


Understanding and Impact on HR Organisational Development

The graphic features the word 'INDUSTRY' in a bold, blue, sans-serif font, oriented vertically. To its right is the number '4.0' in a large, stylized font. The '4' and the '0' are filled with a dark blue color and contain numerous white icons representing various aspects of industry and technology, such as gears, lightbulbs, circuit boards, and communication symbols. A small blue circle with a white icon is positioned between the '4' and the '0'.

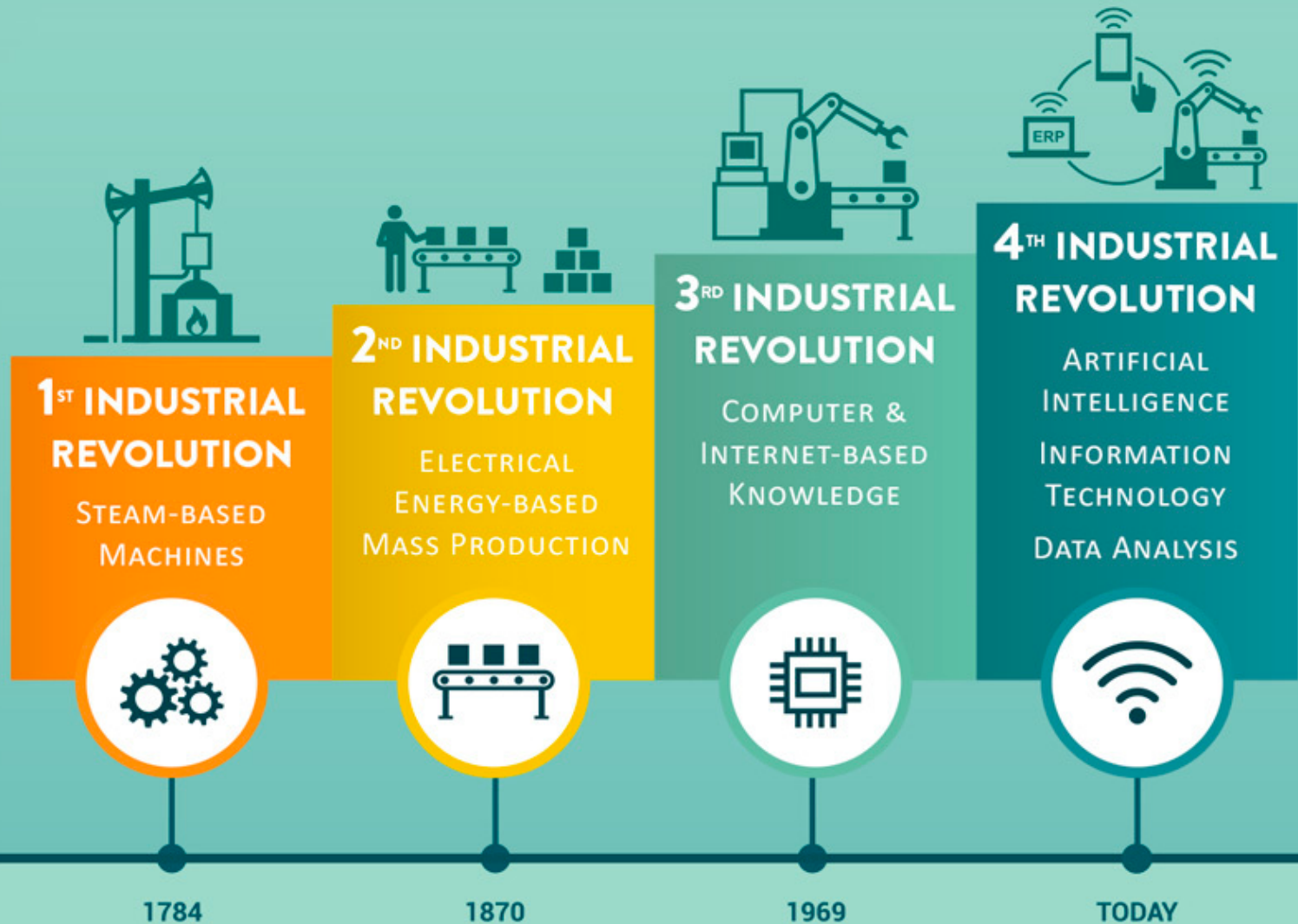
Azrinah Rahman, CSPS

Content

