

# Building STEM capability:

*The imperative of getting schools on-board*

5 October 2016

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# Presentation outline

- Skilling the Bay Snapshot– a Geelong region collaboration
- Identifying gaps and focusing on outcomes
- Skilling the Bay goals for education
- Harnessing the knowledge and goodwill of the educational community
- Key learnings
- Future directions

# Skilling the Bay snapshot

- Geelong is undergoing economic and workforce transformation
- Charting a pathway to a prosperous future
- Overall \$11 million investment from 2012 - 2017

# Skilling the Bay in Action



# Identifying gaps

- Extensive collaboration
  - Business
  - Industry
  - Government
  - Schools
  - The Gordon
  - Deakin University
- Identification of *Priority Actions*



# Refinement of goals

1. Education – *informing and raising educational attainment levels focused on pathways to employment*
2. Employment – increasing workforce participation through training and re-skilling
3. Skills – growing existing and emerging industries through targeted skills development

# Strong focus on education

*Education was emphasised as the critical precondition for economic transition and long-term future prosperity for the Geelong region*

- Educational attainment and life-long learning
- Building STEM capability in schools – fundamental for a region wide impact

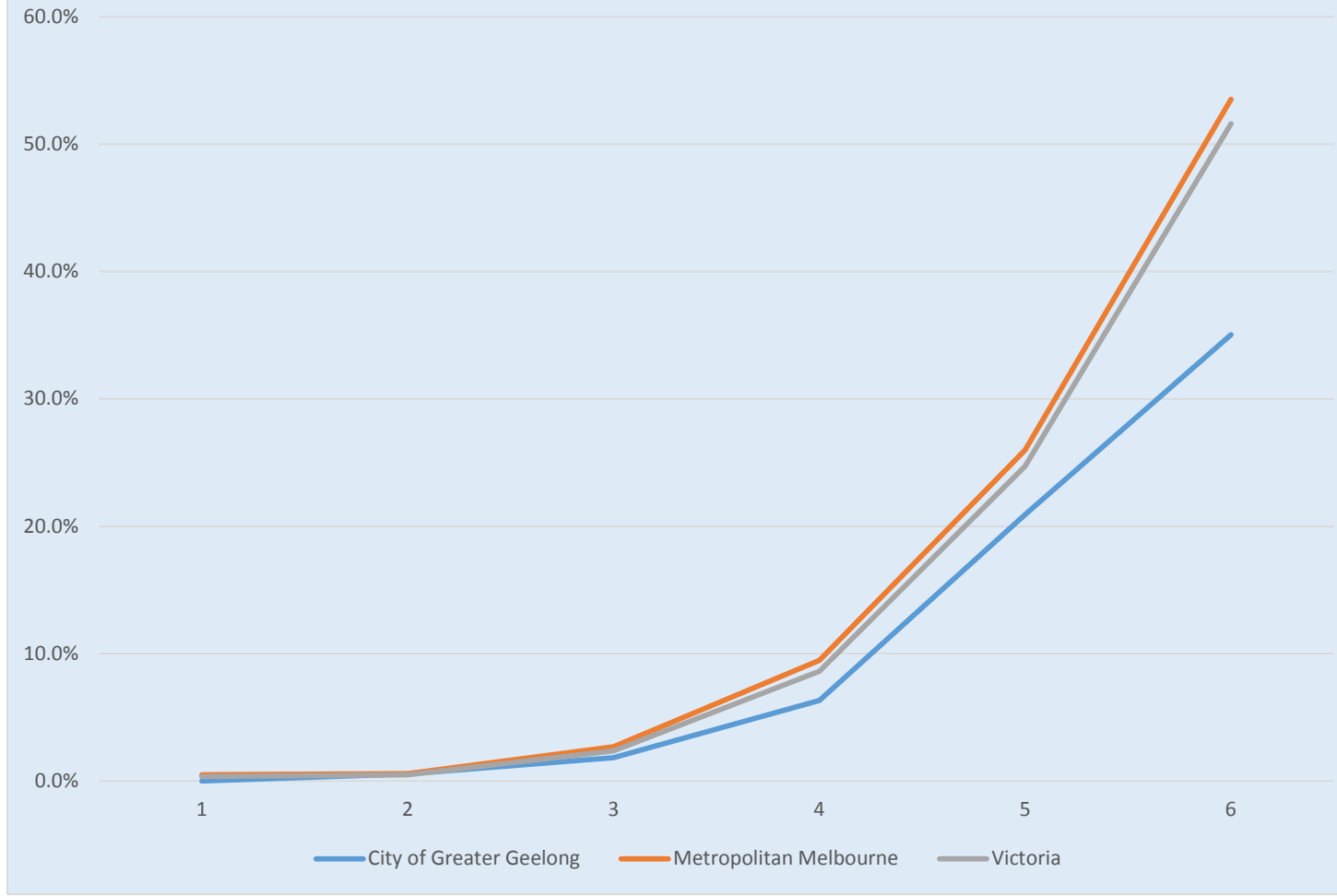
# Getting schools on-board

- Awareness raising and use of data
- Focusing on school leadership
- Harnessing the expertise of Deakin School of Education
- Harnessing the expertise of The Gordon IT Department
- Harnessing the expertise of VCAA specialists

