Securing Our Future: Closing the Cybersecurity Talent Gap

Australia

As cyber threats across the world increase in sophistication, the demand for cybersecurity professionals to protect commercial and government networks continues to grow.

Securing Our Future: Closing the Cybersecurity Talent Gap, is an opinion survey commissioned by Raytheon, in partnership with the US National Cyber Security Alliance, with the goal of addressing the problem of a talent gap in cybersecurity professionals. The survey, conducted by Zogby Analytics, is a study of 3,779 adults aged 18-26 undertaken in late August 2016 in 12 countries including Australia, Germany, Japan, Jordan, Poland, Qatar, Saudi Arabia, Singapore, Turkey, the UAE, the UK and the US.

The survey provides an insight into why the global shortage in cyber professionals exists and suggests possible solutions to the problem.
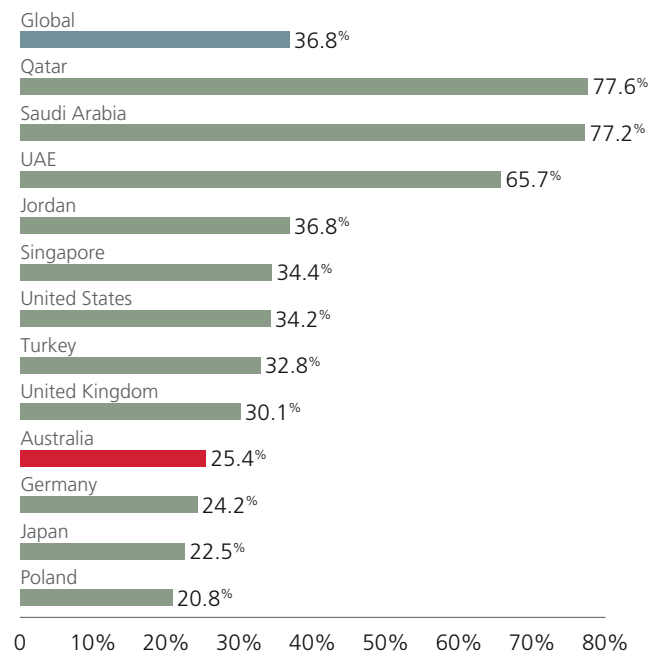
1. Australian schools provide a good start

Australian primary schools perform well to build an early cybersecurity awareness. 38.9 per cent of young Australians were introduced to computers in the classroom by the age of eight, compared to an international average of 35.3 per cent. In addition, only 29.9 per cent of Australians reported that they were not taught in a formal setting about ways to stay safe online.

2. A trailing interest in the cyber profession

It might seem encouraging that 25.4 per cent of Australians are more likely to consider a career in cybersecurity than they were a year ago, with 13.3 per cent saying they are less likely. However, the number of Australians saying they are more likely to consider a cyber career than they were a year ago is below the international average of 36.8 per cent.

More likely to consider a career in cybersecurity than a year ago

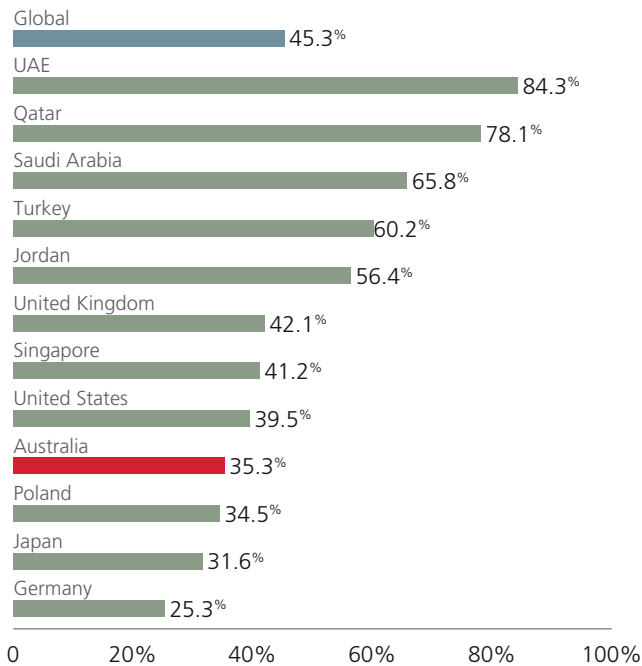| Country	Percentage
Global	36.8%
Qatar	77.6%
Saudi Arabia	77.2%
UAE	65.7%
Jordan	36.8%
Singapore	34.4%
United States	34.2%
Turkey	32.8%
United Kingdom	30.1%
Australia	25.4%
Germany	24.2%
Japan	22.5%
Poland	20.8%

Of the respondents more likely than a year ago to consider a cyber career, the greatest single reason given is that they regard it as a challenging career in which they could do well. The largest group (24.6 per cent) of those who said they were less likely to consider such a career said they were not sure of the opportunities or career path.

