

# Future Work 2025

exposing common myths

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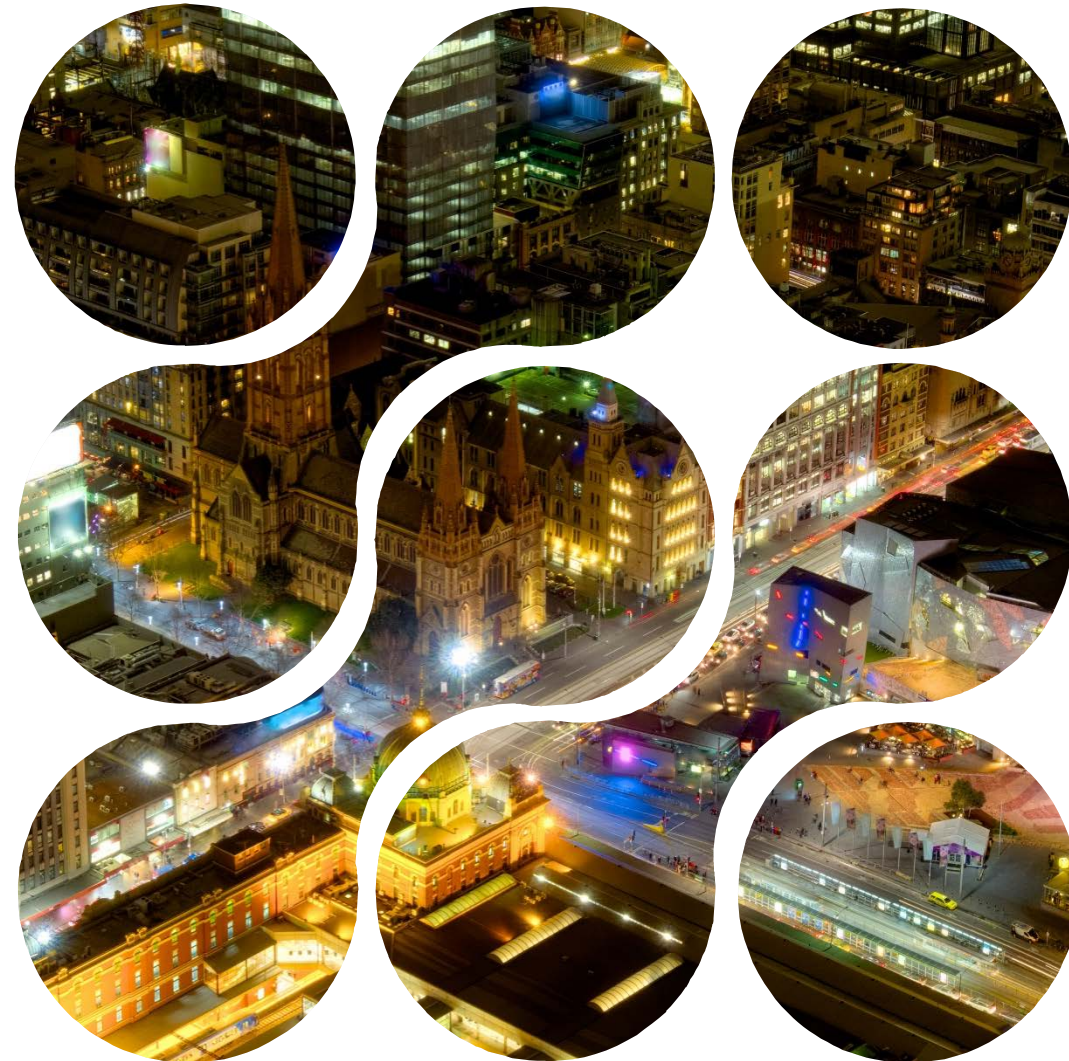


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decent work  
decent life

# Future work myths



Four popular myths truncate current debate on the impact of automation and artificial intelligence on future work in Australia.

1. The job loss and reskilling task facing the Australian labour force is beyond comprehension.
2. We don't know what skill, knowledge or abilities people will need in the future.
3. We cannot train for jobs that don't exist today or even have titles.
4. The existing higher education system cannot be reinvented in time to respond to the reskilling task.

We wish to challenge each and every one of the above assumptions.

# Myth One:

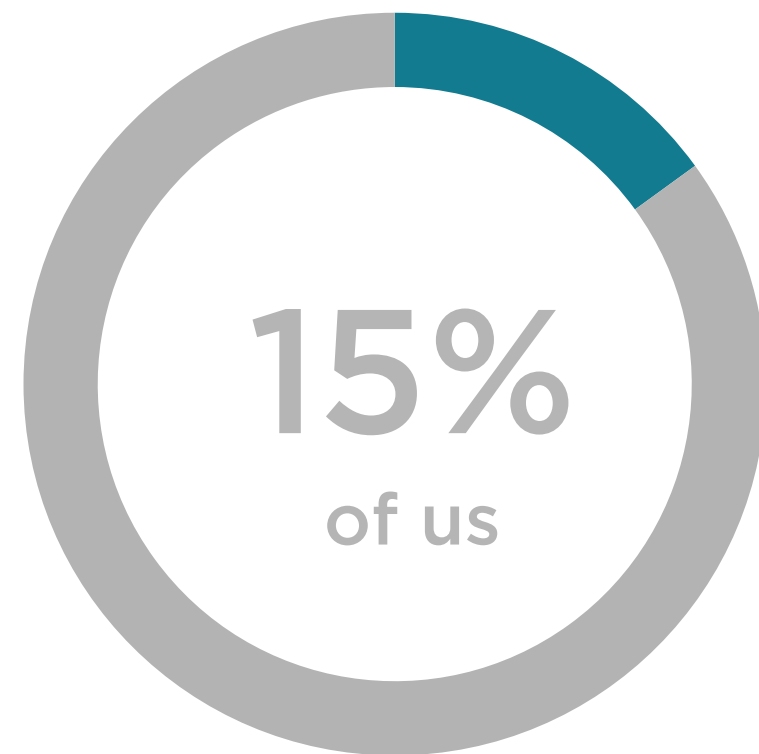
The job loss and reskilling task facing the Australian labour force is beyond comprehension

