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30 June 2010

The Human Capital and Manpower Landscape Today

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Contents

- **Setting the scene**
 - The manpower landscape for aerospace industry in Singapore
- **Learning from experiences**
 - Sharing the US aerospace industry's experience
- **Way forward**
 - Issues for the industry's consideration

Organizations today face a range of workforce contradictions – and tough choices

Have talent surpluses in some areas...

and

talent shortages in other areas

Need greater workforce performance...

and

have fewer resources to drive it

Need to upgrade talent/rewards strategies...

and

face challenges to implement them well

Have scarce rewards...

and

need to retain top talent

Emphasize workforce segmentation...

and

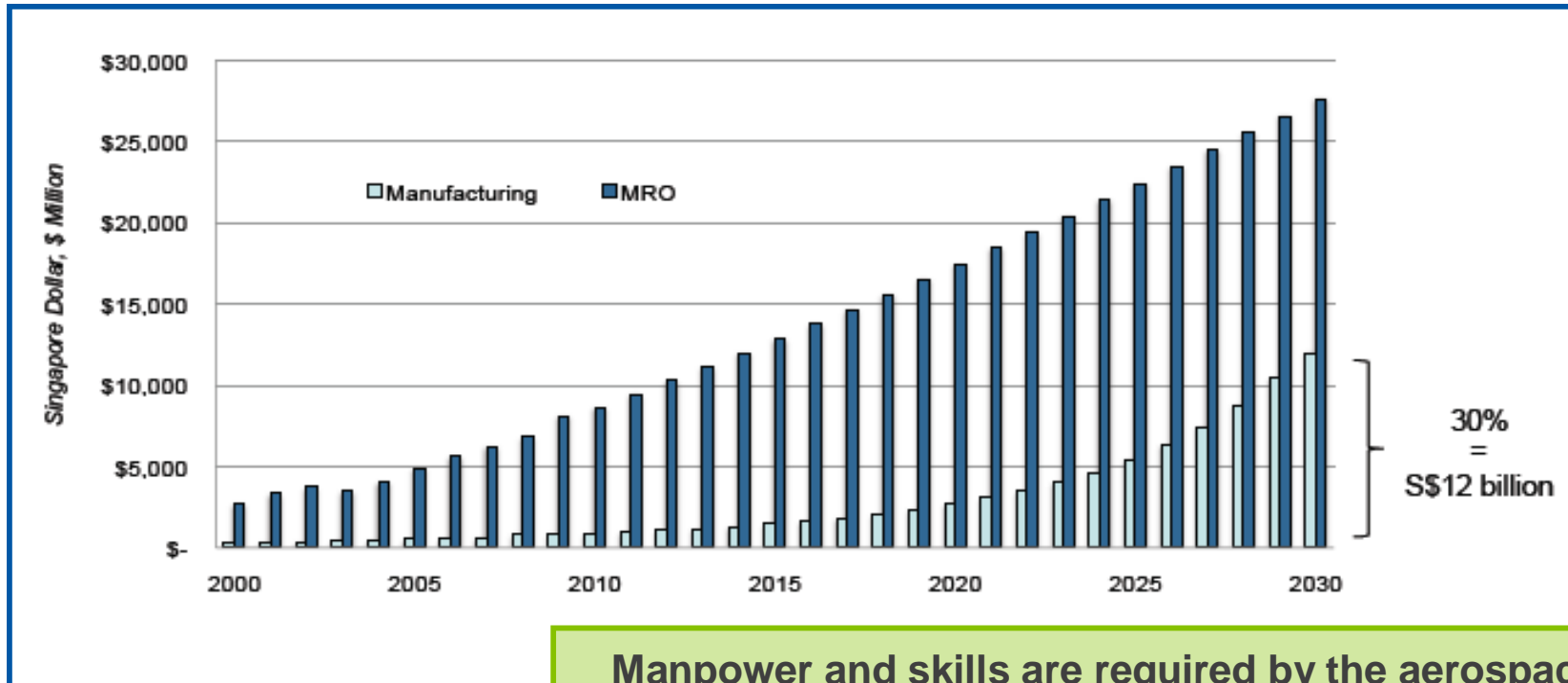
need to keep all employees engaged

Value and seek diversity...

and

benefit from a single, cohesive culture

Developing the right workforce and skill sets is critical enabler for achieving aerospace industry's growth plans...