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3. Reasons for not taking up a cyber career

A significant impediment for young Australians is that 47.5 per cent reported that they were not aware of the typical range of responsibilities and job tasks involved in the cyber profession. This compared with an international figure of just 37.9 per cent.

Australian awareness of cyber responsibilities and job tasks, was at 35.3 per cent compared to a 45.3 per cent global average.
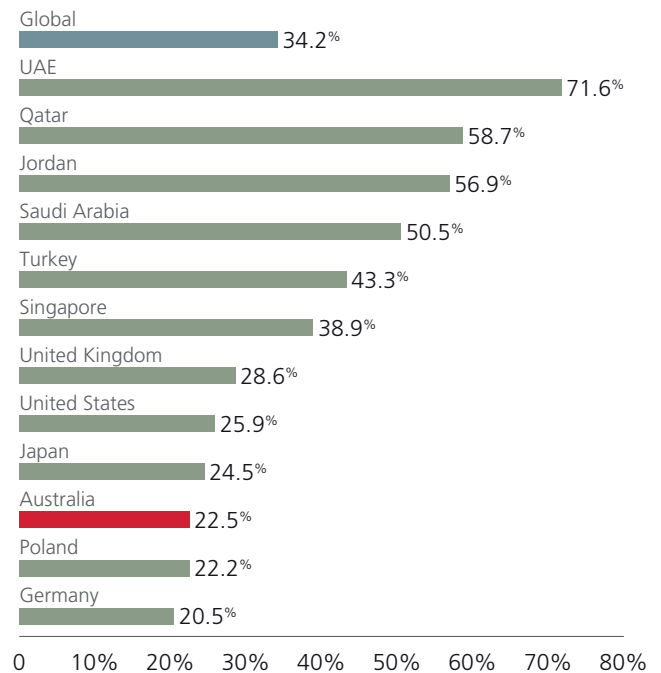
Awareness of typical range of responsibilities and job tasks in the cyber profession

Country	Percentage
Global	45.3%
UAE	84.3%
Qatar	78.1%
Saudi Arabia	65.8%
Turkey	60.2%
Jordan	56.4%
United Kingdom	42.1%
Singapore	41.2%
United States	39.5%
Australia	35.3%
Poland	34.5%
Japan	31.6%
Germany	25.3%

Even though seemingly well prepared in primary school, 56.7 per cent of young Australians reported that secondary school computer classes did not offer the skills necessary to pursue a cyber career. This compares to an international figure of 49.8 per cent.

Further, 62.8 per cent of Australians reported that, in high school, no-one ever mentioned the idea of a career in cybersecurity, a figure significantly higher than the international average of 54.2 per cent.
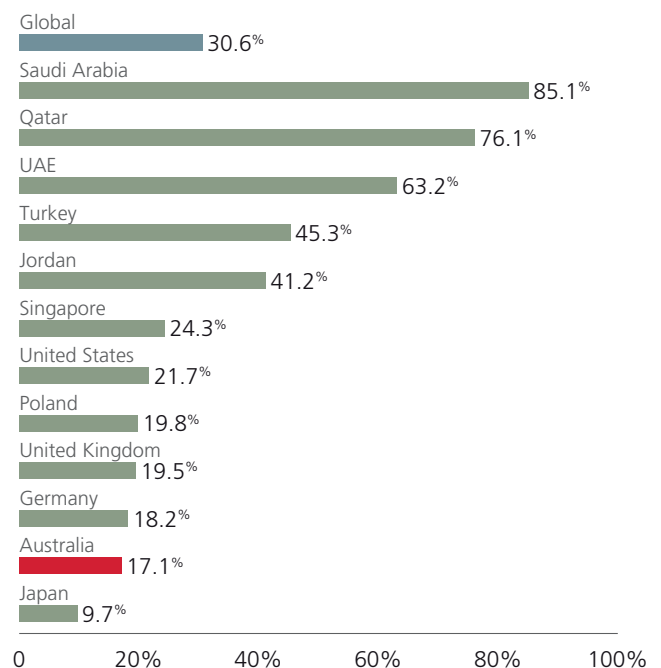
A career in cyber security ever mentioned at secondary school

Country	Percentage
Global	34.2%
UAE	71.6%
Qatar	58.7%
Jordan	56.9%
Saudi Arabia	50.5%
Turkey	43.3%
Singapore	38.9%
United Kingdom	28.6%
United States	25.9%
Japan	24.5%
Australia	22.5%
Poland	22.2%
Germany	20.5%

It is also evident that Australia does not have the number of cyber competitions, scholarships, internships, mentoring programmes or recruiting events that seem to be available overseas. 56.8 per cent of young Australians reported that no such programmes were available to them, well above the international average of just 31.7 per cent.