# Within 6 years

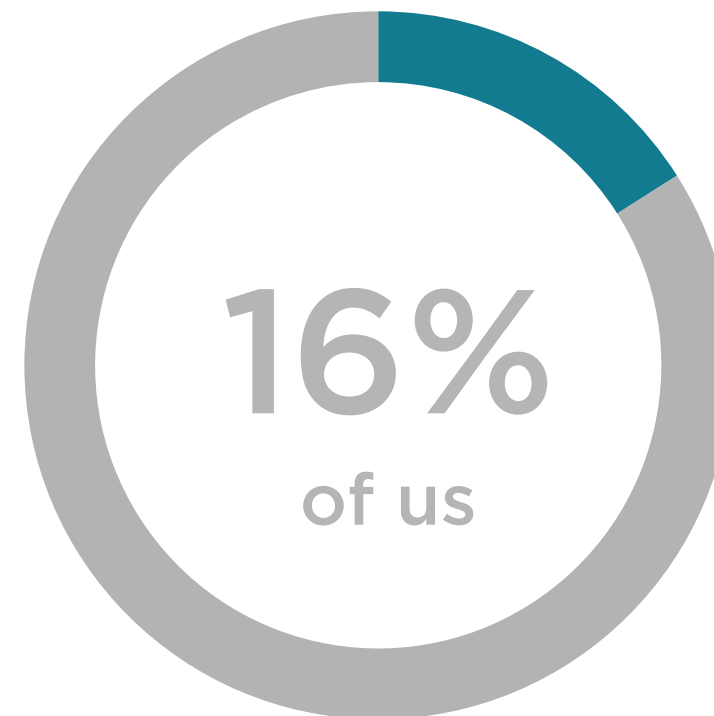
2019 to 2025

While job loss is of great concern, the belief that 40% of all jobs will be lost due to automation by 2016, causes anxiety but is substantially inaccurate.

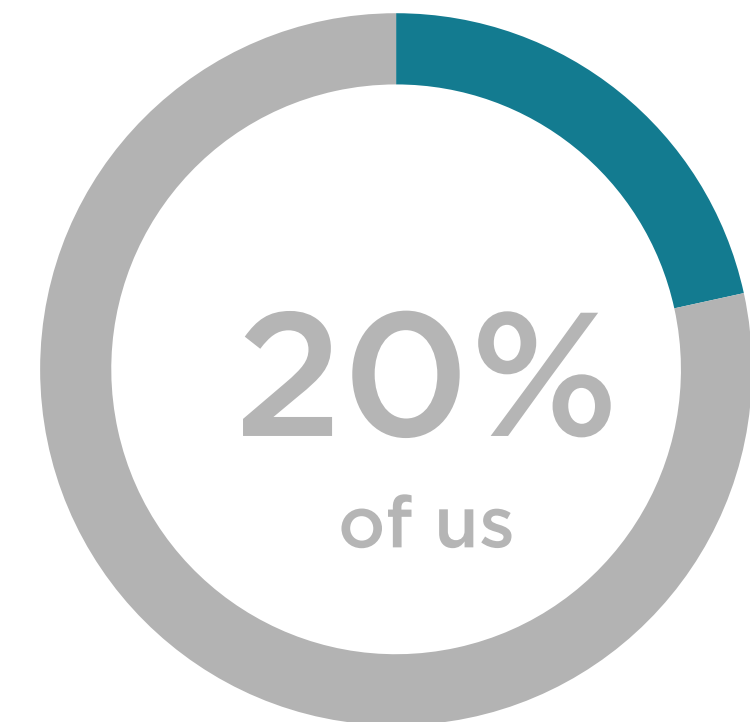
Using the Australian Bureau of Statistics data (6202.0 - Labour Force, Australia, October 2018) there were 12,665,800 employees in the Australian workforce in October 2018. Applying the data from Faethm for the future workforce, we have a much clearer idea of the job loss, job creation, and the skilling task Australia will face. The major debate has to focus on how we will transform the existing workforce capabilities to stay in work and assure the capabilities of all new graduates who can no longer rely on technical skills to access employment in occupations that may no longer exist.



1.9m workers will lose current jobs as machines replace human tasks



Over 2m workers will require major reskilling to stay in work as technology significantly augments certain jobs



2.4m workers will move to a job that doesn't exist today

Source: Faethm data using their predictive platform, released 18 December 2018; data modelling employment in all industries, Australia November 2018 to November 2025. Numbers of workers based on ABS (2018) 6202.0 *Labour Force Australia October 2018* reporting total employment of 12,665,800 workers.

