

Manufacturing in Singapore



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Manufacturing and Materials Department (MMD) Student Think Tank - **Global Manufacturing**

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Why Singapore?

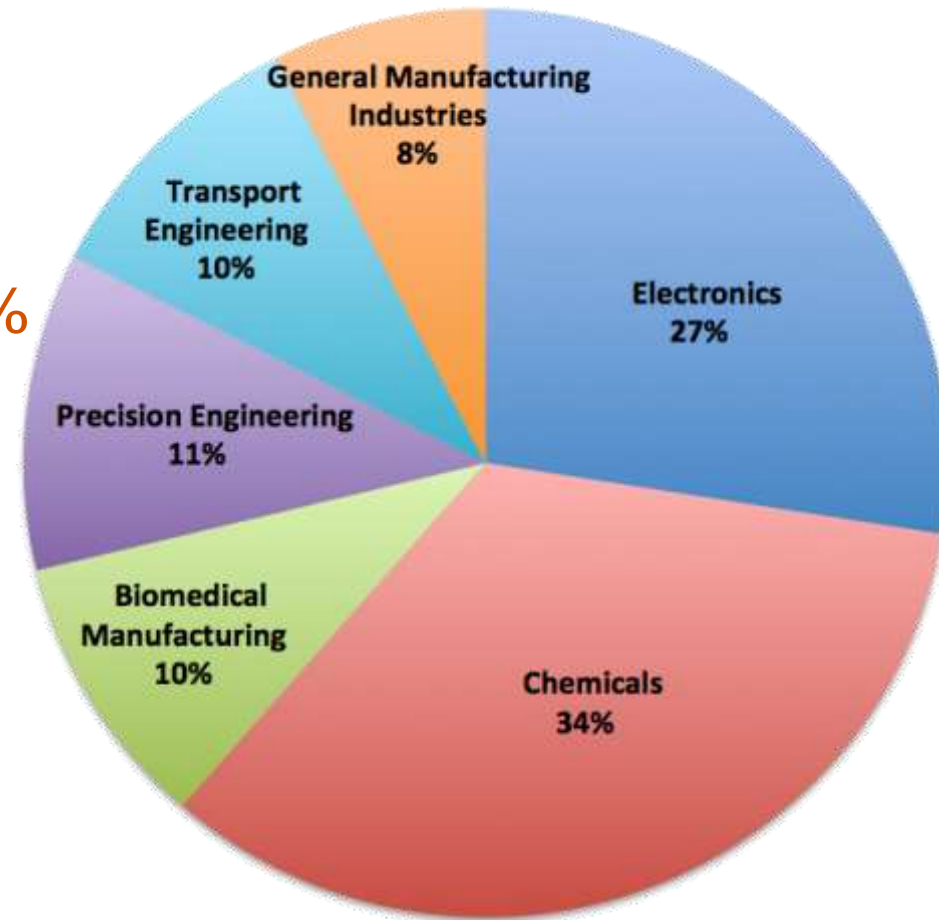


Advanced Manufacturing Hub **Innovation Hub** **Biomedical Sciences Hub** **Oil & Gas Hub** **S\$300b manufacturing output**

- UK's largest trading partner in South-East Asia
- 700 UK companies
- S\$43.7b investment in UK

