

Navigating Technology and the Jobs of the Future

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Office of the Training and Skills
Commission*



Training and Skills Commission

Introduction to the Training and Skills Commission

The Changing Nature of Work

Skills for Future Jobs 2020

- Economic modelling
- Industry Priority Qualifications 2020

Vocational Education and Training as part of the solution

The Labour Market Transformed? Jobs and Skills in 2030

Toby Peyton-Jones,
 HR Director Siemens and UKCES Commissioner
 Skills for the future, 3 March 2014

SOME ASSEMBLY REQUIRED: STEM SKILLS AND CANADA'S ECONOMIC PRODUCTIVITY

Executive Summary
The Future of Jobs
 Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution

COMMITTED TO IMPROVING THE STATE OF THE WORLD

The Future of Work Jobs and Skills in 2030

The future of work
 A journey to 2022

Future Work Skills 2020

Impact of automation

Professor Michael Osborne (University of Oxford)

Robots are still coming for our jobs — but it might not be as bad as first thought

The Conversation By David Fagan, QUT
 Updated 1 Nov 2017, 8:04pm

We all want to know how many jobs will be threatened by the rise of robots and technology. You might feel vulnerable if your job is one that could be affected.

But thanks to a [new report](#), 27 per cent of the 160 million people in the United States labour force can breathe easier knowing their jobs are safer than they thought.

That's 43 million living, breathing and working people in America. By extension, that's 3 million Australians, 9 million Brits and 27 per cent of most advanced economy workforces.

Their prospects have been re-rated in new work by a group that includes one of the mathematicians who first raised the alarm on the risk to employment.

PHOTO: Experts now say one in five jobs face automation by 2030, lower than earlier estimates. (Unsplash: Alex Knight, CCG)

RELATED STORY: [Could Sophia the robot be the next ABC news presenter?](#)

RELATED STORY: [Could a robot do your job? Find out now](#)

- Leading researcher
- 2016 47%
- 2016 CEDA 40%

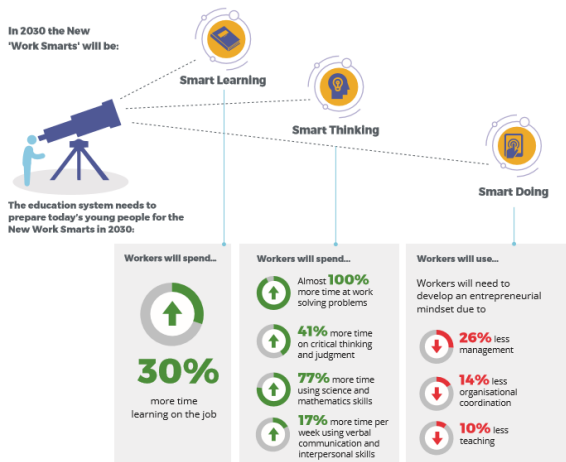
- 2017 = 19%

Impact of automation

- Growing consensus that creativity and complex problem solving skills will be essential for success
- Less occupations disappearing and more occupations changing
- Less technological expertise and more adaptive capacity

Impact of automation

The change in work means young people will need to be equipped with the New Work Smarts



Foundation for Young Australians:
The New Work Smarts

Impact of automation

Workers will spend...



Almost **100%** more time at work solving problems



41% more time on critical thinking and judgment



77% more time using science and mathematics skills



17% more time per week using verbal communication and interpersonal skills

Workers will use...



Workers will need to develop an entrepreneurial mindset due to



26% less management



14% less organisational coordination



10% less teaching

Foundation for Young Australians:
The New Work Smarts

Skills for Future Jobs 2020

The Commission's independent research

- Economic modelling on demand for qualifications



Skills for Future Jobs 2020

The Commission independent economic modelling

- Provides a statistical basis to guide policy and inform decisions making by government, industry and individuals.
- Results in a comprehensive overview of future employment and the likely demand for skills in South Australia.