# Myth Two:

We don't know what skill, knowledge or abilities people will need in the future

# The changing labour market

Global research has already confirmed that core capabilities or so-called soft skills increasingly dominate future work and employability

Soft skill intensive jobs will grow

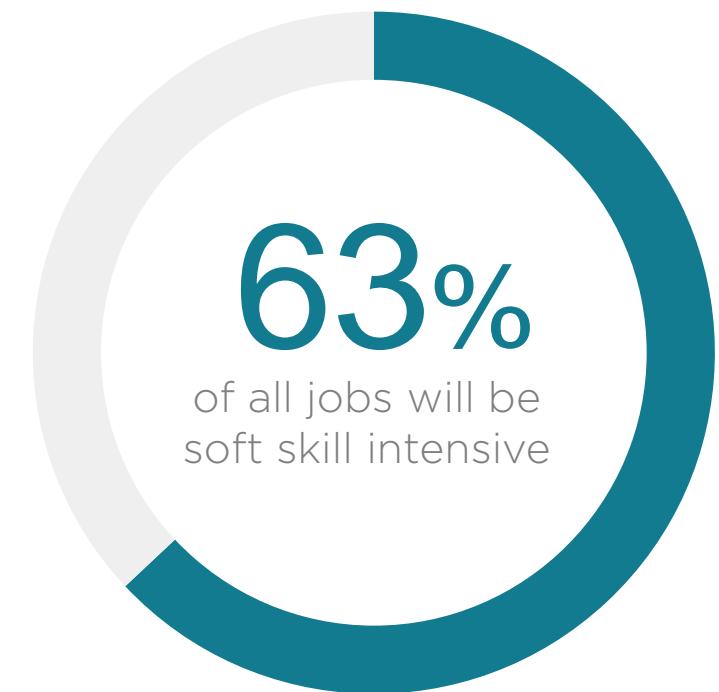
**2.5X**

faster than other jobs



**Soft skills or non-technical skill intensive jobs**

will make up 63% of all jobs by 2030.



Source: Deloitte Access Economics (April 2017). *Soft Skills for business success*, DeakinCo., Melbourne.

# Core capabilities for future work and workers

Jobs are an artificial boundary. They form when we package capabilities to achieve certain outcomes. While job titles may change we know soft skills (personal and non-technical capabilities) will endure and guide employability in the future workplace.

The Queensland Tertiary Admissions Centre has validated global research finalised a draft set of 15 Future Capabilities.



With permission QTAC © 2018



# Myth Three:

We cannot train for jobs that don't exist today or even have titles

# Job Neighbourhoods

Examining corridors to employment and sustainable careers

Job Neighbourhoods show jobs clusters related not only by what workers do, but the capabilities required to perform work tasks and activities. It supplements the concept of occupations and job families.

You should choose jobs with capabilities that allow movement (Job Corridors) into other jobs in the neighbourhood. Ideally, this movement should be to jobs with sustainable employment growth.

In the example provided, the motor mechanic looks to be a good job given current employment. But the indicative 10 year employment growth projections are poor. Employment for the *Auto electrician* is comparatively lower today, and the *Specialist electric vehicle technician* is much lower. But these latter jobs have much better long term growth projections.

This indicative study of a regional Job Neighbourhood for motor mechanics can inform existing workers and students where they may wish to gain core capabilities then specialise to enhance future employment.

