

Policy Highlights

Preparing for the Future of Work across Australia

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This booklet reproduces highlights from the *Preparing for the future of work across Australia* report, which provides new insights on threats and opportunities facing Australia in light of the labour market shock from COVID-19 and other structural changes from the future of work, such as automation and skills polarisation. This report falls within the Programme of Work of the OECD's Local Employment and Economic Development Committee.



The full book is accessible at
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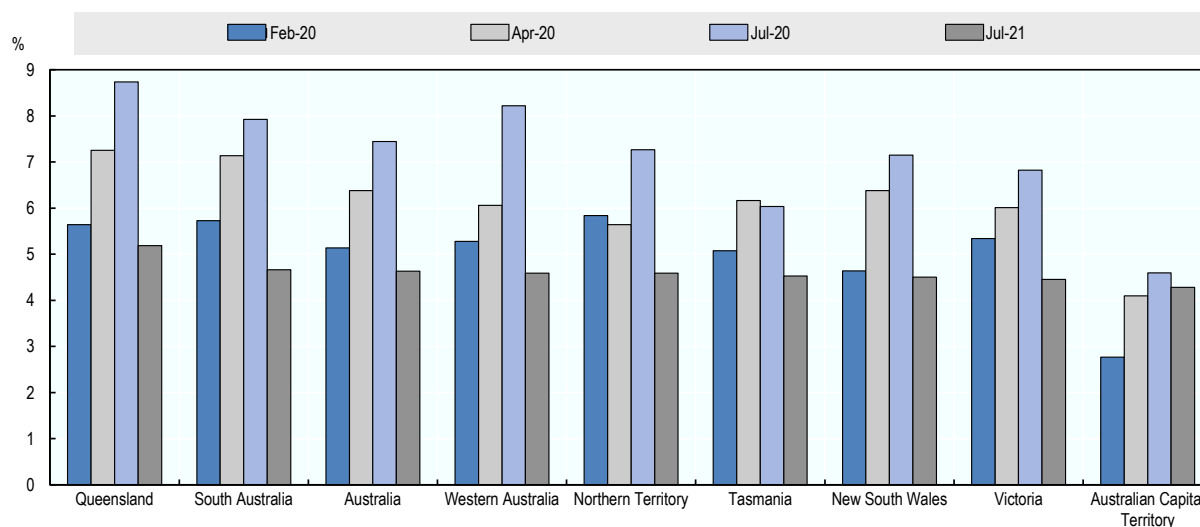
Australia has remained resilient despite the COVID-19 crisis, but underlying labour market inequalities remain

Australian regions have been affected differently by COVID-19

Australia's labour market rebounded quickly from the COVID-19 shock. According to Australian labour force statistics, during the first wave of the pandemic, employment levels fell by almost a million between March and May 2020. For the first time in over 20 years, Australia's unemployment rate rose to over 7%. However after peaking at 7.4% in July 2020, unemployment began to fall, and by June 2021 was below its pre-pandemic rate. Overall employment also started to rebound in June 2020 and reached pre-pandemic levels in February 2021.

After the initial outbreak, between March and April 2020, the unemployment rate increased by 1.4 percentage points in Queensland, the largest monthly increase across Australia. On the other hand, in the Northern Territory and Western Australia, the unemployment rate increased by only 0.4 percentage points during the same period. As of June 2020, all states and territories started experiencing gains in employment, after months of job losses, but the unemployment rate continued to fluctuate. In July 2021, the unemployment rate was less than its pre-pandemic level in all states and territories, except for the Australian Capital Territory.

Unemployment rates across Australia at different points in time during 2020 and 2021