Manpower and skills are required by the aerospace industry to:

- Drive the desired industry growth (both MRO and Manufacturing)
- Enable higher value add
- Support the desired change in industry mix

Source: Extracted from Singapore Aerospace Value Chain Study, AAIS

The industry also faces challenges in the workforce supply chain in Singapore...

LABOR
POOL
Qualified candidates

Many traditional careers are no longer attractive

Skill sets required are more complex to move up the value chain

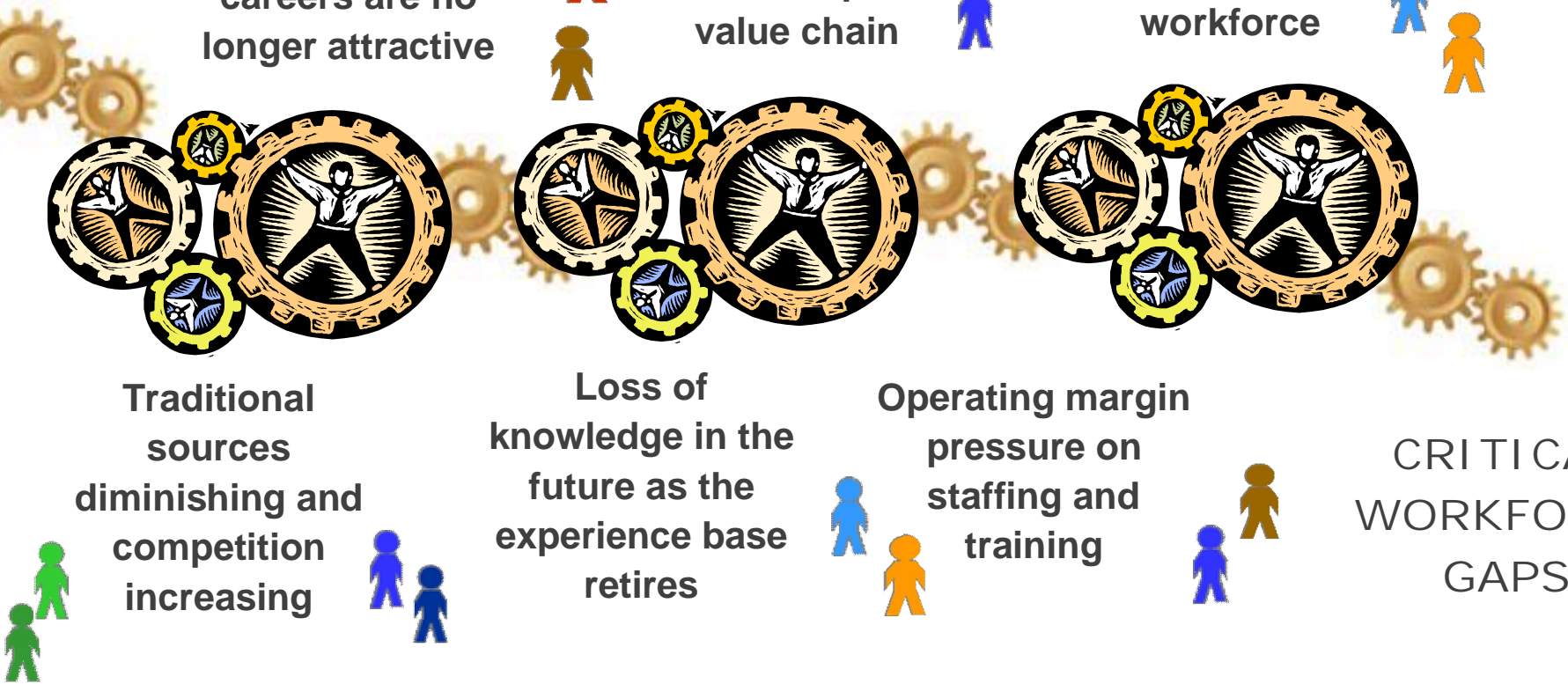
One-size-fits-all is no longer works for changing workforce