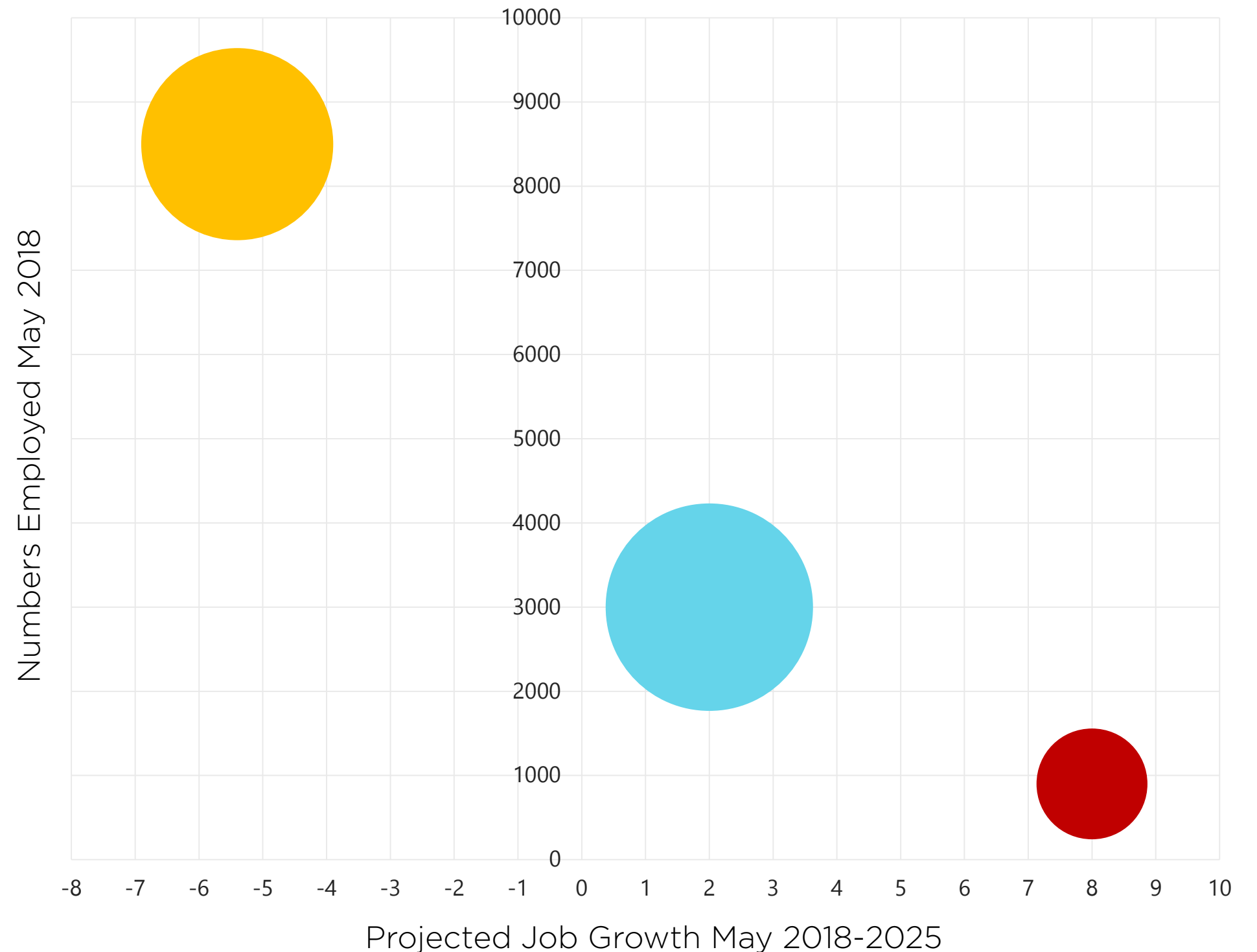
## Motor Mechanic



## Auto Electrician



## Electric Vehicle Maintenance Technician



# Eight Future Job Neighbourhoods

We may not know what the 'job' title will be in the future, but we are able to predict five things:

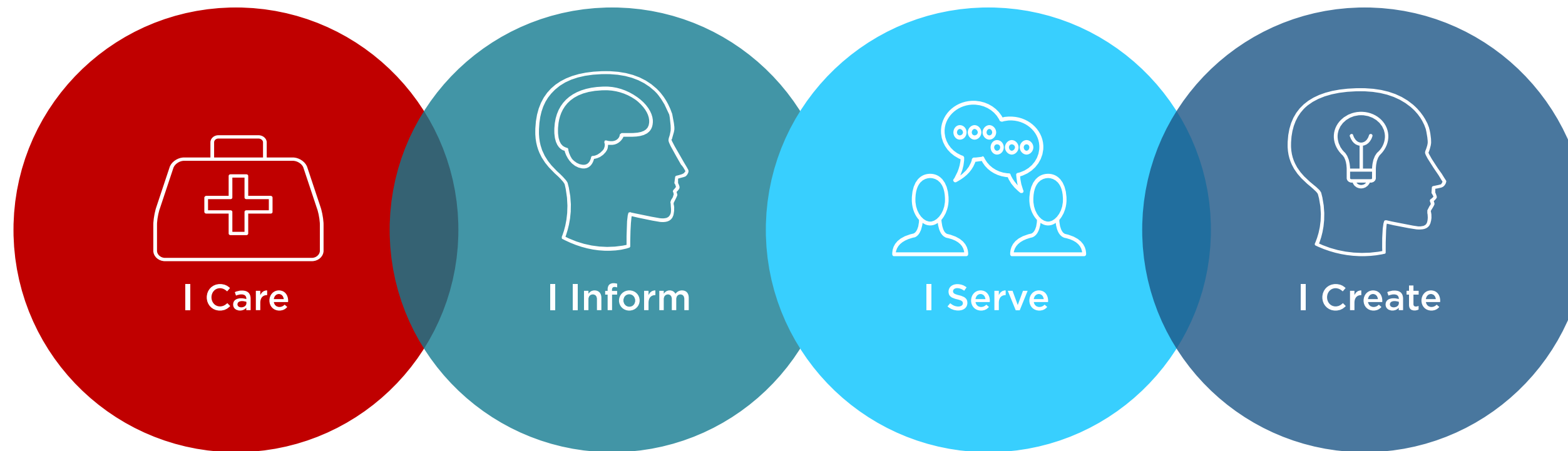
1. What job roles require certain core capabilities (soft skills);
2. Which job roles and tasks will be lost due to automation or augmentation by technology, AI or computerisation;
3. How jobs with certain capabilities cluster in Job Neighbourhoods;
4. What capabilities new or emerging job roles will require and their likely job neighbourhood; and
5. What capabilities sustain employment in the future workplace or open corridors to new jobs.



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# Job Neighbourhoods

While important to all work at all levels in all jobs, research has predicted which future capabilities have the **most** relevance to jobs appearing in certain clusters or job neighbourhoods.