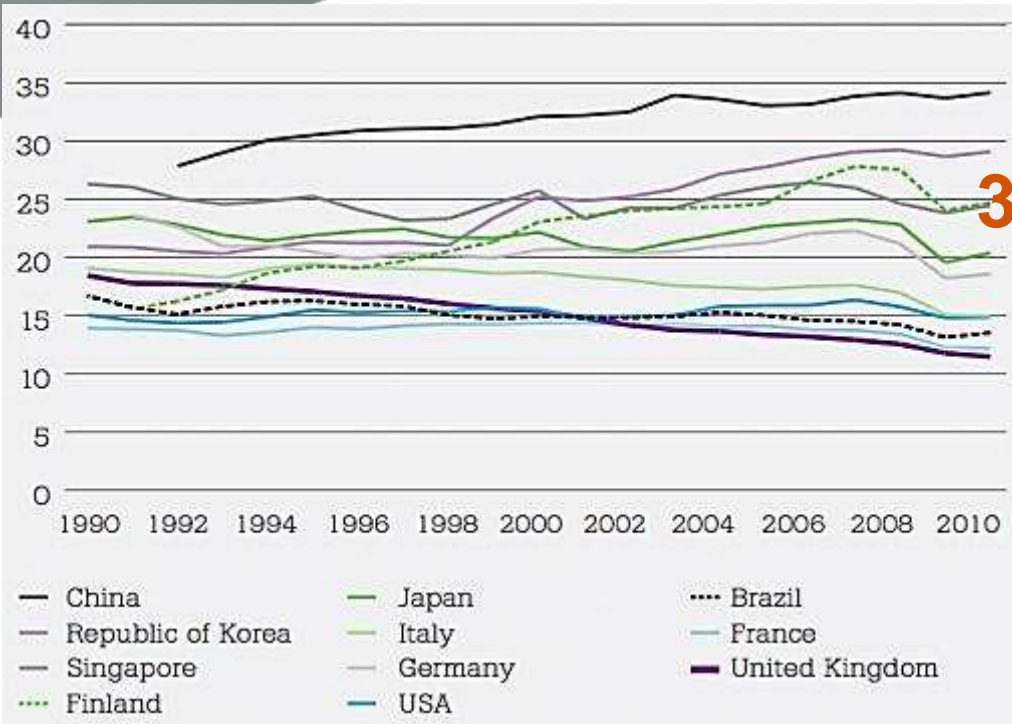
Manufacturing in Singapore

- GDP: S\$345b
 - Manufacturing share: 20.7%
- Workforce: 3.3m
 - In manufacturing: > 400k in 9000 companies

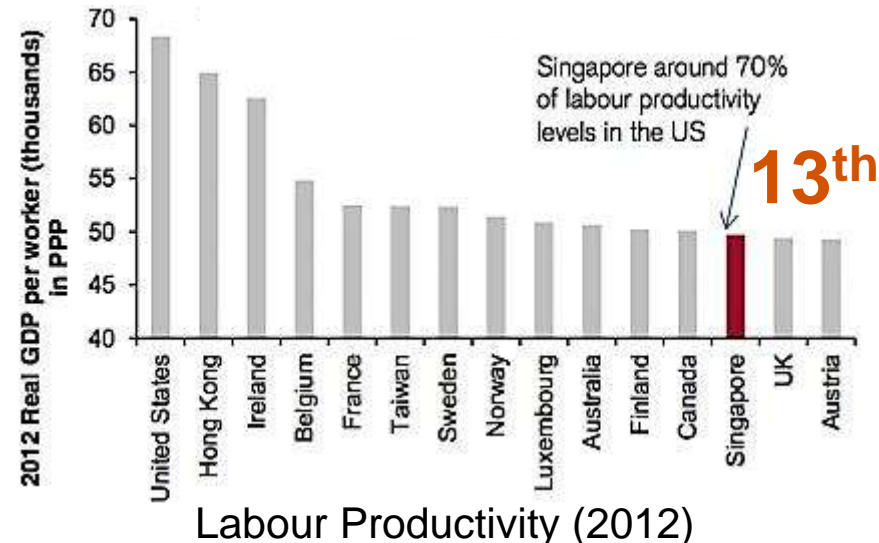


2nd in the world for IP protection

9th in the manufacturing competitiveness



3rd



13th

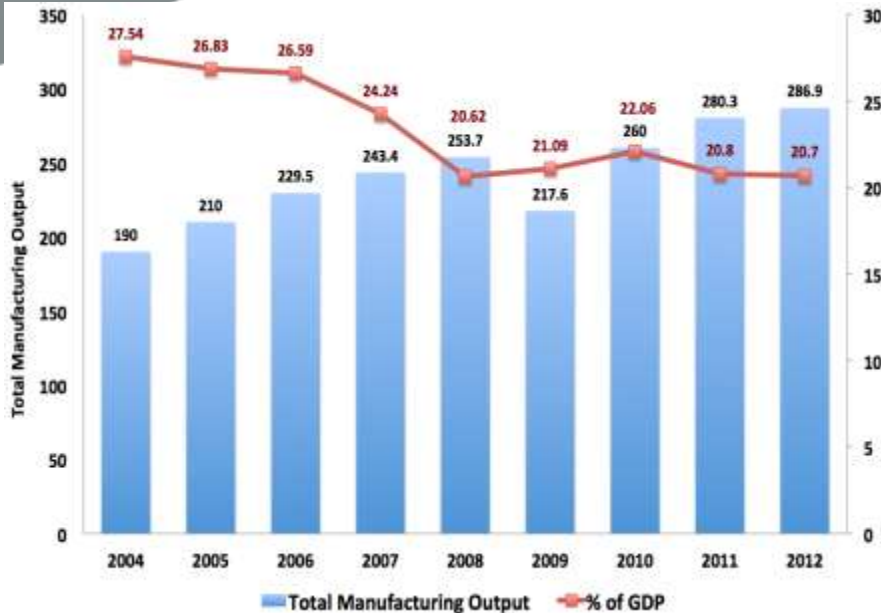
Manufacturing share of GDP (1990-2010)

