

# Using national census data to understand the science workforce and implications for curriculum design

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# Aims

Analyse the latest national census data to:

- identify where BSc graduates work
- identify who works in science occupations
- reveal the complexity of the science workforce
- consider implications for BSc curriculum

# 2011 ABS Aust. Census

Types of queries/crosstabs possible:

- Field of study (discipline)
- Level of qualification (i.e., Bachelor)
- Occupational classification
- Geographic location
- Etc.

# Limitations

Data are from **2011** (dated)

Census only records 'highest qualification'

Doesn't disaggregate pass and honours degrees

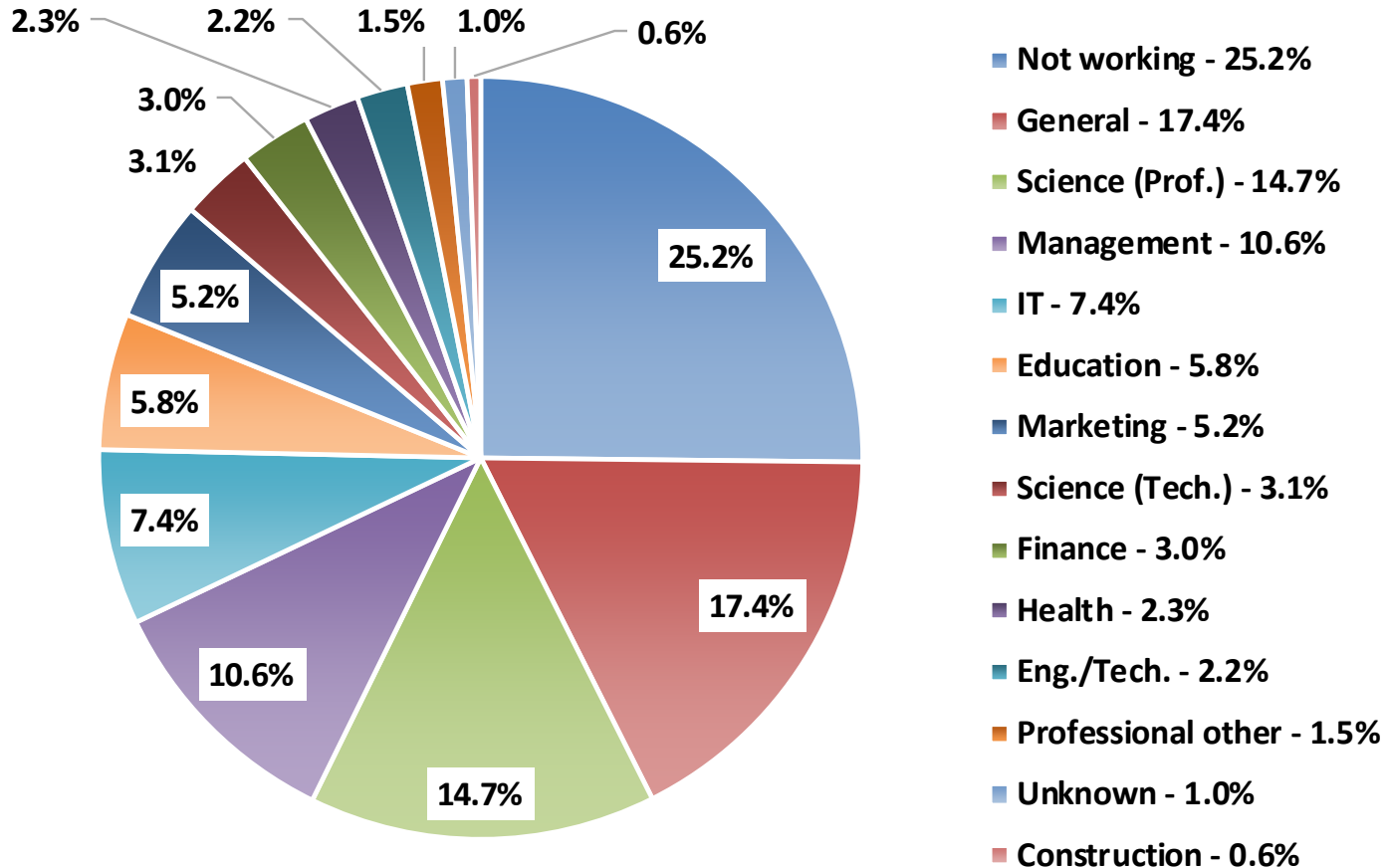
Have to decide which occupations to include in your area/discipline of interest