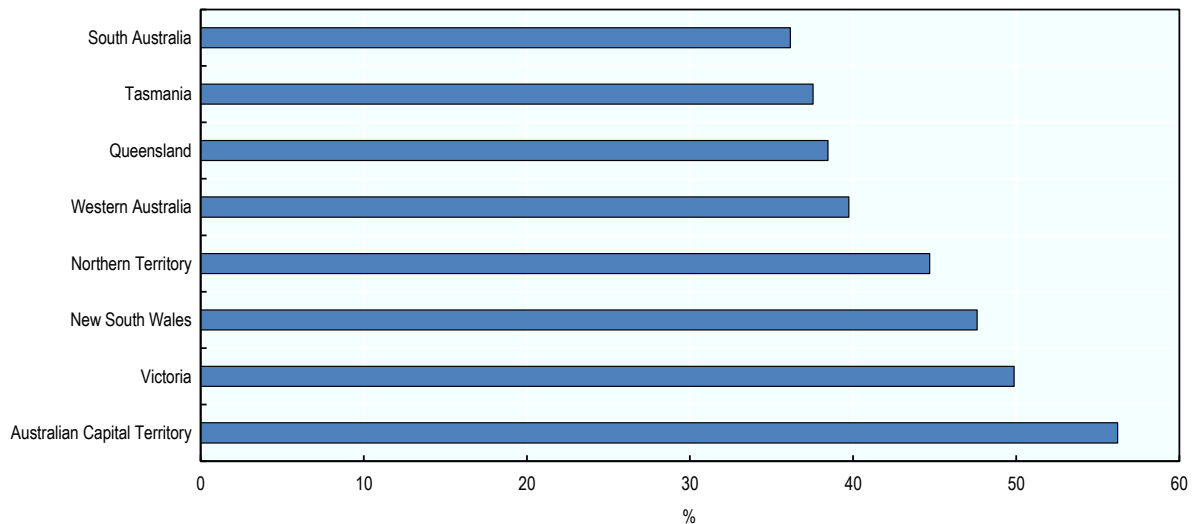
Source: Australia Bureau of Statistics (ABS), Labour Force Survey, July 2021

The rise in teleworking during the pandemic has highlighted labour market inequalities. Teleworking has been a necessary practice during the lockdown period of COVID-19. Workers and businesses have undergone a large scale “forced experiment” where they have continued to operate while being physically separated, provided they had the necessary technological, legal and digital security conditions. OECD estimates that the Australian Capital Territory has the highest share of jobs that can potentially be performed remotely (56.2%), followed by Victoria (49.9%) and New South Wales (47.6%).

About 41% of jobs in Australia are amenable to teleworking, which is 7% higher than the OECD average.

On the other hand, only 36.1% of jobs can be done remotely in South Australia. Local differences in the share of jobs amenable to teleworking highlight the spatial inequalities in the ability of workers to continue working during lockdown periods across Australian states and territories.

Share of jobs amenable to teleworking across Australia



Source: OECD, Regions and Cities at a Glance, 2020.

WHO CAN TELEWORK AND WHO CANNOT?



The potential of teleworking varies greatly both between and within countries, depending on the occupational profile of local labour markets. Across the OECD, the possibility of remote working correlates strongly with the skills requirement of the occupation. As a result, rates of potential remote working across regions reflect the skill composition of the local workforce. Other factors also come into play, such as the industrial composition of local economies. Even though a job may be amenable to teleworking, the worker, in all likelihood, must still have adequate access to a sufficiently fast internet service. If not, this can give rise to a digital divide.



Automation is likely to accelerate in a post-COVID-19 labour market

Over a third of jobs in Australia face a high risk of automation or a risk of significant change. This figure is lower than the OECD average, but still implies massive reskilling needs. COVID-19 is likely to speed up the adoption of automation, as firms seek to increase their productivity and lower physical interaction within workplaces. An OECD survey found that over 26% of Australian firms reported an increase in the take-up of new technology or automation because of COVID-19, with firms in New South Wales (27.0%), Victoria (35.1%), and Australian Capital Territory (35.7%) reporting take-up rates higher than the Australian average.

Historically, automation has gained traction in the wake of economic shocks, when human labour becomes relatively more expensive as firms' revenues decline. During these periods, employers are more likely to seek labour productivity increases by shedding lower-skilled workers and replacing them with technology and higher-skilled workers. The adoption of automation technologies in Australia's industries has been going on for some time, with Australia being a world leader in mining equipment automation. The need to reduce the frequency and duration of human-to-human contact could further speed up the adoption of automation, as experts warn of the increasing threat of future pandemics.

Automatable tasks are more prevalent in certain occupations and sectors, and neither occupations nor sectors are evenly distributed within national borders. Therefore, regions with a higher proportion of jobs relying on routine tasks are likely to experience more disruption, whereas places where more jobs require tacit skills will face lower levels of risk. Tacit skills are based on experience and intuition instead of formal rules, and are therefore more difficult to replicate through mechanical processes or standard algorithms. Moreover, the net-zero carbon transition could lead to job losses in sectors such as mining among others, which likely will not have a significant impact at the national level, but may lead to regional labour market disparities.

