local manufacturing industry for Medtech manufacturing
- To provide **technology transfer and knowledge sharing**
- To facilitate greater **interaction and leveraging of expertise** from industry, research institutes and funding organisations

## Industry Outreach and Knowledge Sharing

- Workshops, Seminars, Conferences
- Compliance Training – ISO/FDA
- WDA Course – Grad Dip MedTech

## Technology & Capability Development

- To develop in-line sterilization process for medical devices
- Joining & forming technologies for implants

# CIP on X-Ray Sterilization

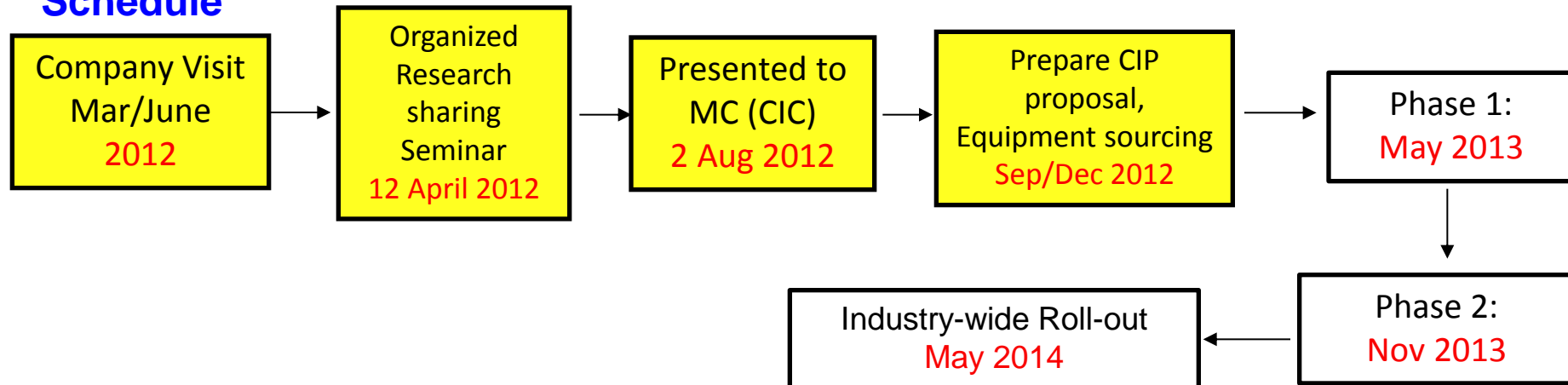
**Objective:** Phase 1: Feasibility study of X-Ray sterilization for MedTech  
Phase 2: Design and build-up X-Ray sterilization equipment

## Benefit/ Impact

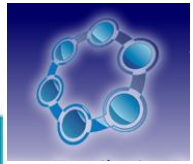
- Reduce the high logistic cost and political risk to send accumulated goods to local or oversea sterilization facilities
- Increase the manufacturability of local Med-Tech devices industries for high value add products.



## Schedule



Royal Bussan Osteogen



SUPER PAK  
MANUFACTURING PTE LTD

Omga Hitool

WINTERK  
Technology

Supported by  
**SPRING**  
singapore  
Enabling Enterprise



Value Chain  
For  
MedTech &  
Food  
Sterilisation

MedTech  
Device  
Manufacturers

Food & Herbs  
Suppliers

X-ray Source  
Supplier

Certification  
Board  
(Process  
Validation)

Inoculation  
Irradiation  
Bio-testing  
& Bio-burden  
Tests  
SERVICES

System  
Integrator

Sterilisation  
Services  
House

Aurum Medicare



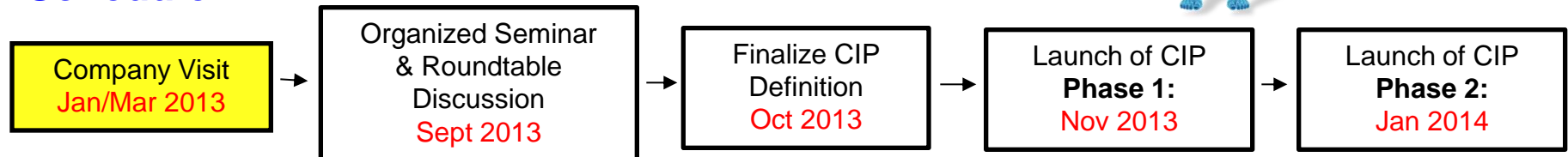
# CIP on Hermetic Sealing of Biomedical Devices

**Objective:** Phase 1: Encapsulation/Manufacturing of high quality ceramic/metallic casing for biomedical devices using advanced manufacturing technologies  
Phase 2: Hermetic sealing using advanced joining technologies

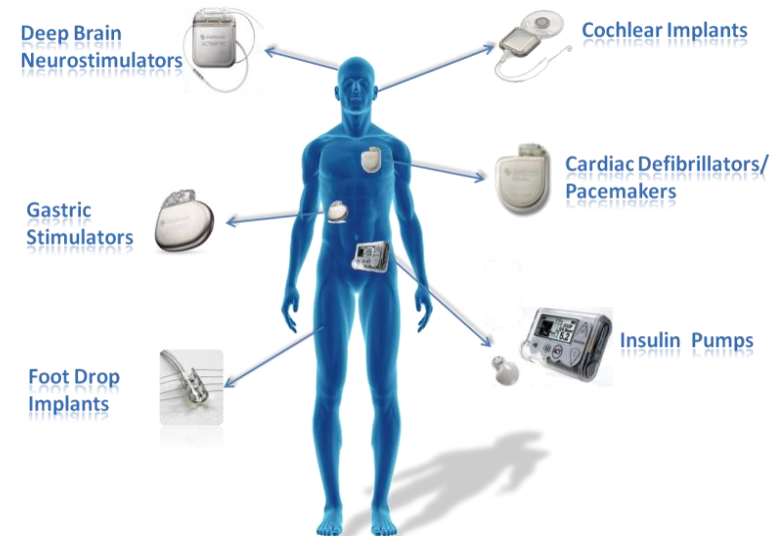
## Benefit/ Impact

- Minimize the risk of malfunctioning of devices due to improper sealing
- Longer functioning life
- More flexibility in design

## Schedule



## WIRELESS IMPLANTABLE MEDICAL DEVICES



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cảm ơn

با تشكر از شما

Dziękujemy

শুক্ৰিয়া

Köszönöm

Спасибо

Terima Kasih

# Thank You

Merci

ありがとう

তোমাকে ধন্যবাদ

Danke

감사합니다

நன்றி

谢谢

Kiitos

Gracias

Salamat