Census data are subject to small random variations to avoid potential re-identification

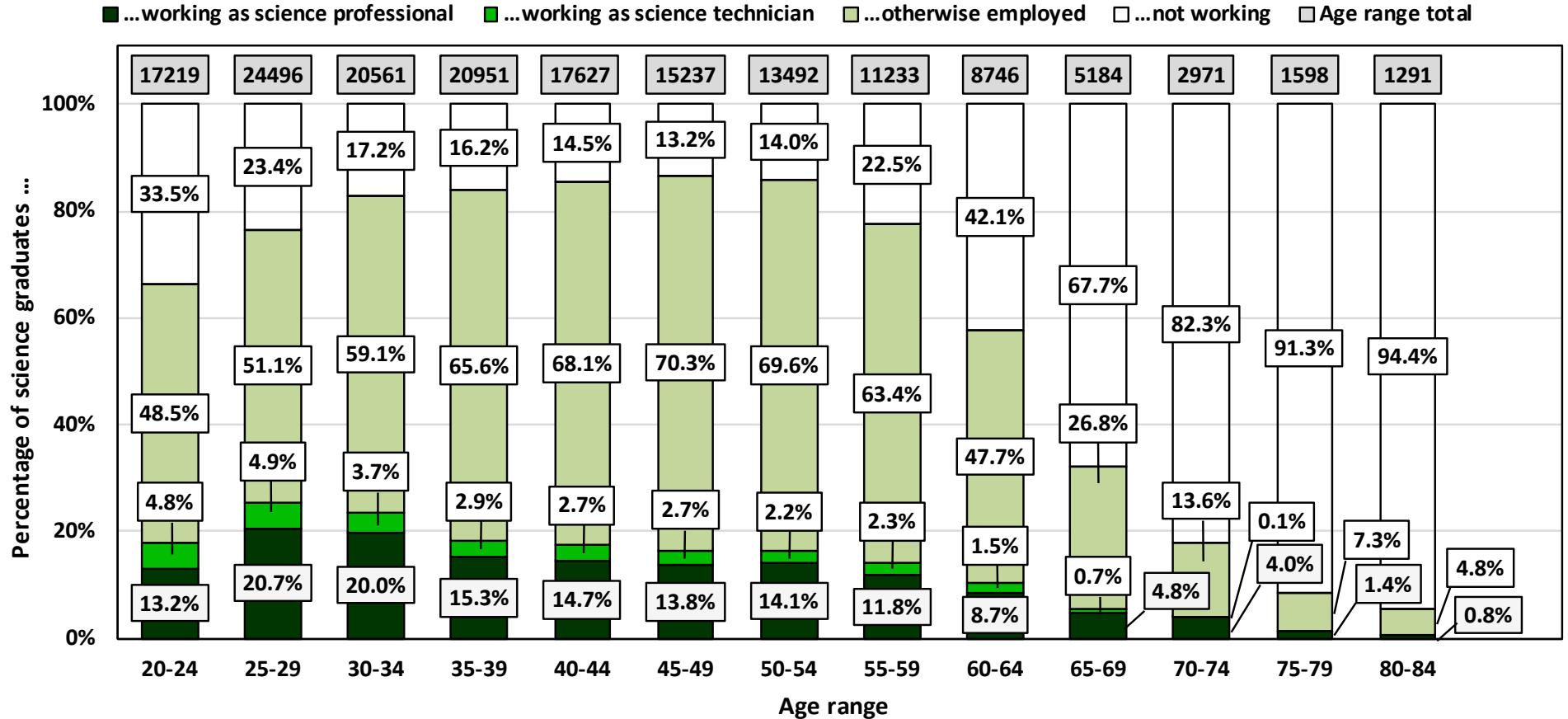
# Occupations included

<b>Actuaries, Mathematicians and Statisticians</b>	<b>Life Scientists</b>
<b>Surveyors and Spatial Scientists</b>	<b>Medical Laboratory Scientists</b>
<b>Agricultural and Forestry Scientists</b>	<b>Other Natural and Physical Science Professionals</b>
<b>Natural and Physical Science Professionals (not further defined)</b>	<b>Engineering, ICT and Science Technicians (not further defined)</b>
<b>Chemists, and Food and Wine Scientists</b>	<b>Agricultural, Medical and Science Technicians (not further defined)</b>
<b>Environmental Scientists</b>	<b>Medical Technicians</b>
<b>Geologists and Geophysicists</b>	<b>Science Technicians</b>