Typically, large cities have lower levels of automation risk. Sydney - North Sydney and Hornsby (New South Wales) was the region with the highest share of bachelor's degree graduates (50.7%) and faced the lowest risk of losing jobs to automation (24.6%).

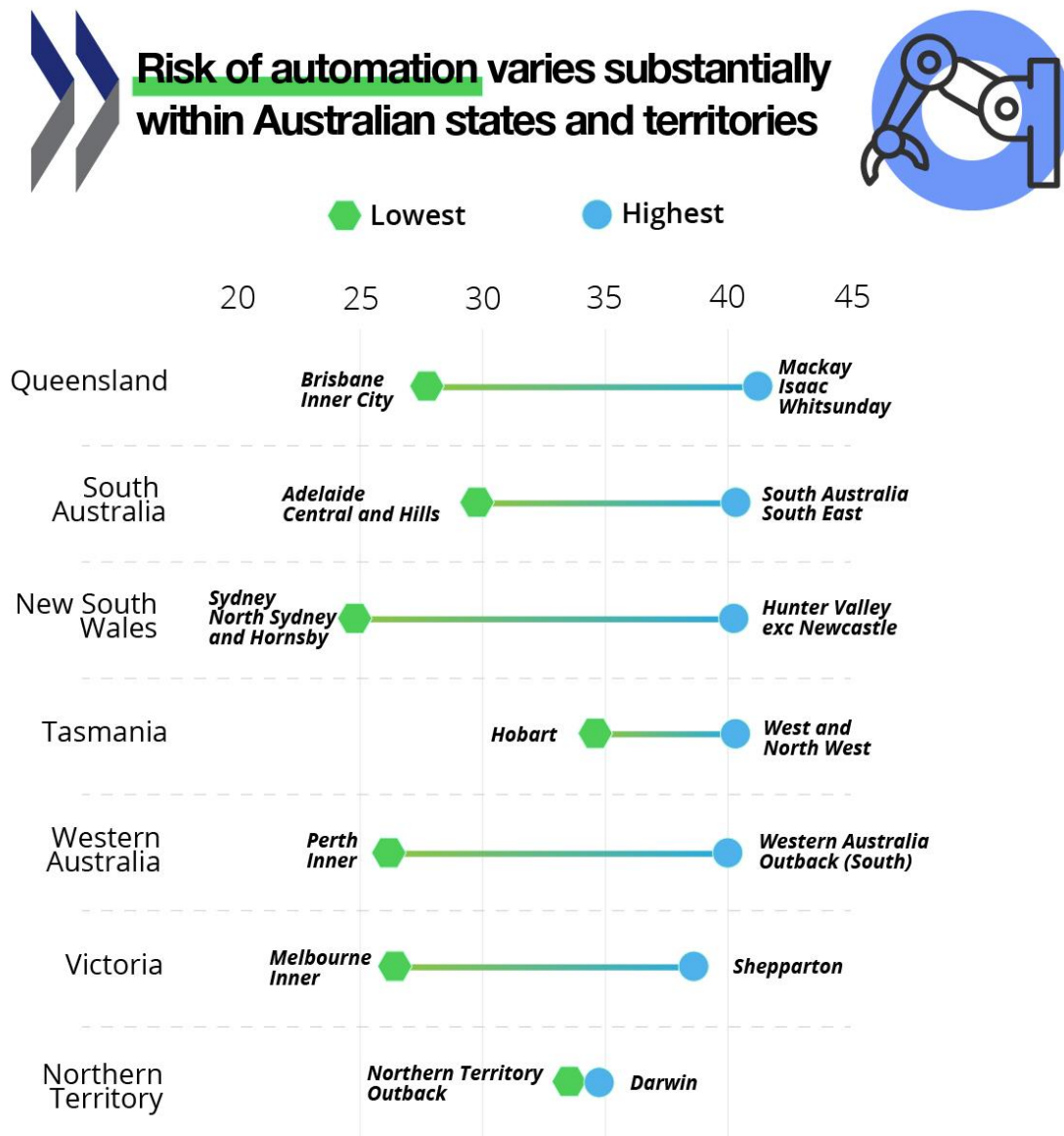
Some sectors are particularly exposed. Food preparation assistants, handicraft and printing workers, and stationary plant and machine operators are the three occupations facing the highest average risk of automation in Australia. Given Australia's occupational structure, personal service workers represent the largest number of at-risk workers, with 314 000 workers who might lose their job or experience significant change due to automation in the coming years.