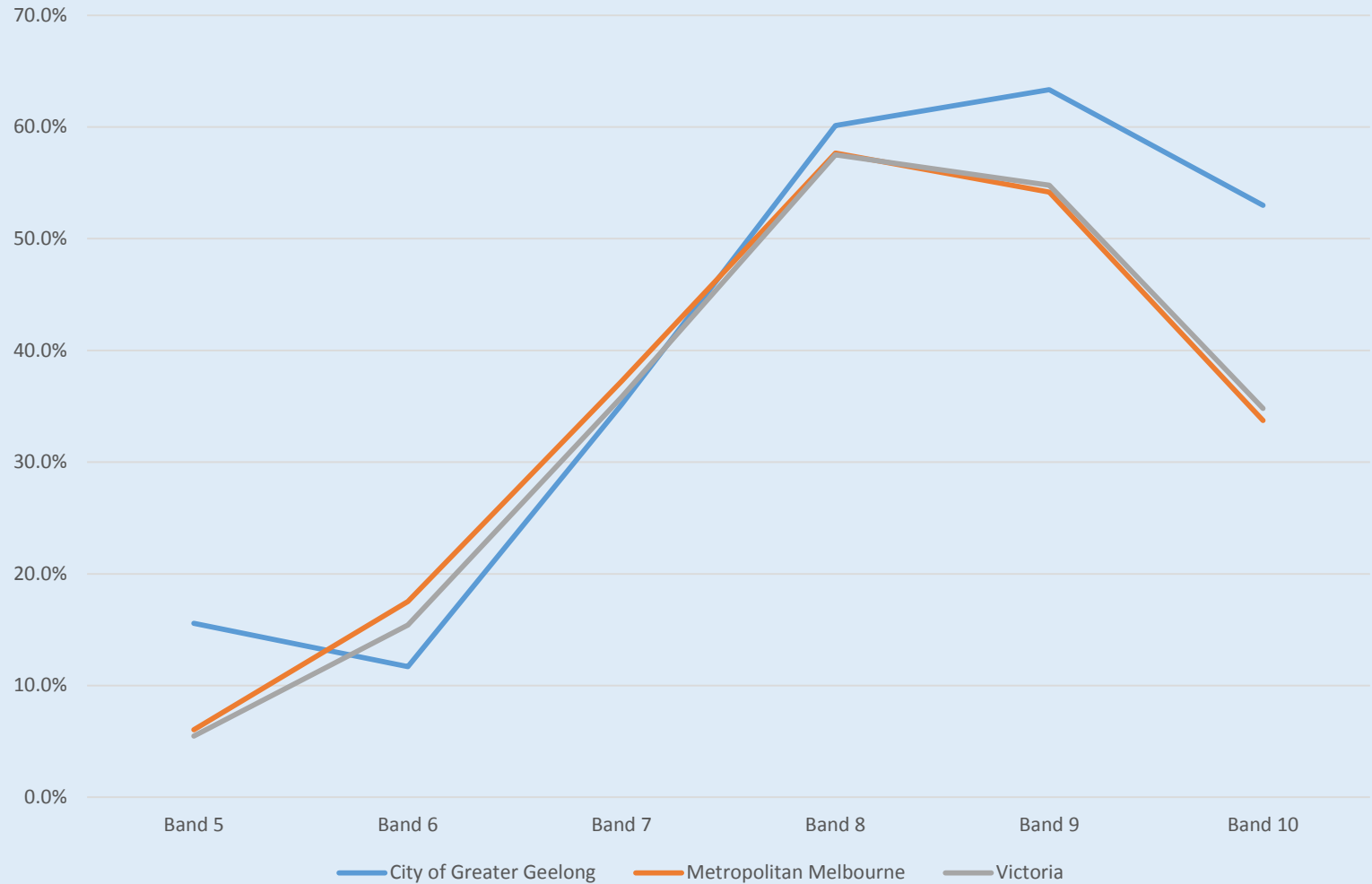


### Proportion Yr 9 NAPLAN (2009) Numeracy Bands 5-10: students who subsequently enrolled in VCE Unit 3 Chemistry

(Source VCAA 2016)