# (broadly) Where BScs work

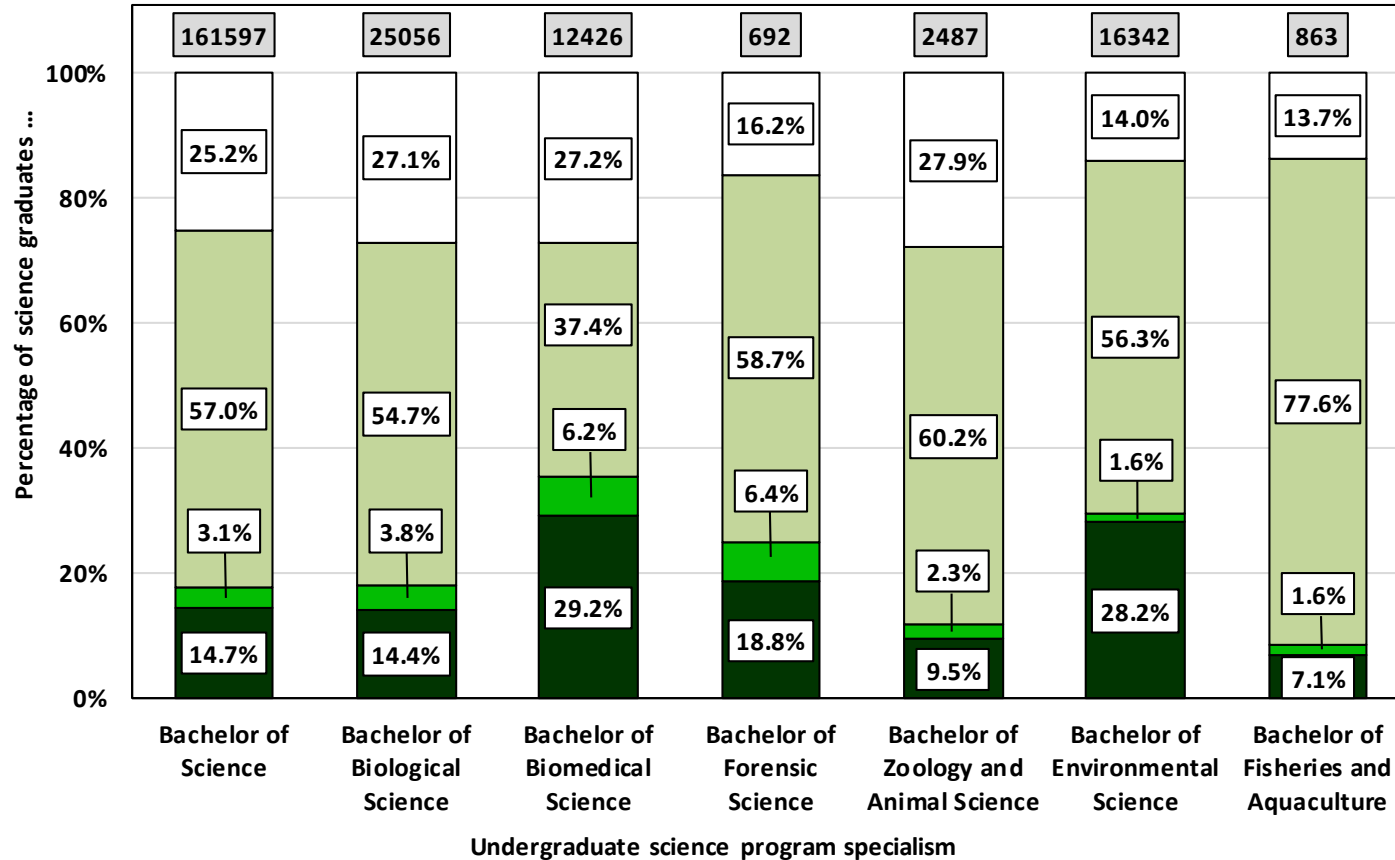


# Variation by age



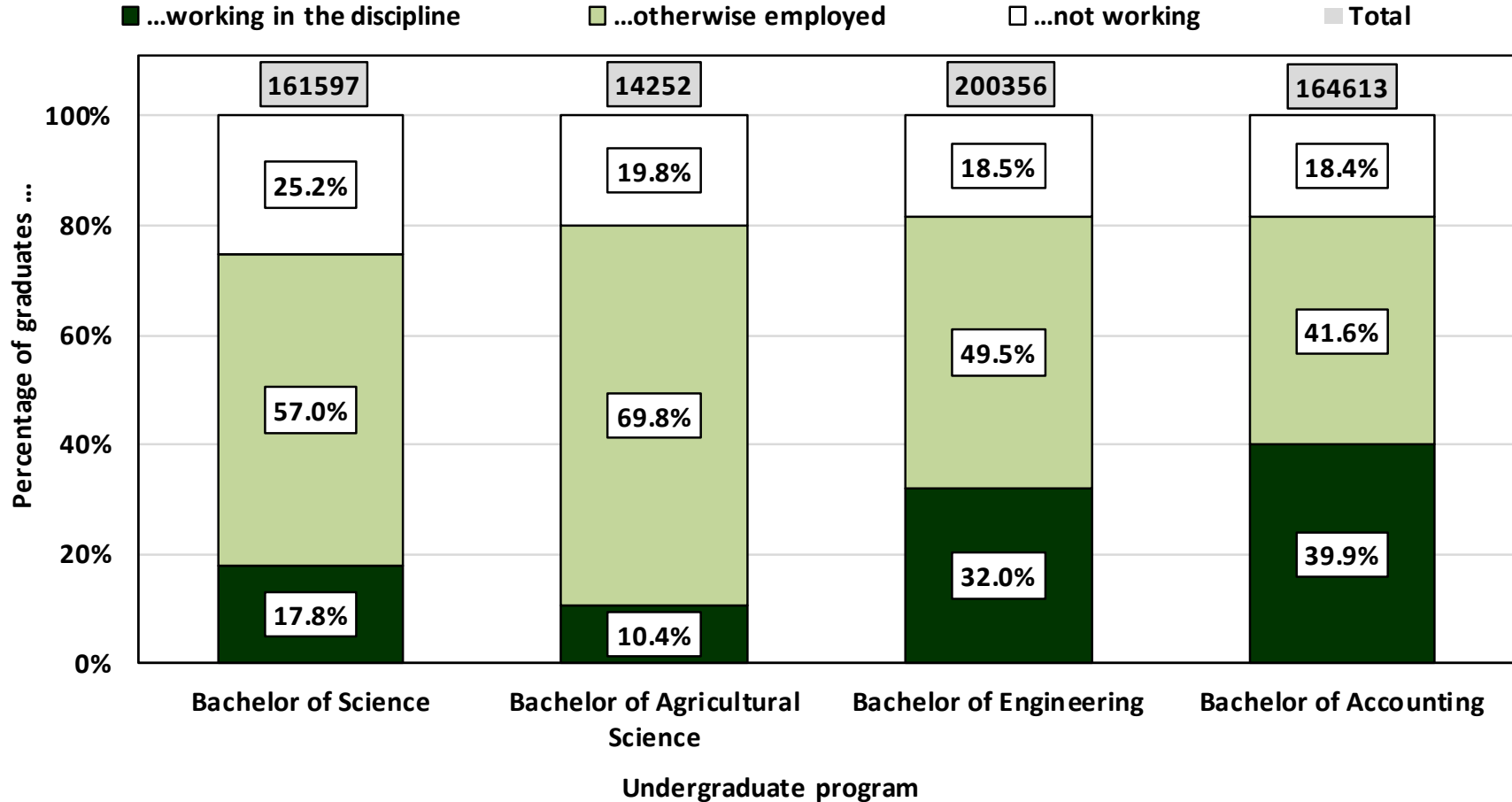
# Variation by specialism

■ ...working as science professional 
 ■ ...working as science technician 
 ■ ...otherwise employed 
 □ ...not working 
 Total