Traditional sources diminishing and competition increasing

Loss of knowledge in the future as the experience base retires

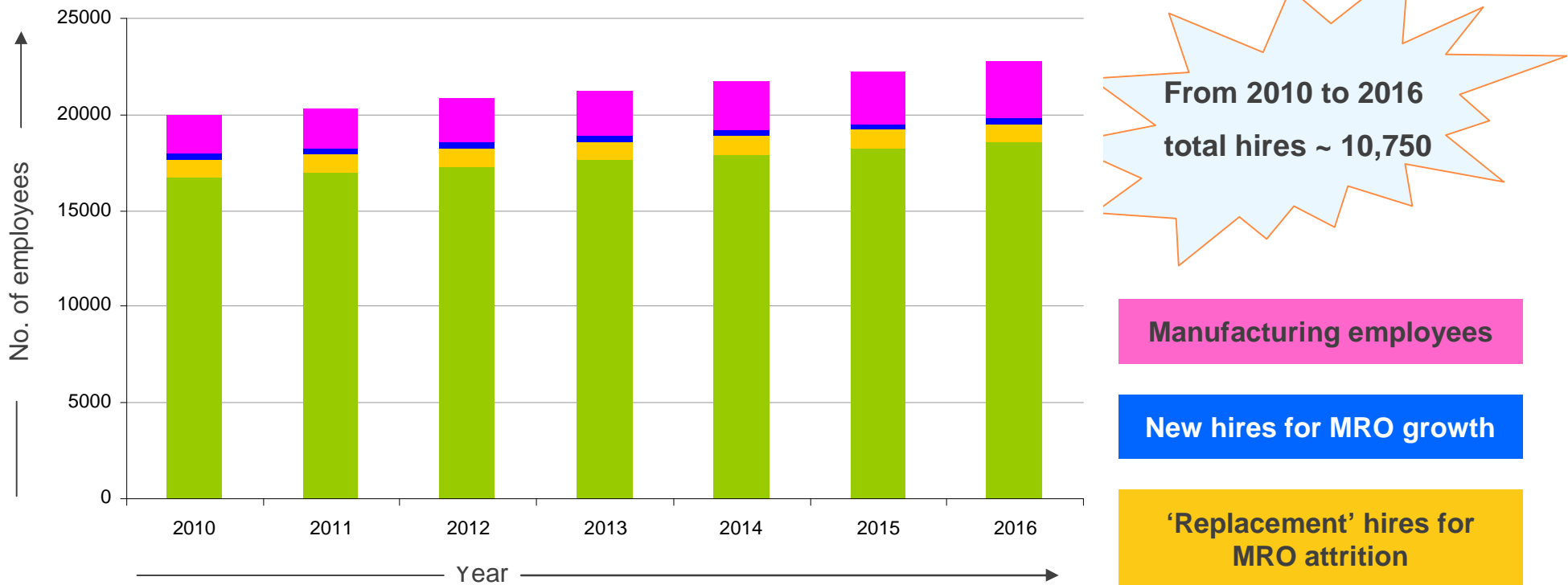
Operating margin pressure on staffing and training

CRITICAL WORKFORCE GAPS



Taken together, the demand and supply pressures imply a need for workforce planning for the industry..