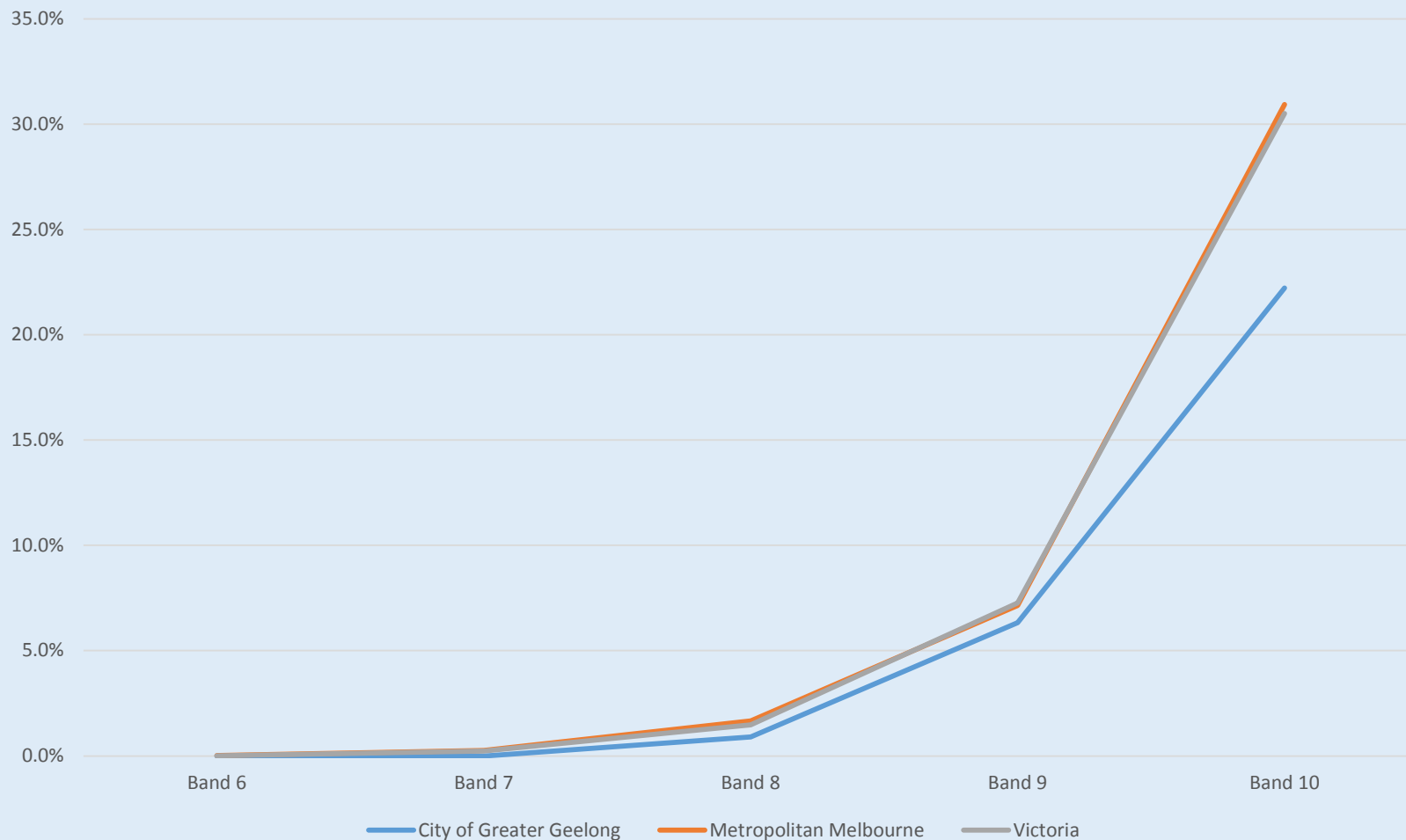


**Proportion of Year 9 NAPLAN (2009) Numeracy Bands 5-10: students who subsequently enrolled in VCE Unit 3 Further Mathematics**  
(Source: VCAA 2016)