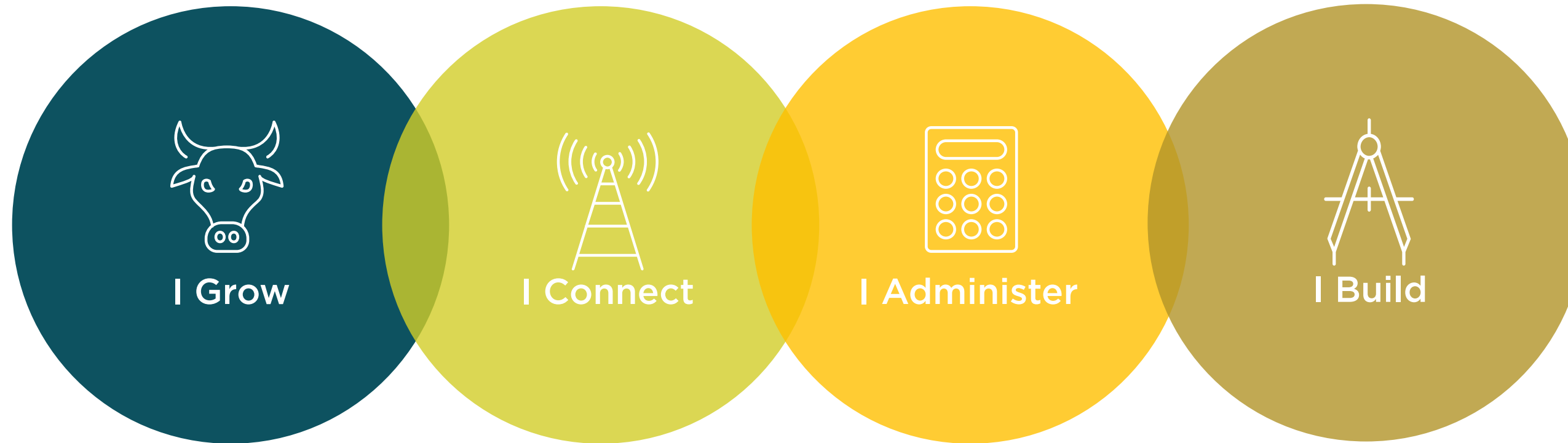
Appealing to people strongly focussed on human and social well-being, health and justice. Areas of practice may include medical, health, aged care, social enterprise, and human services.

Oriented towards those seeking to enhance or share human understanding, knowledge and practices. Areas of practice may include education, analytics, business services, media and consulting.

Strongly oriented to interpersonal (physical or virtual) interactions and communication. Areas of practice may include retail, sales, hospitality and entertainment.

Encompasses people drawing strongly from personal insights and emotions. Areas of practice may include artists, designers, creative workers and fabricators.

# Job Neighbourhoods (continued...)



Appealing to people strongly focussed on natural resources, food and agriculture. Areas of practice may include farming, mining, resource and renewable energy.

Appealing to people strongly focussed on technology, computing and digital networks. Areas of practice may include computing, information technology, web services, social media, digital systems, transport and telecommunications.

Oriented towards administration, management, procedural knowledge, and transactional services. Areas of practice may include public service, banking, law, logistics, and managed services.

Appealing to people strongly focussed on designing, building and maintaining networks, products, machinery or infrastructure. Areas of practice may include mechanics, chemistry, cookery, manufacturing, engineering, building, construction and architecture.

# Jobs of the Future

We can predict which capabilities open corridors to new job opportunities in a neighbourhood

## ★ Transition aged carer

*As people live longer and the public and residential aged care system come under stress, so services will go mobile and move to provide aged care at home to the patient/ client.*

## ★ Control systems engineer

*Where mechatronic meets automation this role combines the traditional engineering work with project and process management.*

## ★ Autonomous delivery controller

*As logistics and transport is transformed so new business models, processes and driverless vehicles emerge, so they will need to be managed.*

## ★ Cyber security specialist

*As people and organisations become increasingly concerned by cyber threats demand for specialists will boom.*



## ★ Personal brand adviser

*Specialist in helping people establish and manage their personal brand and identity in virtual and social media environments.*

## ★ Customer success manager

*These roles replace sales and account managers with those directly advocating for and helping customers achieve a successful outcome while optimising their experience.*

## ★ Virtual content developer

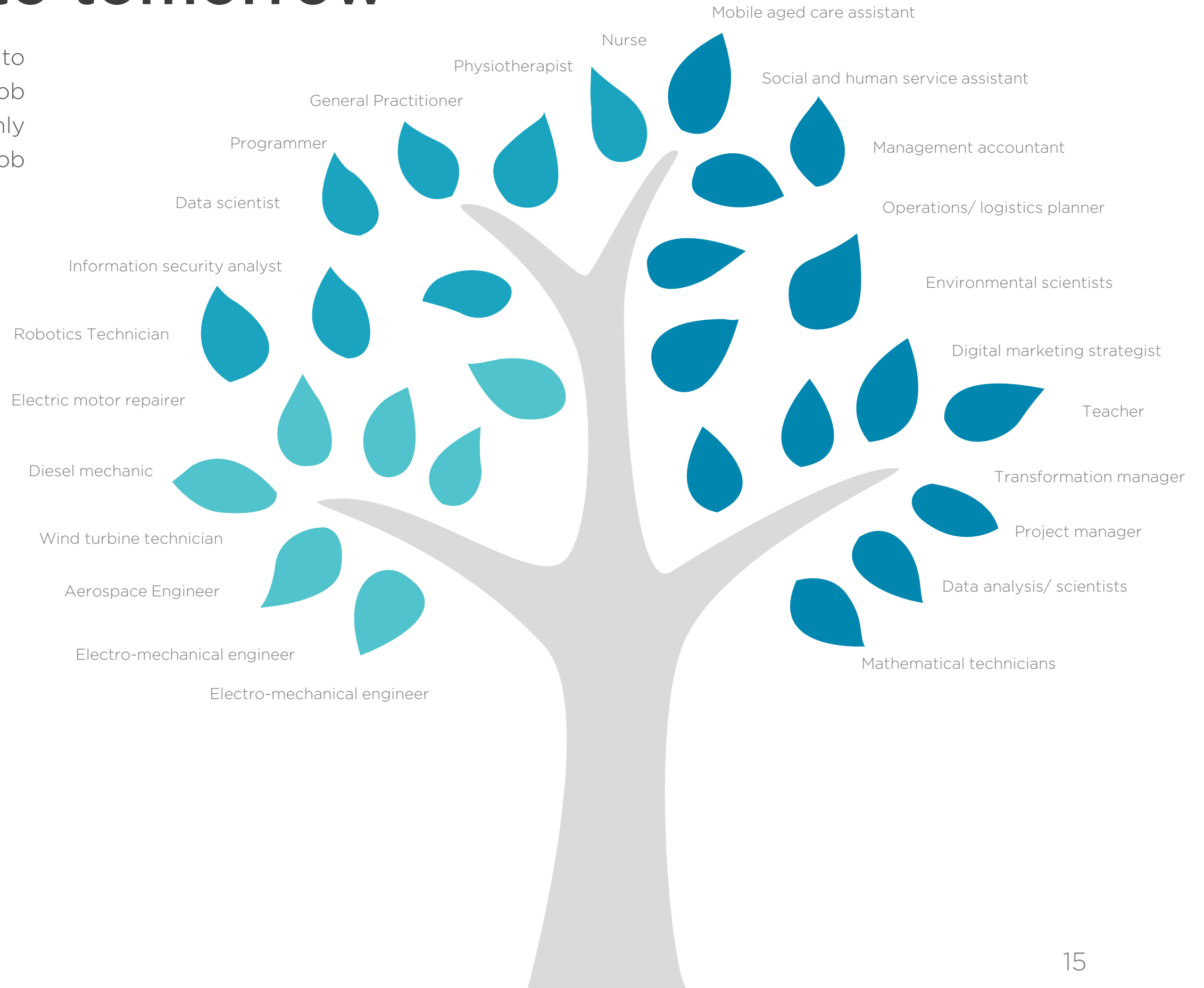
*Creating the virtual reality or augmented reality content and environments being used for education, training and new media platforms.*