Further, only 17.1 per cent of young Australians report ever having met or spoken to a cybersecurity professional. This contrasts to an international average of 30.6 per cent.

Ever met or spoken to a practising cybersecurity professional

Country	Percentage
Global	30.6%
Saudi Arabia	85.1%
Qatar	76.1%
UAE	63.2%
Turkey	45.3%
Jordan	41.2%
Singapore	24.3%
United States	21.7%
Poland	19.8%
United Kingdom	19.5%
Germany	18.2%
Australia	17.1%
Japan	9.7%

Parents were identified as being the most important individuals in providing young Australians their first talk about staying safer online but a greater understanding of cyber careers amongst parents would be of benefit to young people. Although parents were the most influential in helping with career advice, 33.8 of young Australians were not at all confident that their parents would know how to help guide them on pursuing a career in cybersecurity. This compares to an international figure of just 24.3 per cent.

4. The gender gap

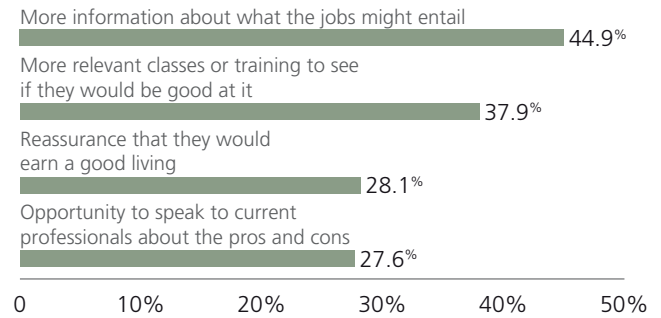A gender gap was also apparent in the outcomes for young Australians.

- Even though 35.4 per cent of men are now more likely to consider a cyber career than a year ago, the figure for women was 20.3 per cent;
- 55.4 per cent of young men are aware of the typical responsibilities and job tasks involved in the cyber profession, compared to only 24.9 per cent of women;
- At secondary school, the idea of a cyber career was only raised with 11.0 per cent of women but 44.6 per cent of men;
- While 41.5 per cent of young Australian men said their secondary school computer classes offered them skills necessary to pursue a cyber career the figure for Australian women was 17.7 per cent;
- 32.3 per cent of young Australian men report ever having met or spoken to a cyber professional whereas the figure for young women is 9.3 per cent
- 41.8 per cent of young women were not at all confident their parents would know how to help guide them on a cybersecurity career. The corresponding figure for Australian men was 18.5 per cent.

5. Ways to increase an interest in cyber careers

Young Australians reported a number of practical steps to increase their interest in cybersecurity.

These included providing more information on cyber security roles; more relevent classes for them to assess their interest; reassurance that such roles could provide a good living; and opportunities to meet cyber professionals.

What would increase your interest in a career in cybersecurity

More information about what the jobs might entail — 44.9%

More relevant classes or training to see if they would be good at it — 37.9%

Reassurance that they would earn a good living — 28.1%

Opportunity to speak to current professionals about the pros and cons — 27.6%

| 0 | 10% | 20% | 30% | 40% | 50% |

Conclusion

Australia is doing a good job of introducing computers to young people at an early age and teaching ways for students to stay safe online.

It is encouraging that a quarter of young Australians are more likely to consider a career in cybersecurity than a year ago. However, more can be done to guide students into a cyber profession.

This starts with making young people more aware of the typical range of responsibilities and job tasks involved in cybersecurity, assuring them that cyber careers can provide well paid opportunities and providing more relevant high school classes to prepare them for the university courses needed for a cyber career.

It also means making available opportunities such as cyber competitions, scholarships, internships and mentoring programmes to better engage young people in the subject matter. As less than one in five young Australians have ever met a cyber professional, exposure to those who work in the field would also help to demystify the profession.

Parents have a particular responsibility as the most important influence on young people to ensure that they are suitably informed about the profession to help guide young Australians in pursuing such a career.

Particular effort needs to be made to welcome young Australian women into the cyber profession by making them aware of opportunities and the livelihoods such careers would provide; encouraging girls into relevant courses at high school; and helping them to meet practitioners in the field.

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