The impact of automation is unequal across demographic groups Men tend to face a higher risk than women, since men are over-represented in occupations related to trades, manufacturing, and mining. Youth and Indigenous workers face a particularly high risk, given that they tend to be employed in occupations entailing more routine and repetitive tasks than the rest of the population.

The Australian Capital Territory faces the lowest risk of automation across states and territories in Australia. About 29.3% of jobs are at risk of becoming automated in the Australian Capital Territory – 21.3% facing high risk and 8.0% vulnerable to significant change. New South Wales (33.9%), Victoria (34.0%) and Northern Territory (34.5%) also face a lower risk of automatable jobs than the Australia average.

However, regional differences in the risk of automation are more pronounced within all Australian states and territories. For example, regional variation in the share of jobs at risk of automation amounts

to more than 15% in New South Wales, ranging from 40.2% in Hunter Valley exc. Newcastle to 24.6% in Sydney-North Sydney and Hornsby. Looking across all regions, Mackay-Isaac-Whitsunday is the region in Australia facing the highest risk of automation, with about 41.2% of jobs (or 32 000 jobs) at risk. On the other hand, Sydney-North Sydney and Hornsby is the region facing the lowest risk (24.6% of jobs, or 50 000 jobs).



Source: Data from ABS/Census 2016.

Note: Only states and territories with two or more SA4 regions are included.

The drivers of job loss due to automation might differ across regions, even when they face similar risks of automation. For example, in rural and remote regions, where agriculture is a prevalent source of income, the risk of losing jobs to automation might be mainly related to the prevalence of low-skilled occupations in agriculture, which could be potentially replaced by machines. On the other hand, the concentration of administrative jobs in regions where a large number of companies are located, might cause the risk of automation in these regions to be related mainly to those occupations.

The good news is that the large majority of regions in Australia (81 regions—around 9 out of 10 regions) are creating jobs facing a lower risk of automation. This suggests that most Australian regions have decreased their vulnerability to automation over the past decade. Employment growth in occupations such as health professionals, teaching professionals, production and specialised services managers, business and administration professionals, have contributed to reducing the risk of job losses from automation. There are, however, some notable exceptions. For example, six Australia regions (7% of total regions) lost jobs between 2006 and 2016, predominantly in less risky occupations. These include Northern Territory-Outback (Northern Territory), West and North West (Tasmania), South Australia-Outback (South Australia), Queensland-Outback (Queensland), Brisbane-West (Queensland), and Far West and Orana (New South Wales).

Labour and skills shortages are an issue in Australia, and they risk being exacerbated by COVID-19

The 2018 Manpower Group Talent Shortage Survey reported that about 34% of employers in Australia could not find the talent they needed. The number was higher for medium-sized organisations (50-249 employees), standing at 43% in 2018. However, the share of employers reporting shortages was lower in Australia than around the world on average (45%). Despite declining over the past decade, the share is still higher than in 2006, when it stood at 32%. One in four employers reported that the lack of applicants was the main reason why they could not find the skills they needed. As companies digitalise, automate and transform, finding candidates with the right blend of technical skills becomes more important than ever. Yet, many employers reported the lack of required hard skills as the driver of talent shortage (21%).

About 55.7% of Australian adults participated in training, which is higher than the OECD average but lower than peers such as the United States (60.0%), and Canada (58.4%) and the England (56.4%).

COVID-19 will likely accelerate changing demand for skills and employer expectations in Australia. The pandemic will have different impacts on workers across the skills distribution, and there is a risk that it will exacerbate inequalities in the labour market where there is an acceleration in trends towards digitalisation. After falling across all skills categories throughout the year, job vacancies, as measured by the Internet Vacancy Index (IVI), started to rebound in August 2020, with higher-skill workers experiencing stronger gains. By October 2020, the number of job vacancies exceeded pre-pandemic levels across Australia and across skill groups. However, the pandemic-induced labour market shock will leave a lasting impression on the economy and many employers are likely to raise skill requirements for certain jobs given the trend towards digitalisation.