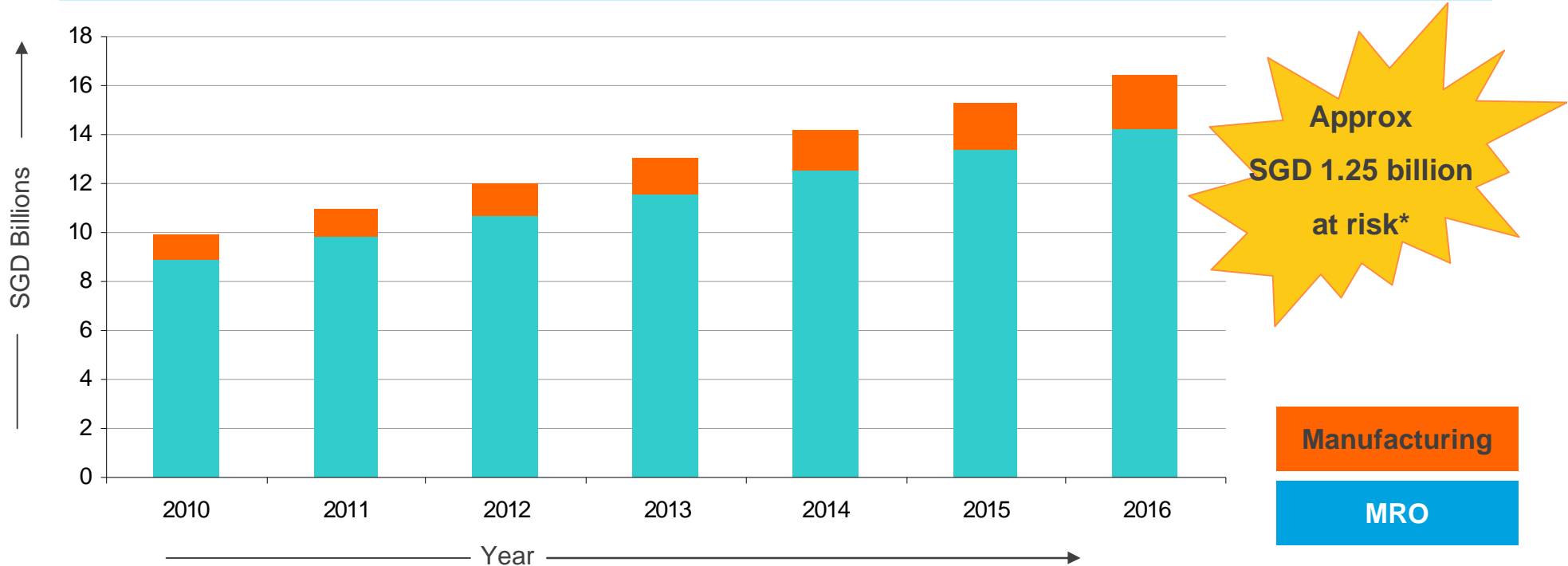
- Manpower growth and skill sets need to keep pace with industry growth needs
- Further, there is a need to replace exiting manpower and replenish the pipeline



Source: Extracted from AAIS Competitiveness Study for Singapore Aerospace Industry including the assumptions: 2006 employee base of 16,716; annualised attrition of 960 employees per year; annualised growth requirement of 310 employees per year; Manufacturing and MRO employees are proportional to their respective revenues; Manufacturing employees follow same attrition rate a MRO.

This could translate into ~S\$1.25 billion at risk by 2016

- Given the criticality of manpower and skills in the industry, human capital has a significant contribution towards the achievement of overall industry revenues
- **What can we do to address the manpower issues and mitigate the risks to the industry? At the same time, how can we leverage this opportunity to add value and enhance industry productivity?**



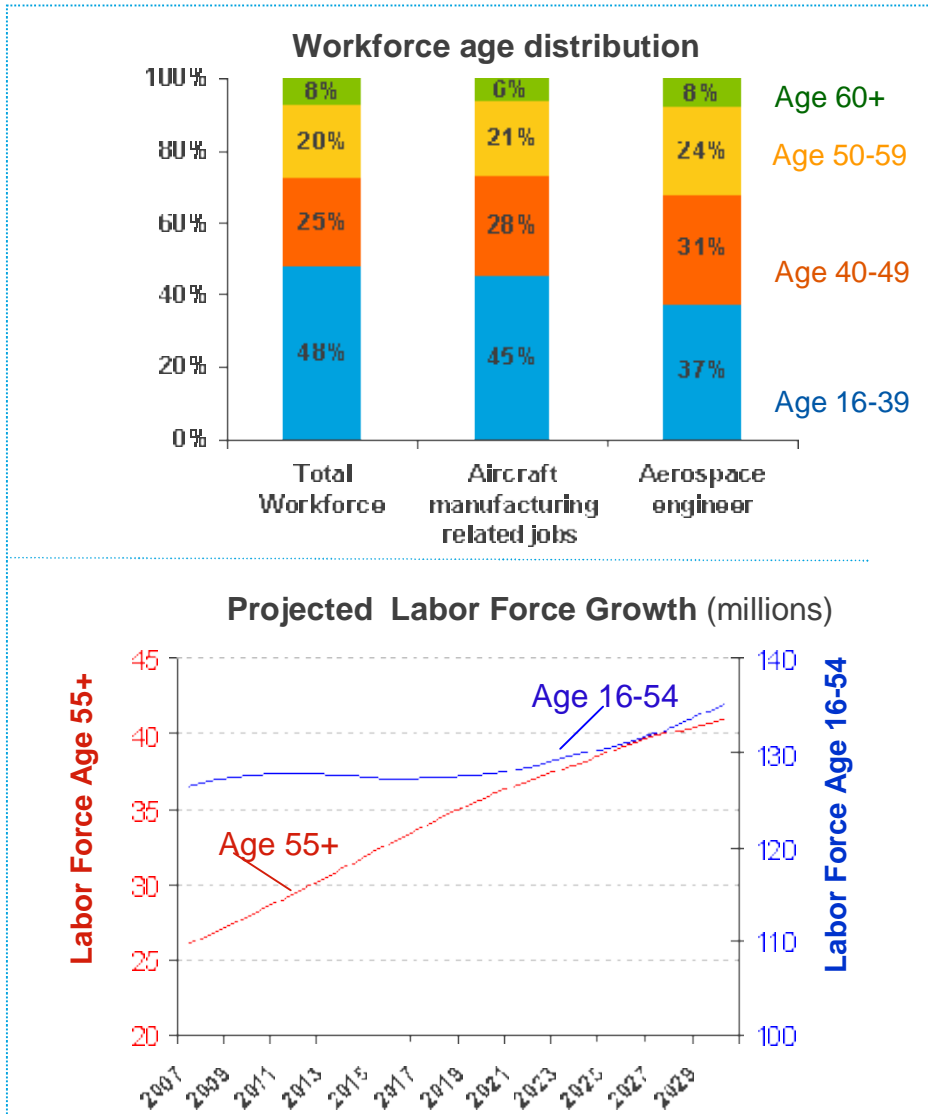
Source: Extracted from Singapore Aerospace Value Chain Study, AAIS; Forecasts based on linear and exponential revenue growth assumptions for MRO and Manufacturing respectively.