- **Understanding Industrial Revolution 4.0**
 - Effects of digital transformation
- **Impact on Human Resource Organisational Development**
 - Changing HR landscape
 - Integrating people and technology in workspace
- **Future Skills**
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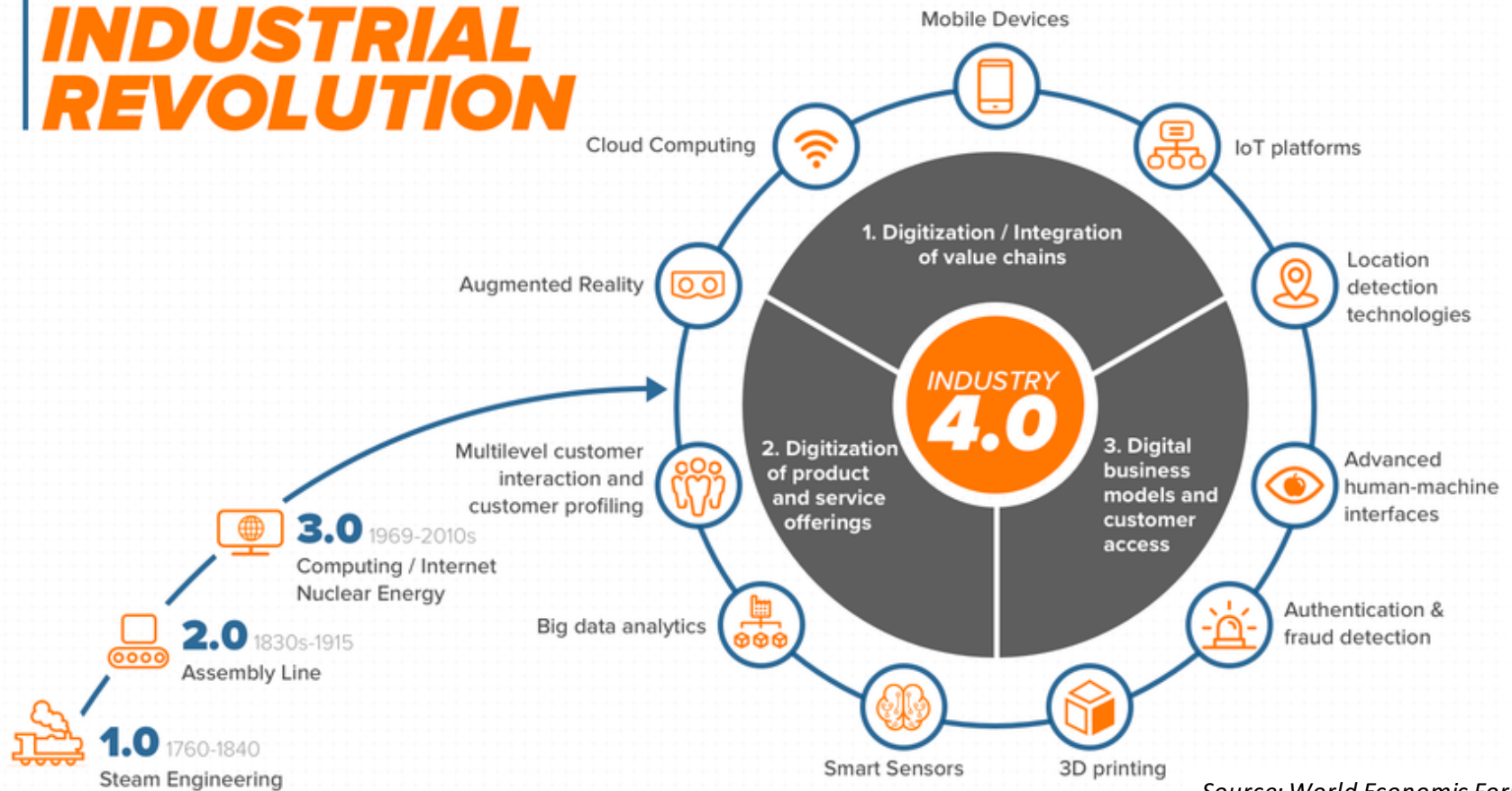


*...the world is in the early stages of the “**Fourth Industrial Revolution**”: a fundamental shift in how we produce, consume and relate to one another, driven by the convergence of the physical world, the digital world and human beings ourselves*