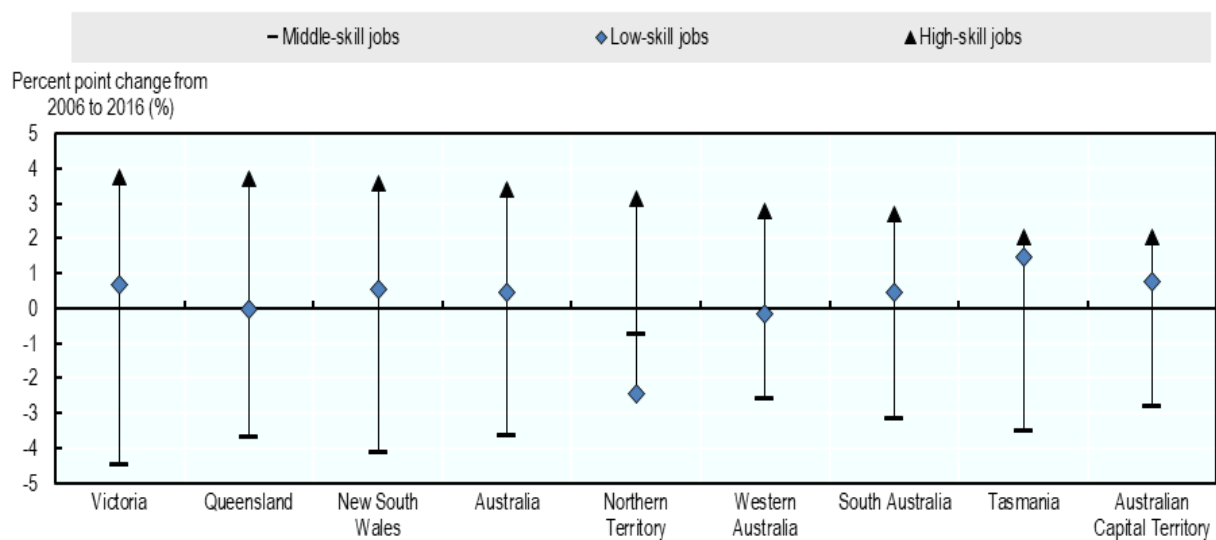
Adult learning and digital skills will become even more crucial in a post pandemic labour market.

Investments today in lifelong learning and vocational training can help workers and regions to make transitions to new economic opportunities. Australian adults have a strong set of digital skills, compared to the OECD average, according to the OECD's Survey of Adult Skills (PIAAC). Australian adults have above average proficiency in problem-solving in technology-rich environments, with about 40% scoring in the top two levels, compared to about 30% on average across the OECD. Burning Glass (BG) data shows that within Australia, there is a substantial difference at the local level in the demand for digital skills, which emerges from job vacancy data. For example, vacancies linked to ICT specialist jobs are heavily concentrated within New South Wales, and specifically Sydney, being the city where more than 40% of total jobs in the field are advertised. The future of work also requires workers to develop a broad mix of skills, including not just digital skills but also strong basic, cognitive and socio-emotional skills, to succeed in the workplace.

What are the policy opportunities for Australia going forward?

Digitalisation, automation and new technologies are more likely to change tasks within jobs rather than replace entire jobs. Few occupations will be heavily affected by automation, but many more will face significant change. These changes in the task composition of occupations require workers to access re-skill and up-skill opportunities to stay relevant in their current job or transition into new jobs. The future of work will require a mix of digital skills, which are becoming even more relevant in light of COVID-19, as well as inter-personal skills and new occupation-specific competences. Supporting mid-career job transitions, re-skilling, up-skilling and training programmes will be crucial for supporting job transitions as Australia shifts towards high-skill jobs.

Percentage change in the share of occupations by skill level, 2006 to 2016



Note: Low-skill workers are those with jobs in sales and services and elementary occupations (ISCO 5 and 9). Middle-skill workers hold jobs as clerks, skilled agricultural workers, craft workers, plant and machine operators and assemblers (ISCO 4, 6, 7 and 8). High-skill workers are those who have jobs in managerial, professional, technical and associated professional occupations (ISCO 1, 2 and 3).