*Represents 7.5% of total revenue for 2016; based on percentage of new employees required for growth and replacement in the year as illustrated.

Learning from the US Aerospace Industry Experience

Analyzing workforce demographics to anticipate issues

Understanding current and future demographics reveals workforce challenges



Workforce challenges

- Cutbacks in the early 2000s significantly **reduced pool of engineering talent**
- The industry is aging, with a large percentage of its **workforce approaching retirement**
- **Cyclical nature of the business** makes long term professions problematic

Source: Mercer's Workforce Sciences research; Extracts from Aerospace Industries Association report titled, 'Launch into Aerospace: Industry's Response to the Workforce Challenges', September 2008

Developing workforce management imperatives for addressing gap

Need to attract and retain top engineering talent to fill the forthcoming gap created by the retirement of much of its workforce

Workforce issues and gaps

- Impending loss of workers due to retirement creating an **“experience gap”**
- **Pipeline of technical professionals** (e.g., engineering) is small with great competition for a shrinking skill set
- The industry has done a **poor job attracting young engineers** who are often attracted to “younger” more “progressive” jobs (e.g., start-up, entrepreneurial, etc.)



Workforce management imperatives

- Companies are investing in improving workforce management to attract, develop and retain best talent, e.g.,
 - **Partnerships with educational institutions to increase interest aerospace careers**
 - **Improved training programs**
 - **Special rewards / benefits**
 - **Knowledge transfer practices**
- Local companies are **competing for engineering talent in emerging markets**, where supply is abundant

Source: Mercer's Workforce Sciences research; Extracts from Aerospace Industries Association report titled, 'Launch into Aerospace: Industry's Response to the Workforce Challenges', September 2008

Innovative workforce management programs to attract talent and address the experience gap

▪ Use of online / virtual tools to reach to younger generations

- Boeing uses Facebook to advertise and interact with young potential candidates
- Lockheed Martin has a chat room on its website to communicate with job seekers

▪ Going “further down” to look for / create talent

- Airbus interacts with high-schools to create interest among young kids in careers within the company
- Raytheon developed an online portal to increase young students interest in math and technology

▪ Offering attractive apprenticeships with international exposure to young and new employees

- Boeing offers opportunities to work abroad to its apprentices under the Intercultural Competence Program

Source: Mercer's Workforce Sciences research and experience

Issues for the Singapore Aerospace Industry to consider

Thought starters for the aerospace industry in Singapore...

Forecast of skill gaps

What is the manpower demand & expected supply? Can we take talent outside of the industry?

Recruiting newcomers

Is starting pay competitive? Is the perception of the industry driving away potential recruits?

Improving manpower productivity

What opportunities exist to improve manpower productivity?

Training & developing manpower

Do we have sufficient training programs to meet industry demand?

Retaining talents

Are we losing talent to other industries or other countries? Why do talent leave and what can we do to stop it?

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