## ★ Remote drone surveyor

*In mining, agriculture, construction, transport, and pipeline industries drones with surveying, imaging and 3D capabilities will be used to improve operations and safety.*

# Jobs today that lead to tomorrow

For students likely to graduate within 5 years it is important to choose jobs today that reside in sustainable job neighbourhoods. It means targeting jobs that are not only growing fast today but require capabilities that open large Job Neighbourhoods now and into the future.



## Myth Four:

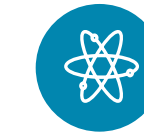
The existing higher education system cannot be reinvented in time to respond to the reskilling task



# Explicit

Things you do that can be evidenced, written down, seen or demonstrated.

***Traditional higher education tends to focus on technical and theory-based knowledge and discipline specific skills***

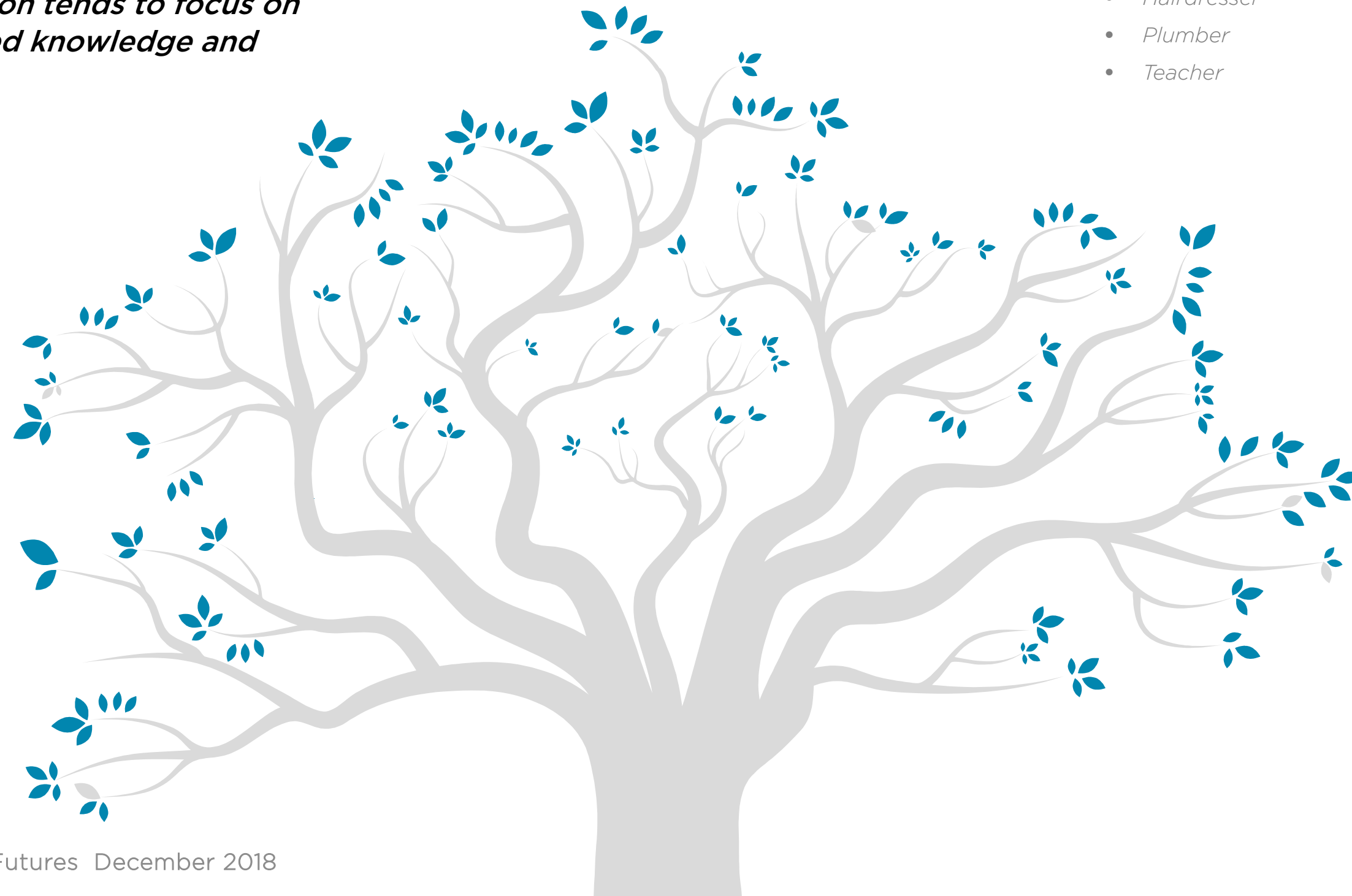


