

What we know about digital transformation

New technologies and new ways of working are transforming the nature of work and reshaping the Australian and global economies. Automation is now moving beyond routine manufacturing activities and has the potential, at least with regard to technical feasibility, to transform sectors that involve a substantial share of knowledge work. Developments in artificial intelligence, 3-D printing, unprecedented computer power, the Internet of Things and big data, are underpinned by a number of major technologies which will change the nature of the link between technology and work.

As technology develops, robotics and machine learning will make greater inroads into activities that today have only a low technical potential for automation. New techniques are enabling safer and more enhanced physical collaboration between robots and humans in what are now considered unpredictable environments.

Digital transformation will create new markets and new jobs

While some existing jobs may need to be reshaped, if adopted successfully and combined with positive organisational change and effective managerial practices, digital transformation itself will not necessarily be negative to the workforce. In the past, the technological developments that destroyed jobs created higher levels of income, which tended to create more jobs overall. Even when machines do take over some human activities, this does not necessarily spell the end of the jobs in that occupation. The number of jobs at times increases in occupations that have been partly automated, as overall demand for their remaining activities has continued to grow. But new skills and processes will need to be adopted by the workforce to adapt to the changes from automation.



What does this mean for future capability and skills needed by companies?

Human capital investment is more important than ever. Workers will need different skills, not just more skills.

To date digital transformation has mainly created jobs for highly skilled workers in entirely new occupations and industries. The extent of the need for specialised advanced technology skills in companies will be dependent upon the nature of the business. It is of concern therefore that a large proportion of people still do not effectively use digital technologies at work or have adequate ICT skills.

In future technology rich environments all companies will need:

- ❖ high skill workers who interact closely with technology
- ❖ other workers who can shift their roles towards those activities that complement the functions machines are starting to perform in their place
- ❖ workers with higher proficiency in literacy, numeracy, problem solving, critical thinking and analytical skills.

When everybody's job is likely to change to some degree, the characteristics of agility, resilience, and flexibility in people will be the key to successful organisations. It will be the most adaptable companies that benefit the most from digitalisation. They will be able to thrive in complex, unpredictable digital environments.



How can education and training develop the capability companies need?

DIGITAL AND ICT LITERACY SKILLS

School systems need a significant focus on providing digital and ICT literacy skills as all future workers will require these. The VET sector needs to focus on higher level skills for enterprise systems and analytics, security and digital innovation.

STEM SKILLS WITH ENTERPRISE SKILLS

Education and training systems need to improve basic and advanced skills in the STEM fields of science, technology, engineering, and mathematics, and with a new emphasis on the enterprise skills of creativity, complex problem solving and critical thinking.

MANAGEMENT DEVELOPMENT

There needs to be a renewed emphasis by education and training systems and companies on management development and workplace innovation, to drive companies through constant change.

MICRO SKILLS DEVELOPMENT

Companies and workers need to be provided with greater opportunities for new skilling whenever required as a result of constant new technologies and change. This includes micro-credentials and lifelong learning initiatives.

BUSINESS-EDUCATION LINKS

Closer links between companies and the school, VET and university sectors are needed to benefit the business sector through greater work readiness, including work integrated learning in higher education, and access to fresh ideas and organisational culture changes. With rapidly changing work practices and technologies, exposure by students at all stages of education and training will ultimately assist businesses.



What action can companies take to prepare?

DEVELOP A STRATEGY PLAN

Identify where automation could transform the organisation and plan the migration through a digital strategy which includes the digital skills capability of your workforce.

REVIEW WORK ORGANISATION

Review the organisational changes needed as automation upends entire business processes. Organisational cultures must view automation as a reliable productivity lever.

DEVELOP LEADERS AND MANAGERS

Companies will need to develop the right management skills. Successful managers will be able to cope with complexity by being able to learn and adapt to changing circumstances, to take risks and to engage in restructuring.

FORM PARTNERSHIPS WITH EDUCATION SECTORS

Link with local universities, vocational education and training providers and schools in projects and activities suited to your business to shape the skills you need, and to inject fresh ideas to the company.

RE-SKILL YOUR EXISTING WORKFORCE

Regularly upskill your workforce to adapt to requirements of the digital economy.

INVEST IN RESEARCH AND DEVELOPMENT

To remain competitive companies must participate in innovative practices including collaborating with research organisations in this process.

UTILISE GOVERNMENT SUPPORT

Companies need to stay aware of government initiatives and investments that assist in preparing for digitalisation and access them.