Skills for Future Jobs 2020

Job Openings 2017-2022

Job Openings	Baseline	Improved	Subdued
Expansion Demand	41 000	51 000	20 000
Replacement Demand	97 000	98 000	96 000
Job Openings	138 000	149 000	118 000

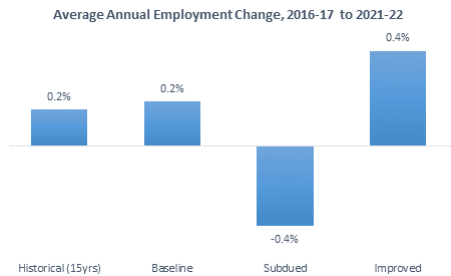


Skills for Future Jobs 2020

Projected annual employment growth 2017-2022

	Baseline	Improved	Subdued
Agriculture, Forestry and Fishing	0.5	0.8	0.0
Mining	0.4	0.6	-0.1
Manufacturing	-0.1	0.1	-0.6
Electricity, Gas, Water and Waste Services	0.3	0.6	-0.1
Construction	1.2	1.4	0.7
Wholesale Trade	-0.6	-0.4	-1.1
Retail Trade	0.2	0.5	-0.2
Accommodation and Food Services	0.4	0.7	0.0
Transport, Postal and Warehousing	0.8	1.1	0.3
Information Media and Telecommunications	0.2	0.4	-0.3
Financial and Insurance Services	0.4	0.7	0.0
Rental, Hiring and Real Estate Services	1.3	1.5	0.8
Professional, Scientific and Technical Services	1.4	1.6	0.9
Administrative and Support Services	1.6	1.9	1.2
Public Administration and Safety	1.3	1.6	0.8
Education and Training	1.8	2.0	1.3
Health Care and Social Assistance	2.1	2.4	1.7
Arts and Recreation Services	1.3	1.5	0.8
Other Services	0.3	0.6	-0.1
Total	1.0	1.2	0.5

Forecasts: Information, Media and Telecommunications

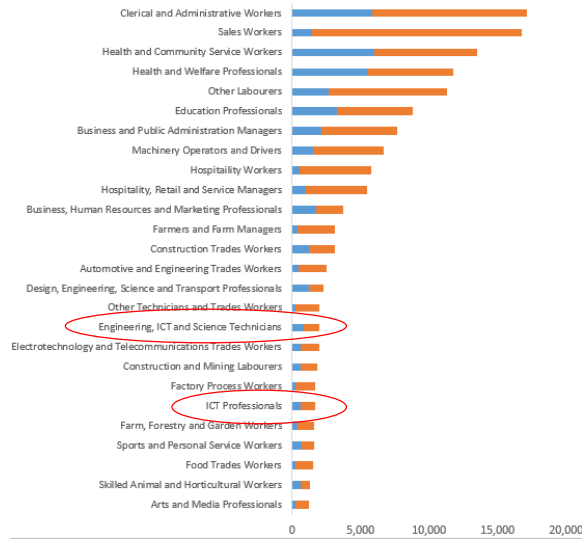


	Employment change (%)									
	Jun-08	Jun-09	Jun-10	Jun-11	Jun-12	Jun-13	Jun-14	Jun-15	Jun-16	Jun-17
Information Media and Telecommunications	-17%	2%	-4%	20%	-15%	12%	-28%	17%	-10%	1%
Agriculture, Forestry and Fishing	6%	10%	-17%	-8%	22%	-21%	27%	8%	-17%	-8%
Mining	-16%	-6%	-18%	8%	42%	14%	14%	-6%	-36%	6%
Health Care and Social Assistance	-1%	3%	3%	3%	-2%	12%	-5%	9%	0%	1%