## Skills & Knowledge

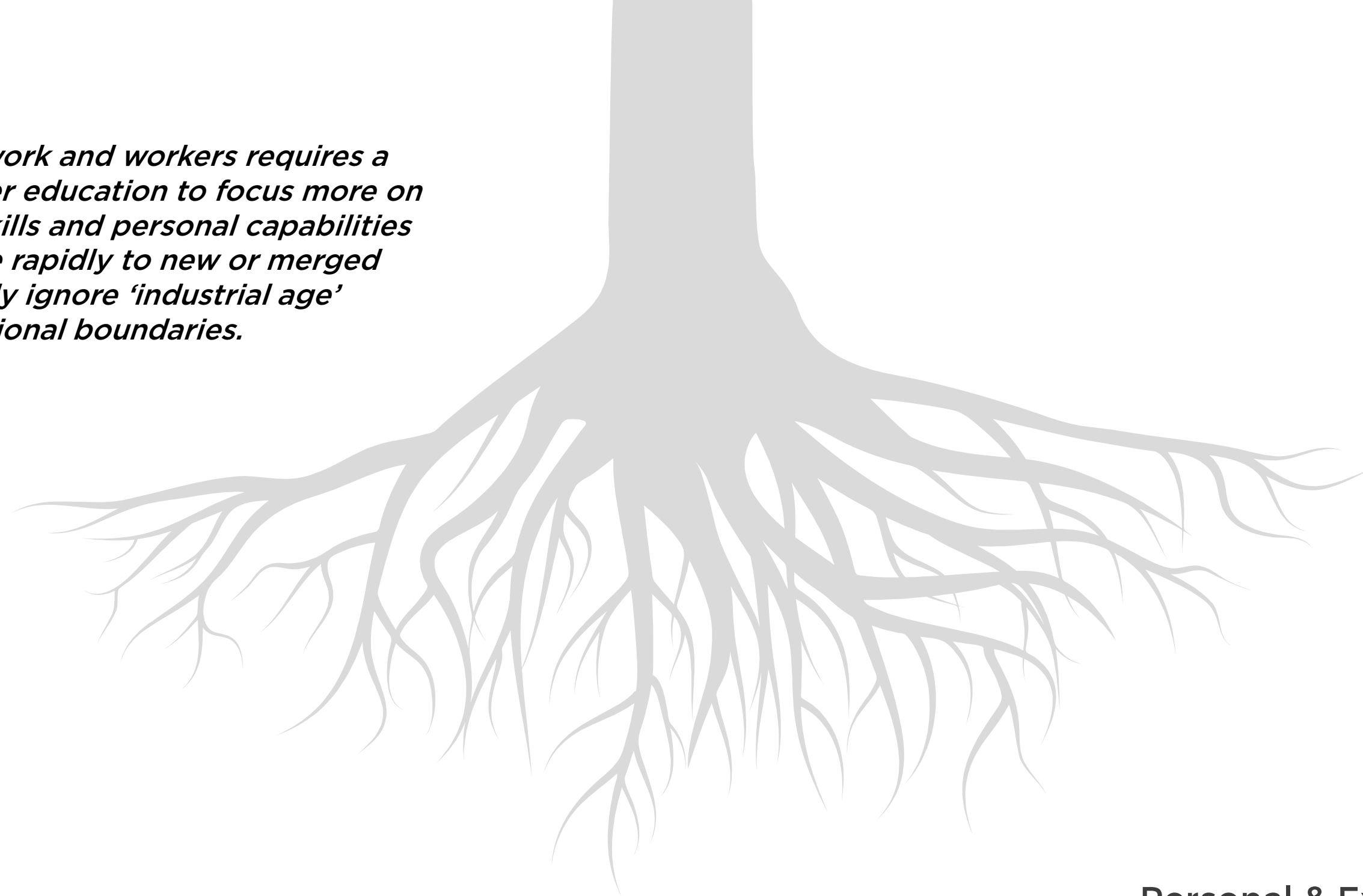
*The body of knowledge, theory, competencies or capabilities that allow you to perform in a specific occupation or professional role.*

*For example being an:*

- Accountant
- Bus driver
- Surgeon
- Hairdresser
- Plumber
- Teacher



*The future world of work and workers requires a recalibration of higher education to focus more on non-technical, soft skills and personal capabilities that allow us to move rapidly to new or merged work roles that largely ignore 'industrial age' discipline or occupational boundaries.*



## Tacit

Things you know or can do that can only be learnt but not taught. It may be held within a network or by communities in a context (e.g. social capabilities), They are cognitive, mental, personality-based, or embedded in your attitude and mindset. They shape how effectively you deploy and reflect on your technical and non-technical knowledge and skills.