Source: OECD calculations based on the 2006 and 2016 censuses.

While Australian adults are more likely to continue in education and training after leaving formal education than their peers in some of the other OECD countries, there are disparities in access to training in Australia. Australian adults have a strong set of digital skills, compared to the OECD average, according to the OECD's Survey of Adult Skills (PIAAC). They have above average proficiency in problem-solving in technology-rich environments, with about 40% scoring in the top two levels, compared to the OECD average of about 30%. Australia also outperforms the OECD average in adult literacy and numeracy proficiency. There are, however, differences in adult training participation in Australia based on a number of socio-economic characteristics. For example, adults aged 55+ are less likely to participate in training than the rest of the population. In addition, those with less than high school education are about half as likely to participate in training than adults with above high school education.

Beyond digitalisation and automation, the future also will have implications for skills related to the greening of a range of business sectors. These additional needs call for even further efforts to ensure ongoing adult learning above and beyond the automation and digitalisation trends. Despite the immediate

challenges posed by the COVID-19 crisis, there is an opportunity for governments to develop green and inclusive recovery strategies and policies, bolstering their resilience to the looming climate change crisis.

CHANGING SKILL REQUIREMENTS AND THE NET ZERO TRANSITION



Policies to reach **net-zero greenhouse gas emissions** as targeted by many OECD countries for 2050 will inevitably reshape local labour markets. There will be both job gains and losses due to the net-zero transition. Relative employment gains are estimated to be the largest in renewable power production and recycling of materials. Policies to promote renewable energy and other low-carbon activities will create demand for new service jobs. Overall, renewable energy is expected to be more employment-intensive than the fossil-fuelled energy it replaces.

Sub-sectors of **mining and manufacturing will face relatively higher risk of job losses**. And while agriculture is not a sector that can be broadly identified as being subject to employment risks, it will be subject to important transformations, for example with respect to agricultural practices to reduce fertiliser use and carbon sequestration, including through afforestation. Australian regions which depend on these sectors will likely undergo major shifts in the labour market as pre-existing trends towards automation and digitalisation will further change skill requirements for jobs. As labour markets across Australia and the OECD transition from low-skill to higher-skill jobs, there will be greater demand for workers with strong digital skills. Expanding skills needed to address these challenges will need to be a place-based priority for helping workers transition to the labour market of the future.

There is an opportunity to leverage local action in Australia and support people to transition into the future of work. This would be particularly important for more disadvantaged segments of the labour market, including Indigenous people, immigrants, persons with disabilities as well as older workers. At the local level, worker engagement is also an important element to ensure a people-centred policy response to the future of work. The social economy could play a key role in supporting disadvantaged groups.



OECD Recommendations

Supporting people in transitioning to the future of work

Promote training opportunities across segments of the population	
<ul style="list-style-type: none"> ✓ Consider the introduction of individual learning schemes 	<p>These would help people continuously train throughout their working lives and at their own pace. The goal of these schemes is to boost individual choice and responsibility. A characteristic of such schemes that has made them attractive, given the current changes and disruption in the labour market, is their ability to make training rights “portable” from one job or employment status to the other, thereby linking training to individuals rather than to jobs.</p>
<ul style="list-style-type: none"> ✓ Ensure workers most in need receive targeted support to re-skill and up-skill 	<p>As the labour market changes, employment services will need to serve not just the long-term unemployed and those facing barriers to the labour market, but workers affected by labour market disruptions and technological change. Technology-driven labour market disruptions can be a driver of productivity and economic growth, and can present an opportunity to augment jobs rather than displace them. However, in order to fully reap the benefits, workers need to take advantage of training opportunities targeting workers most in need, such as the Skills Checkpoint for Older Workers Program and the Skills and Training Incentive, targeting workers aged 45-70. Further measures, for example in support of low-skill workers as well as workers from sectors at risk of automation or hard-hit by COVID-19, could be introduced.</p>
<ul style="list-style-type: none"> ✓ Support the emergence of local partnerships for skills development 	<p>Investing in mid-career job transitions, re-skilling and up-skilling will be crucial to prepare workers for the future of work. Businesses and government should work together at the local level to develop practical solutions that help workers transition to the jobs of tomorrow. Co-designed and co-funded training programmes as well as online learning platforms could play an important role.</p>