*ABS Labour Force 6291

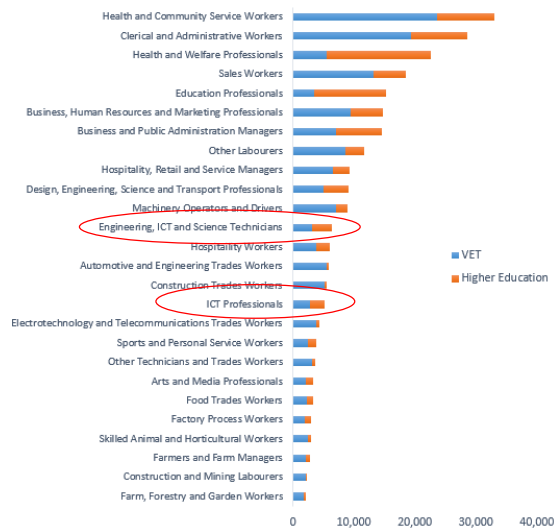
Skills for Future Jobs 2020

Job Openings
(New Jobs & Replacement)
2017-2022



Skills for Future Jobs 2020

Total industry demand for qualifications



Skills for Future Jobs 2020 Series



Skills for Future Jobs 2020 Series



2022 74%

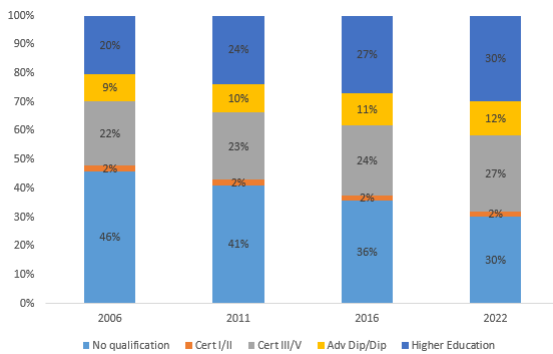


Skills for Future Jobs 2020 Series



Skills for Future Jobs 2020

Changing qualification profile



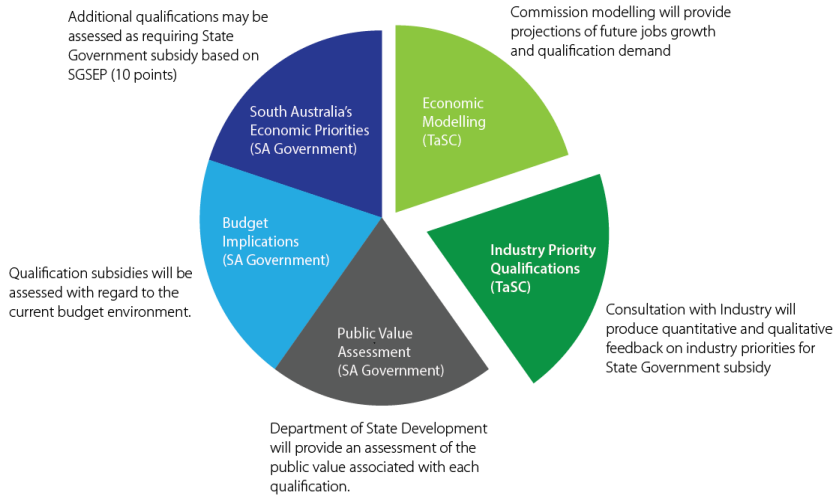
Skills for Future Jobs 2020

The Commission's independent research

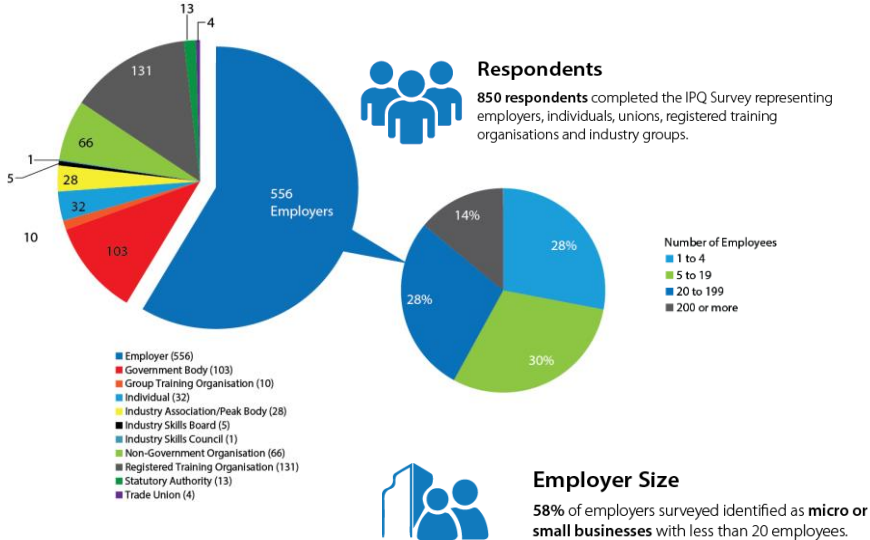
- Industry Priority Qualifications



Industry Priority Qualifications

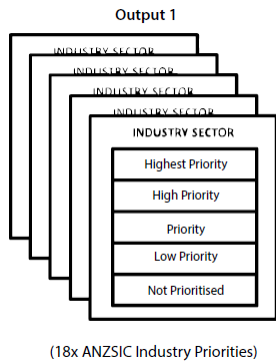


Industry Priority Qualifications



Industry Priority Qualifications

Consolidation of Survey Results (x18 industry sectors)



Priority Tiers



Industry Priority Qualifications

1
2
3

Priorities

106 qualifications were identified as a **top priority** for Industry over the next five years, while 169 were identified as a high priority and 225 identified as a priority. The remaining 639 were identified as lower priority.



Top Qualifications

Generic (business-related) qualifications were consistently identified as high priorities for industry and the SA economy. These qualifications were often considered applicable to multiple occupations and transferable across industry sectors.



Qualifications

Over 1100 Qualifications, Skill Sets and Accredited Courses (QSCs) were identified by industry as a priority. This is just over 25% of all available QSCs (4103) embedded within the IPQ Survey.

Industry Priority Qualifications



High Growth & Small Employer Needs

Both **High Growth and Small Employers** have ranked **Marketing & Customer Engagement qualifications** as high priority.



Skills Clusters

Managerial and Leadership, Sales and Customer Service and Information and Technology skills were ranked most highly across industry sectors by survey respondents as the skills required in the next five years.

