FUTURE OF MANUFACTURING
IN SINGAPORE

MAR 2015
Overview Of Singapore’s Economy

2014 GDP: S$390 Billion (£186 billion)

- Manufacturing: 18.6%
- Financial & Insurance: 12.2%
- Business Services: 15.6%
- Wholesale & Retail: 18.2%
- Construction: 4.4%
- Transport & Communications: 11%
- Others: 20%

2014 GDP growth: 2.9%

2015 GDP growth forecast: 2 - 4%

Source: Ministry of Trade and Industry (Feb 2015)

Home to 7,000 MNCs

Strategically located within 7-hr flight radius to rest of APAC

18 regional and bilateral FTAs with 24 trading partners

Top in Asia & 2nd globally for best IP protection*

*World Economic Forum (WEF)
Global Competitiveness Report 2013/2014
A Globally Competitive Manufacturing Hub

Leadership positions in key manufacturing sectors

- **Aerospace**: First to manufacture aero-engines without home-grown aero OEMs
- **Electronics**: Site for 14 of the top 25 semiconductor companies globally
- **Water**: Global “HydroHub” with more than 100 water companies
- **Marine & Offshore**: Global leader in offshore drilling platforms
- **Biomedical Sciences**: First in-Asia site manufacturing cardiac devices and lead
- **Chemicals**: First technology introduction (e.g. Shell’s OMEGA)

Key manufacturing location for global industry leaders

- **Largest facility outside of UK home base**: Lead new product site across global network
- **S$3B NAND flash memory facility**: First Asian semiconductor equipment manufacturing facility
- **Largest integrated downstream manufacturing site**: Global headquarters and manufacturing site
Sophisticated Base in Singapore

Strong Ecosystem Of Leading Manufacturing Companies

**Energy & Chemicals**
- ExxonMobil
- BASF
- Dow
- Mitsubishi Chemicals
- LANXESS
- Bayer
- Evonik Industries
- Total

**Biomedical Sciences**
- BD
- Pfizer
- Roche
- Baxter
- Johnson & Johnson
- AMGEN
- Edwards Lifesciences
- Abbott
- MERCK
- Medtronic
- Novartis

**O&G, Marine Offshore**
- Keppel Offshore & Marine
- MAN
- ABB
- ST Marine
- Cameron
- Lloyds Register
- DNV
- FMC Technologies
- Schlumberger
- Wärtsilä
- Halliburton
- Siemens
- Hapag-Lloyd

**Electronics**
- GlobalFoundries
- Intel
- Panasonic
- HP
- STI
- Dell
- IBM
- NEC
- Fujitsu
- Texas Instruments

**Aerospace**
- SIA Engineering Company
- Rolls Royce
- UTC Aerospace Systems
- Bombardier Aerospace
- Thales

**Water & Environment**
- Veolia
- Hyflux
- EVOQUA Water Technologies
- Kurita
- Pentair Water
- MANN+HUMMEL
- Grundfos
- Xylem
- Sembcorp
Future of Manufacturing

Building Asia’s Advanced Manufacturing Hub

**Pervasive ICT**
- Advanced sensors
- Analytics
- Predictive algorithm

**Eco-Manufacturing**
- Resource efficient
- Green packaging
- Green supply chain

**Industrial Robotics**
- Skilled-based contact operations
- Adaptive and reconfigurable
- Systems integration

**Future Mfg Technologies**
- 3D printing as an industrial process

**Collaboration with key industry partners**
- to develop and test-bed new manufacturing technologies

“**S$500m over the next 5 years to support the Future of Manufacturing plan**”

*Deputy Prime Minister’s Budget Speech 2013*

1. Lead developer & adopter of advanced manufacturing technologies
2. Globally-competitive supplier eco-system
3. Pipeline of engineering talent
Singapore Is Transforming

Riding on Digitisation Trend to upgrade our Manufacturing, Productivity & Industrial Efficiency

Internet of Things - 37 billion intelligent units will be connected via the Internet by 2020

Our Efforts:

Future of Manufacturing
- Additive Manufacturing
- Robotics & Automation
- Industrial Internet & Cyber-security
- Future Skills & Applied Learning

Industrial Efficiency
- Energy Efficiency
- Resource Efficiency
- Pervasive Sensing
- “Best-in-Class”
- Jurong Island v2.0

Enhance Productivity
- Remote Diagnostic
- Predictive Maintenance
- Skills Upgrade
Emerson’s Pervasive Sensing Centre of Excellence
Case Study: C&A Company Responding to IoT & IEE Trends

 Emerson Process Management invests S$27 million in two new facilities in Singapore

18 November 2014

“Emerson’s decision to set up its first Pervasive Sensing Centre of Excellence in the world is testament to Singapore’s strong capabilities in system integration, data analytics and advanced manufacturing,” said EDB Managing Director Yeoh Keat Chuan. "We look forward to the centre playing a key role in helping industrial companies here to transform their facilities to be ‘best-in-class’ in terms of resource efficiency.”

- CNA/kk

Growing Market for IEE Tech

INTERNET OF THINGS

By 2020:
26 billions devices
APAC market will grow from US$2b to US$33b

77% of senior industry execs view IEE as critical to their company’s success

2013
US$38 bil

2014
US$41 bil

2019
US$62 bil
THANK YOU