Future-proofing places building on local assets

Promote economic diversification building on local skills ecosystems	
<ul style="list-style-type: none"> ✓ Strengthen programmes with sector-focused training 	<p>New South Wales has introduced the Infrastructure Skills Legacy Program (ISLP), to ensure workers develop the skills needed for local jobs in infrastructure. Victoria has adopted the Skills First programme to provide skilled workers needed in six sectors identified for major growth. There is an opportunity to mainstream this sectoral approach to skills development programmes in key sectors for the local economy across other states and territories.</p>

<p>✓ Facilitate transitions towards sectors facing a lower risk of automation, building on the existing skills base of the local population</p>	<p>For some workers, developing completely new skills can be challenging, for example if they have been doing the same job throughout their entire work life. The establishment and promotion of sectoral networks can help to identify opportunities to build on the existing skill base of the labour market to shift employment towards occupations facing a lower risk of automation.</p>
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Ensuring SMEs can access training opportunities

Support SME workforce training	
<p>✓ Raise awareness of training among SMEs</p>	<p>The COVID-19 crisis has heightened the importance of SME digitalisation, and served as an accelerator. Hence of</p>
<p>✓ Consider developing measures to incentivise SME training</p>	<p>The government could consider providing grants to SMEs, in order to undertake workforce training. The government could look to the design and impact of similar programmes implemented in other OECD countries. These include the Canada Job Grant (CJG), a funding programme designed to reduce the costs of providing third-party skills training to new and existing employees, and the competence training voucher, supporting both small and large firms in employee training, and helping workers adapt to changing skills in the labour market in Lithuania.</p>
<p>✓ Promote the emergence of SME networks for skills development</p>	<p>The creation of networks and partnerships between SMEs can play a crucial role in helping them navigate labour market changes and get easier access to skills development information and opportunities. Australia could draw on the example of Skillnet Ireland.</p>
Encourage better use of skills in the workplace	
<p>✓ Support the adoption of high-performance work practices (HPWPs)</p>	<p>HPWPs refer to a set of human resources practices associated with greater skills use and informal learning. HPWPs include aspects of work organisation and job design (such as teamwork, autonomy, task discretion, mentoring, job rotation, applying new learning), as well as management practices (such as employee participation, incentive pay, training practices and flexibility in working hours). The government could raise awareness of the beneficial impact for firms of adopting HPWPs and encourage them to assess their practices and adopt HPWPs.</p>

Lessons from around the world to prepare for the future of work

Supporting workers re-skill and up-skill

United Kingdom: Lifetime Skills Guarantee and the National Transition Training Fund

The United Kingdom government recently announced a Lifetime Skills Guarantee to help people train and re-train at any stage in their lives. The measure includes free technical courses for adults in England who do not possess A-levels or equivalent (corresponding to the Australian Senior Secondary Certificate of Education), as well as digital skills boot camps and adapting student loans for further as well as higher education. The guarantee is intended to help people who need to change jobs to find new opportunities.

In Scotland, people who have lost their jobs or who are at risk of redundancy as a result of COVID-19 can access support to re-train through a recently introduced fund. The National Transition Training Fund aims to support up to 10 000 people aged 25 and over to develop skills required to move into sectors with the greatest potential for future growth and job opportunities. The fund has the objective of boosting the skills supply in areas such as sustainable green jobs and raising the profile of training opportunities linked to Scotland's transition to a net zero economy.

Individual learning schemes

France: Compte Personnel de Formation

Among individual learning schemes, the French *Compte Personnel de Formation* (CPF) is frequently cited as an interesting new approach which could boost participation in the new world of work. Introduced in 2015, the CPF can be used by any employee throughout their working life, including during periods of unemployment, to follow qualifying or certifying training. The CPF replaced the Individual Right to Training (DIF).

The CPF is a virtual, individual account in which training rights are accumulated over time, and it is financed through a compulsory levy on firms. Resources are mobilised if training is actually undertaken. As part of the programme, individuals get EUR 500 per year, capped at EUR 5 000 in the standard case, and training programmes are required to deliver a certificate. The CPF has involved 627 205 participants in 2018 or 2.1% of the labour force.