Skills Clusters: Information, Media and Telecommunications

Skills Clusters	Ranking
Managerial & Leadership	1
Sales & Customer Service	2
Information & Technology	3
Work Health & Safety (WHS)	4
Administration & Support	5
Financial	6
Marketing & Engagement	7
Human Resources	8
Sustainability & Environmental	9
Language, Literacy & Numeracy (LLN)	10
Entrepreneurial	11

Skills Clusters	This Industry	All Respondents	Compare
Information & Technology	1	3	↑
Sales & Customer Service	2	2	↔
Managerial & Leadership	3	1	↓
Marketing & Engagement	4	7	↑
Entrepreneurial	5	11	↑
Administration & Support	6	5	↓
Language, Literacy & Numeracy (LLN)	7	10	↑
Human Resources	8	8	↔
Financial	9	6	↓
Work Health & Safety (WHS)	10	4	↓
Sustainability & Environmental	11	9	↓

Vocational Education and Training

Part of the solution?

- If we accept industrial change is happening at a faster rate.
- One must accept that the workforce needs are changing at an increasing rate.
- So how fast is our education sectors changing?

Vocational Education and Training

Part of the solution?

- 9 of the 10 top jobs growth (TaSC forecasts) are serviced by the VET sector
- VET is, by its design, connected directly with employers and industry
- Highly accessible, shorter duration, lower cost

Vocational Education and Training

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Vocational Education and Training

Extra thought. . . . 79% of parents want their children to go to university over VET yet:

- On average VET graduates earn a starting salary above university graduates
- Are three times more likely to be an employer within 15 years than university graduates
- Are employed almost 4 times quicker in their field of study than university graduates
- And aren't weighed down by large educational debts

Skills for Future Jobs 2020 Series

Join the
CONVERSATION

Register: 2020.tasc.sa.gov.au

Email: tasc@sa.gov.au

@TSCommission #tasc2020

Thank you