Labour Productivity (2012)

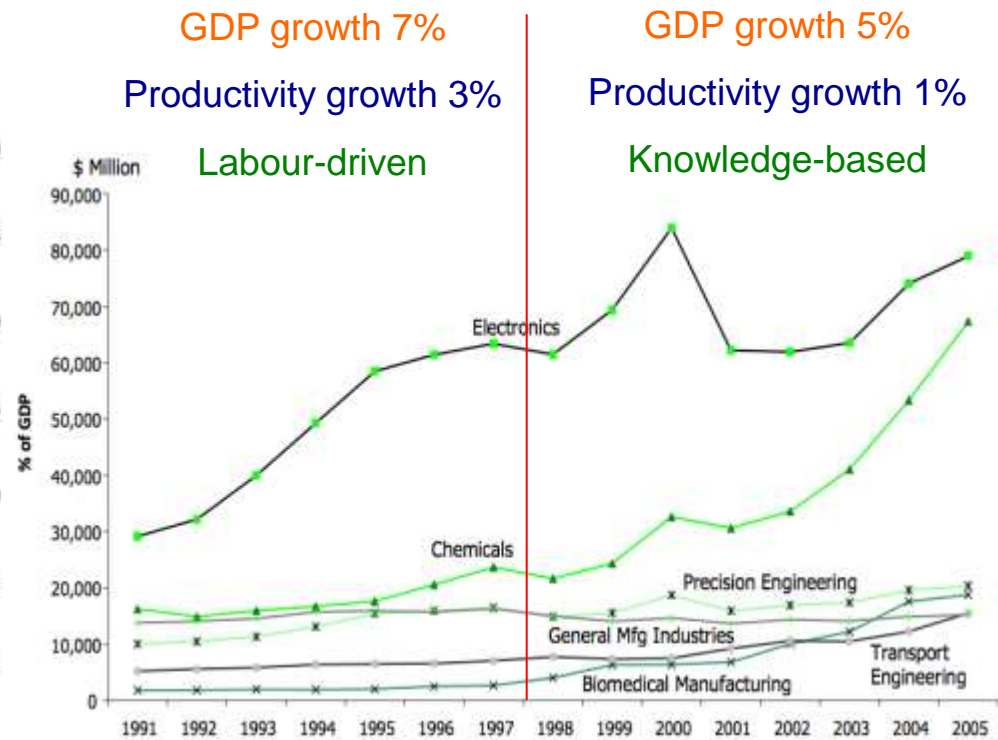
Sources:

1. The Future of Manufacturing (2013) – A report by The Government Office for Science, UK
2. 2013 Global Manufacturing Competitiveness Index - A study by Deloitte and U.S. Council on Competitiveness
3. Singapore Economics: Labour Pains (2013), Credit Suisse Economics Research
4. World Economic Forum's 2011-2012 Global Competitiveness Report, §

Historical Trends



Manufacturing Output (2004-2012)



Total Output by Sector (1991-2005)

Sources:

1. Trading Economics – Singapore (2013), <http://www.tradingeconomics.com/singapore/manufacturing-value-added-percent-of-gdp-wb-data.html>
2. Singapore: Towards a knowledge based economy (2000), www.nomurafoundation.or.jp/data/20000127-28_Siow-Yue_Chia.pdf
3. Statistics Singapore Newsletter March 2006