Canada: Canada Training Benefit

The Government of Canada has recently announced the Canada Training Benefit (CTB), a programme aiming to help workers re-skill and up-skill in a changing world of work. The CTB would give workers a refundable tax credit on their income tax and benefit return to help offset tuition costs for training, provide income support during training, and offer job protection so that workers can take the time they need to keep their skills relevant and in-demand.

The CTB would include a non-taxable Canada Training Credit to help Canadians with the cost of training fees paid to a university, college, or other educational institution for courses at a post-secondary level or occupational skills courses. Eligible Canadian workers between the ages of 25 and 64, earning between CAD 10 000 and the top of the third tax bracket (around CAD 150 000 in 2019) would accumulate a credit balance at a rate of CAD 250 per year, up to a lifetime limit of CAD 5 000. The credit could be used to refund up to half the costs of taking a course or enrolling in a training programme.

Incentives for SME training

Canada: The Canada Job Grant

In 2013, the Government of Canada introduced the Canada Job Grant Program (COJG), supporting employers, individually or in groups, to invest in their workforce. The programme provides direct financial support to individual employers or employer consortia who wish to purchase training for their employees. It is available to small, medium and large businesses with a plan to deliver short-term training to existing and new employees. A review of the Canada Job Grant undertaken in the second year of existence of the programme (2016) had found that the programme was generally meeting the needs of employers across the country, but results could be improved in terms of increasing labour market attachment and the overall employment situation of participants.

Lithuania: The Competence Training Voucher

In March 2017, the Ministry of Economy in Lithuania introduced competence vouchers to support firms in employee training and adapt to a changing labour market. Enterprises are granted EUR 4 500, to be used within 12 months to purchase employee training. Vouchers can be used towards 80% of the training costs for micro and small and medium enterprises and 70% for large enterprises. Enterprises from different sectors of industry can invest in their employee training, through specialised certified training programmes or other training courses, to acquire relevant skills that they are currently lacking.

Employer-led networks for skills development

Ireland: Skillnet Ireland

Skillnet Ireland supports over 16 500 companies nationwide. About 56% of these are micro-enterprises, 26% are small enterprises, 13% are medium enterprises and 5% are large companies. Skillnet Ireland provides a wide range of valuable learning experiences to over 50 000 trainees. Skillnet encourages firms to lead the process for training to ensure that programmes delivered are highly relevant to industry needs. Training and up-skilling significantly enhances the career mobility of the workforce. Training is open to management and employees of companies who become members of a Skillnet Network. Skillnet allocates funding to Learning Networks, which are groups of companies within the same industry sector (Single Sector Networks) or region (Multi-Sector Networks) with similar training needs, so they can receive subsidised training. With 70 distinct Networks nationwide, businesses can find a Network that has experience in a particular area of interest. Networks offer a flexible approach to suit specific business needs: they work with businesses to source and part-fund training partners to provide relevant up-skilling.

Korea: National Human Resources Development Consortium

Under the National Human Resources Development Consortium (HRD) programme, launched in 2000, large firms, employers' associations and universities establish joint training centres, which conduct consortium projects to provide customised training for workers in SMEs. In August 2018, a total of 216 joint training centres had been set up, and participating institutions were evenly distributed between large firms, employers' association and universities. The National HRD Consortium has made a significant contribution to increasing SME participation in vocational training in Korea. As of 2018, 124 230 of SMEs and 252 159 workers had benefited from this programme. The programme accounted for 25% of the total government spending on vocational training for incumbent workers.

Preparing industries for the future of work

Basque Country, Spain: Industry 4.0 strategy

In 2019, the United Nations Industrial Development Organisation (UNIDO) selected the Basque Country's "Industry 4.0" industrial strategy as a best practice. Several countries and regions across the OECD have adopted Industry 4.0 strategies as part of their industrial policy over recent years, including Germany, Italy, France and the United Kingdom. The Basque Industry 4.0 strategy aims to promote the incorporation of intelligent systems into production plants, improve the use of emerging technologies in products and processes, and to integrate advanced materials into higher added-value solutions and processes in a sustainable way. The mission of the strategy is to strengthen the position of the Basque Country as an economy with an industrial base through the promotion of knowledge intensive manufacturing.

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