### Proportion of Year 9 NAPLAN (2009) Numeracy Bands 5-10: students who subsequently enrolled in VCE Unit 3 Specialist Mathematics

(Source: VCAA 2016)



# Getting schools on-board

- Support from government and the Department of Education and Training
- Collaborating with existing networks:
  - *Geelong Careers Teachers Association* and
  - *VASSP*
- Creating new networks:
  - *D-Tech Teachers' Learning Community*
- Providing financial and organisational support for schools – *Removing barriers*

# Securing buy-in from schools

*A key element of acceptance into the STEM Program was a three year commitment of support from schools*

- STEM Principals' Forum
- Expressions of interest sought
- A compelling professional learning program outlined to reassure principals of the value of the program

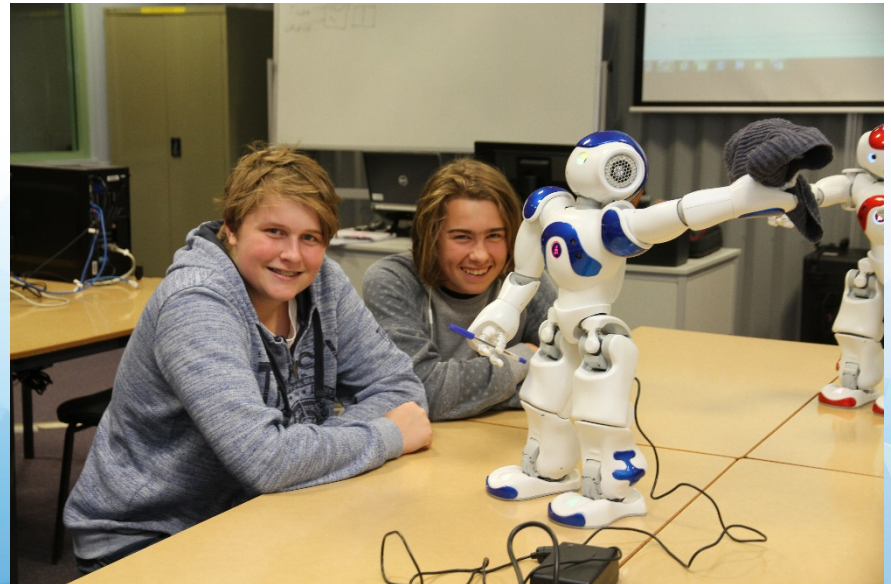
# Spin-offs

- A new D-Tech Teachers' Learning Community
  - Program of support for the Digital Technology curriculum informed by members' needs and aspirations
  - Full and half-day seminars
  - Funding support for teacher release to attend
  - VCAA specialist teacher support



# Spin-offs

- Student focused *Internet of Things* Program
  - Targets Year 9 and 10 students from the region
  - Adds value to the school programs
  - Free for students
  - Excellent PL for teachers



# Spin-offs

- STEM Into Industry Pilot Program
  - Linking local industry with schools:
    - Australian Industry Group support
  - Development of STEM related curricula with authentic industry pathways
    - Grovedale College and Baum Cycles
  - Overcoming barriers to school / industry collaboration



# Spin-offs

- STEM Education Conference!

# Key learnings

- Bespoke approach to program design:
  - Giving schools choice
- Data driven approach:
  - Program rationale – addressing real gaps
  - Performance measurement – measuring real outcomes
- Awareness raising
- Stakeholder engagement – fostering positive relationships
- Understanding the challenges schools face

# Future directions

## **There is more still to be done!**

- Broadening the scope/reach of the program
- Fostering greater industry involvement
- Building a region wide STEM vision
- Sustaining the program well into the future
- Linking with the Geelong Tech School initiative

*Stakeholders are convinced of the need for the relentless pursuit of STEM capability well into the future with schools the catalyst for change.*

Thank you  
For more information visit:  
[www.skillingthebay.org.au](http://www.skillingthebay.org.au)