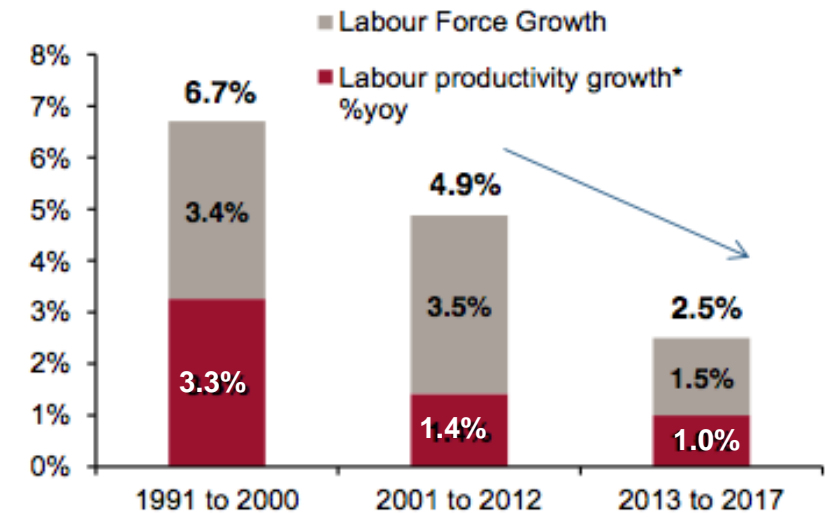
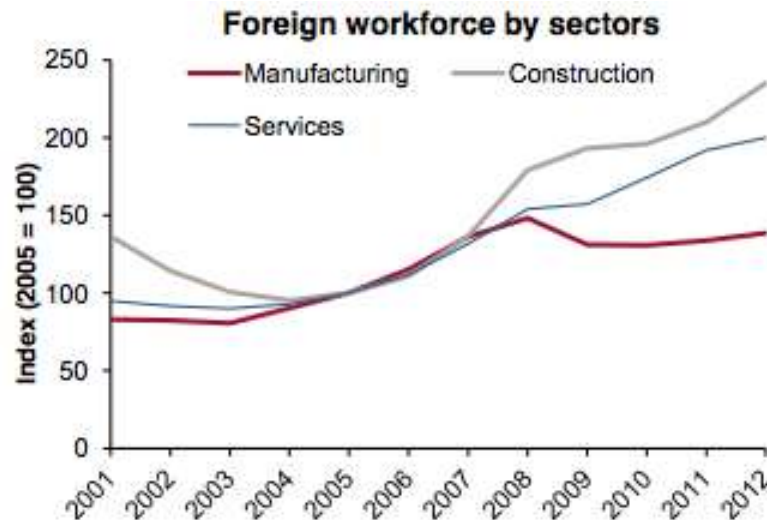
Key Challenges

2.4% → 1.5%

Trend GDP growth rate

• Labour Pains

- Large foreign workforce (2.1m residents and 1.2m foreigners)
- Aging workforce (median age is 43yrs in manufacturing)
- Foreign worker curbs (immigration, levies and quotas)



Sources:

1. Labour Force in Singapore, 2012, Ministry of Manpower, Singapore
2. Singapore Economics: Labour Pains (2013), Credit Suisse Economics Research
3. Statistics Singapore Newsletter March 2006

- **Push for Productivity**



- Target of 2 - 3% sustained productivity growth
- National Productivity and Continuing Education Council
- Incentives for restructuring

Productivity and
Innovation Credit

Increase SME
Productivity With ICT

Transition Support
Package

Workforce Skills
Upgrading (WSQ)

Sources:

1. NPCEC www.waytogo.sg
2. WDA www.wda.gov.sg

Latest Developments – Industry

- \$700m investment
- 154,000sq.m. facility
- 250 engines per year
- 6000 fan blades per year
- Advanced technology and regional training centre



Latest Developments – R&D

Tax deduction of up to 400% of R&D expenditure

Target R&D spend of 3.5% of GDP by 2015

- Manufacturing Productivity Technology Centre
- \$500m for future manufacturing technologies
- \$90m satellite industry development fund
- Sustainable Manufacturing Centre (SMC)



Sources:

1. ETPL Highlights March 2013 – Exploit Technologies, A*STAR Singapore
2. National R&D survey 2011 - A*STAR Singapore
3. R&D Statistics (2011) - Department of Statistics, Singapore

Future Trends

- Manufacturing share of GDP **between 20 and 25%**
- Productivity **growth of 2 to 3%** per year
- Reduced dependency on **foreign labour**
- **3D printing**, Big Data Analytics and use of Internet of Things
- Move towards an **innovation-driven economy**

Thank You