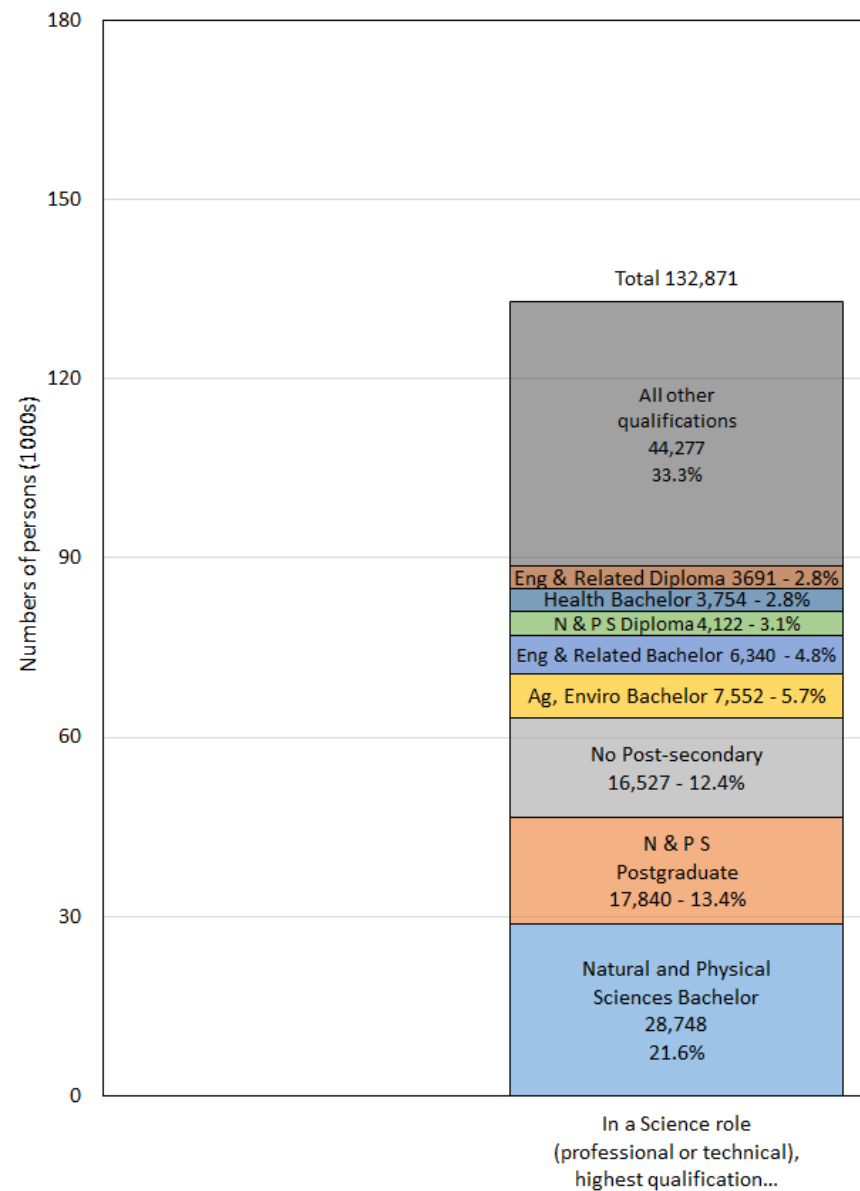




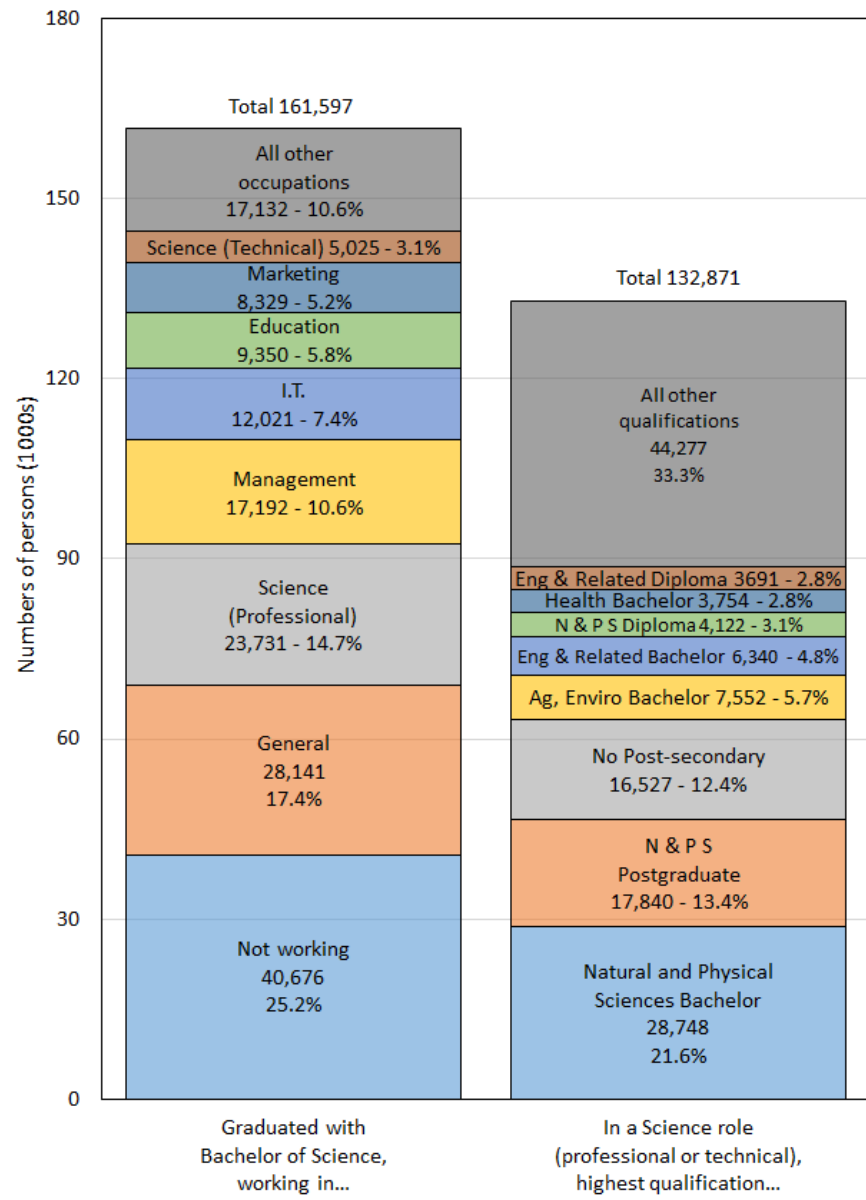
# Compared to...



# The science workforce



# Science qualifications vs Science workforce



# Curriculum questions

What jobs/roles are you educating for?

Where are **your** graduates (alumni) working?

Where are your students intending to work?

What **career outcomes** are portrayed in your course publicity?

# Curriculum questions

Who's on your **advisory board**?

Do you cover in demand generic STEM skills such as **programming, visualisation and statistics**?

What is an **authentic** science curriculum???

# Thank you for your time

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