



Australian Government



National  
Skills  
Commission

# Automation and the future

When it comes to the future of work, one topic seems to dominate the discussion. That topic is automation.

However, there are many different views around the likely impacts of automation on jobs of the future.

In the NSC's view, automation has varying effects within occupations and industries. It can replace labour in some jobs and tasks, as well as creating new tasks and demand for labour.

For example, software and computers replaced labour in some jobs but they also created new tasks including programming, software and application development, and more specialist tasks within existing jobs.

## Skills and automation

Using our Australian Skills Classification, we have identified the five skills cluster families that are less likely to be automated in the future, and the five that are more likely to be automated.

### Less likely to be automated



Teaching and  
education



Recreation and  
sporting events



Art and  
entertainment



Environmental  
management



Human  
resources

## More likely to be automated



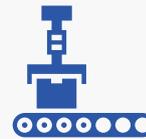
**Materials transportation**



**Agriculture and animals**



**Work activities preparation**



**Production processes and machinery**



**Fashion, grooming and cosmetics**

The Australian Skills Classification also identifies 10 core competencies as being common to all jobs. These are: numeracy, digital engagement, teamwork, writing, reading, learning, problem solving, oral communication, planning and organising, initiative and innovation.

Jobs that require people to be highly skilled or advanced in these core competencies, especially in oral and written communication, are less likely to be automated.

NSC research also finds, on average, the more post-secondary education an occupation requires, the less likely the job can be automated.

## Enough jobs or enough workers?

The reality is that automation has been with us for a while and some jobs have become automated. However, this has not translated into widespread unemployment. In fact, the unemployment rate has been relatively low over recent years.

The more we look to the future, the more pressing risk might be a shortage of workers, rather than a shortage of jobs.

The Treasury's Intergenerational Reports cite, for example, the declining share of the working age population in coming years.

In a similar vein, the former Governor of the Reserve Bank, Glenn Stevens argued that:

“ *It may be that jobs will be ‘robotised’. But on the other hand, in the long run, we may need that to some extent. Demographic factors suggest strongly that, all other things being equal, the problem isn’t going to be a shortage of jobs, but instead a shortage of workers.* ”

**G Stevens,**  
‘The long run’, [speech],  
Australian Business Economists Annual Dinner,  
24 November 2015.

That prognosis suggests automation – and its impacts – aren’t something to be feared but should instead be seen as another factor that will shape the labour market and jobs in coming years.

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