## Personal & Experiential

*This is how you perceive yourself and others, your beliefs and ethics, and your self-awareness. They are deeply embedded in your DNA and emerge when you respond to others or a specific situation. For example:*

- *Your motivation*
- *Personal ambition*
- *Empathy*
- *Self-esteem*

# Qualifications with sustained value

Tertiary study is an expensive investment. But many existing courses can better prepare you for the future workforce. Here are the top four picks for optimising your investment and employment prospects now and into the future.



## Media and design

*It seems counterintuitive given current job prospects but there exists a need for creative talent. This is a niche where technology will be very slow to replace human cognition required to produce intuitive insights and inspire human centred design, content for new media and virtual environments.*



## Computer science

*This is a big field but a focus on software development, security, programming, cloud computing, machine learning and data administration can all open large job neighbourhoods.*



## Entrepreneurship

*Beyond the startup world, changes to work emphasising self-employment, freelance and contracting, suggest all students should learn to think and act like an entrepreneur.*



## Engineering

*The STEM all-rounder. Not only providing the foundations of science and mathematics, it covers design, problem solving and evaluative judgement. There a reason why 'Big Six' consultancy companies now recruit more engineering graduates than from any other discipline.*



# Micro-credentials with value

If you don't want to invest as much money or time required to get a full qualification, here are examples of five short course where certificates or micro-credentials (part of a qualification) can quickly reposition you into a sustainable future career. All the following have foundation courses that can be completed in less than 12 weeks. The following are ranked by advertised salary listed in employment vacancies (December 2018).



## Human Centred Design

(Certified Design Thinking or HCD (e.g. IDEA HCD 101 free online course, or UX certification)

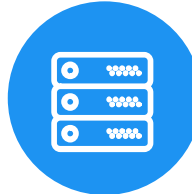


## Drone pilot license

(Drone remote operator CASA certified)



## Project management

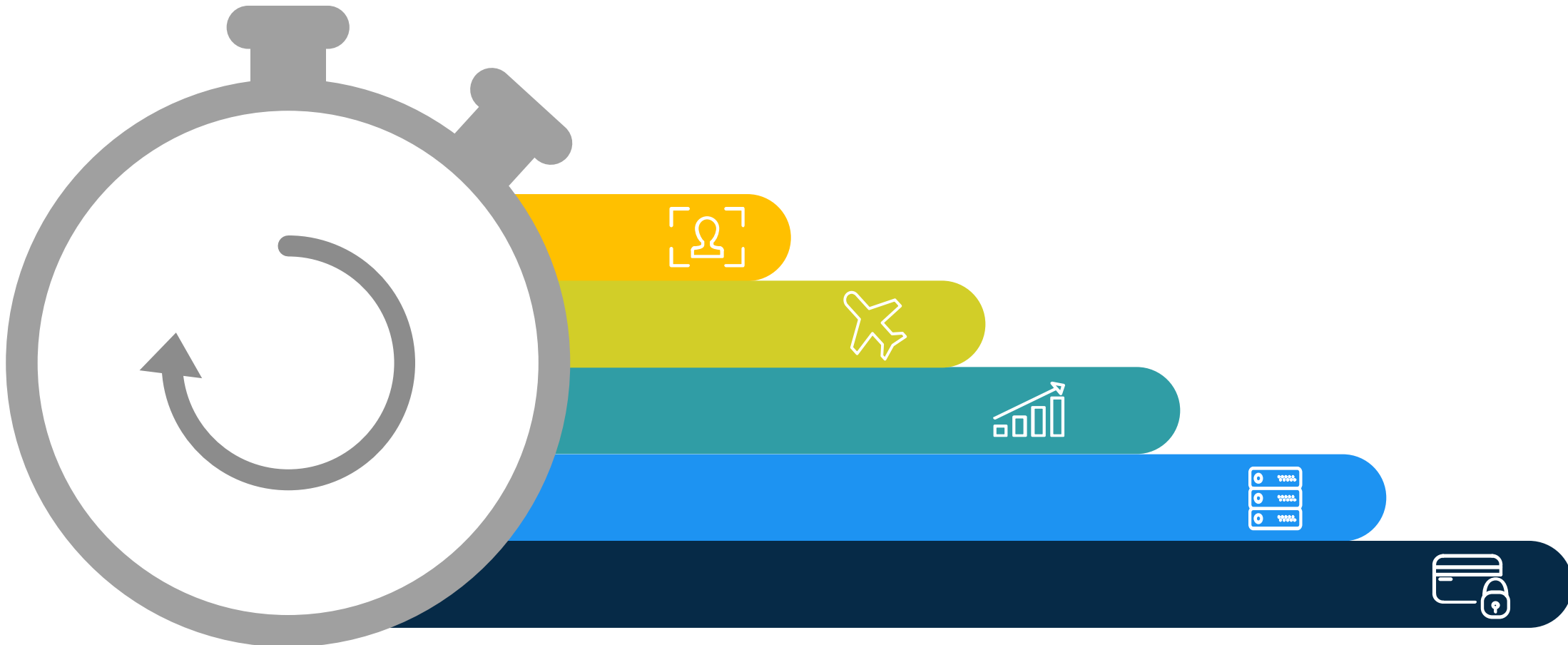


## Programmer

(Vendor certified, e.g. MongoDB, CCT, CCA Spark, CLA, MCS)



## Cyber security certification



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