THE DAWN OF THE

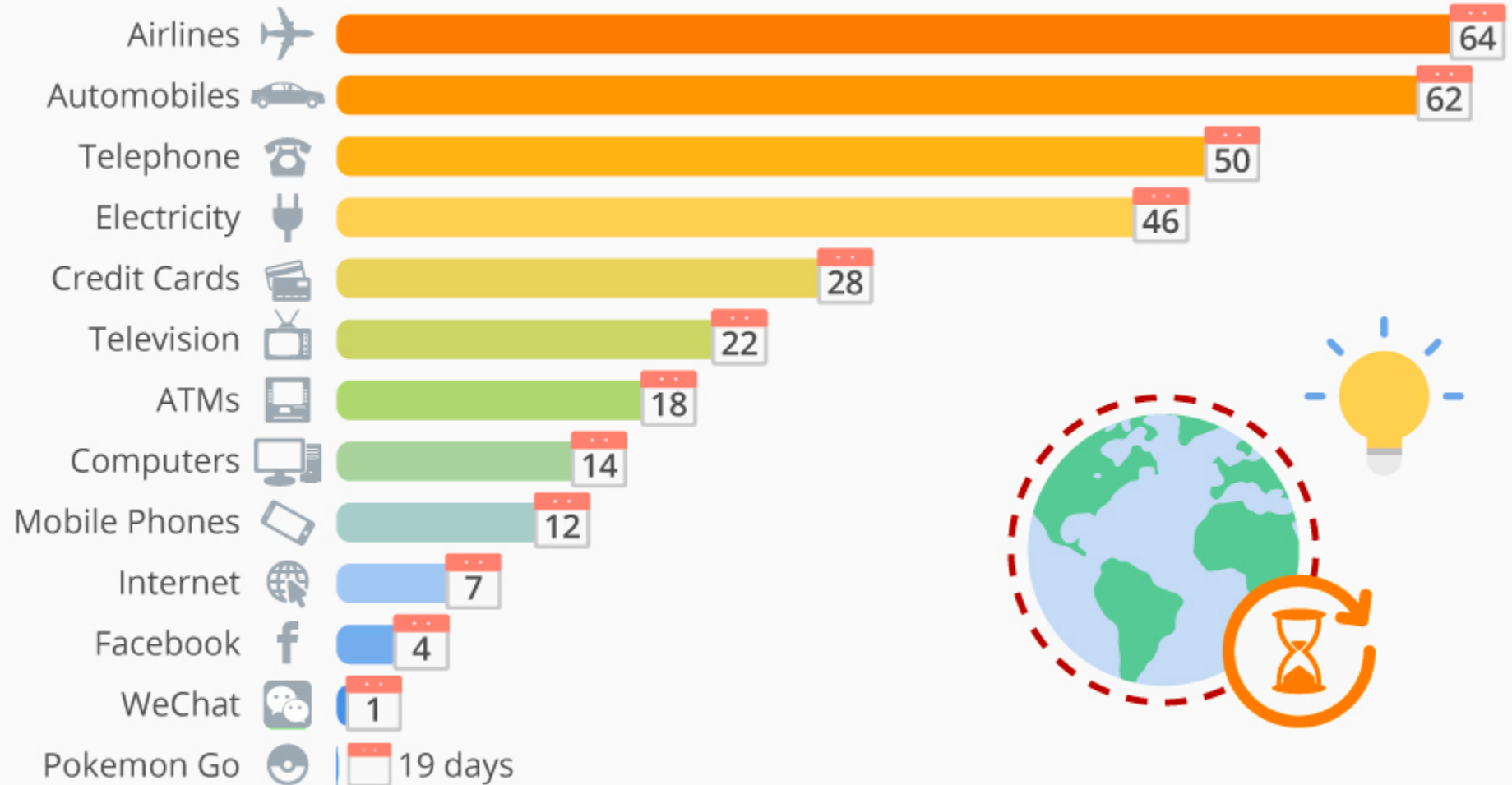
FOURTH INDUSTRIAL REVOLUTION



Source: World Economic Forum

The Road to Ubiquity is Getting Shorter

Time innovations needed to reach 50 million users (in years)



JAN
2019

BRUNEI DARUSSALAM

THE ESSENTIAL HEADLINE DATA YOU NEED TO UNDERSTAND MOBILE, INTERNET, AND SOCIAL MEDIA USE



TOTAL
POPULATION



436.7
THOUSAND

URBANISATION:

78%

MOBILE
SUBSCRIPTIONS



593.3
THOUSAND

vs. POPULATION:

136%

INTERNET
USERS



410.8
THOUSAND

PENETRATION:

94%

ACTIVE SOCIAL
MEDIA USERS

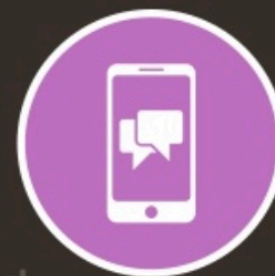


410.0
THOUSAND

PENETRATION:

94%

MOBILE SOCIAL
MEDIA USERS



360.0
THOUSAND

PENETRATION:

82%



we
are
social



we
are
social





IR4.0: Impact on HR Organisational Development

Evolution of HR

THE EVOLUTION OF HR

HOW HR IS PERCEIVED

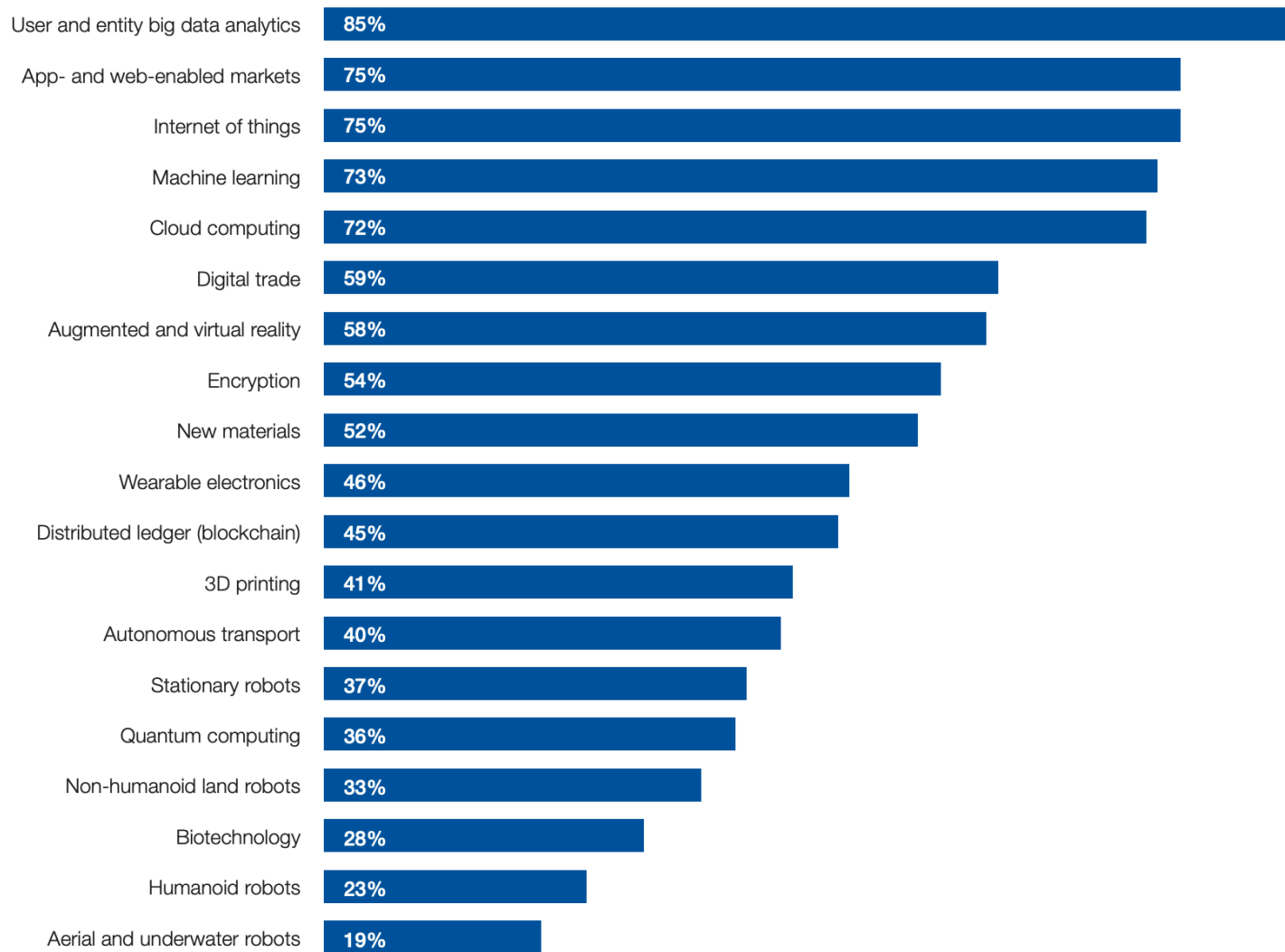


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The need for HR transformation




- Key to the successful digitalization of companies
- Opportunity for HR to play strategic role:
 - HR as an Innovator
 - HR as a Driver of Business
 - HR as a Change Agent
 - HR as a Collaborator
- Digitalisation = Productivity (boost efficiency by 20 to 30 percent)
- Need to align skills needed for industry
- Know how to use data

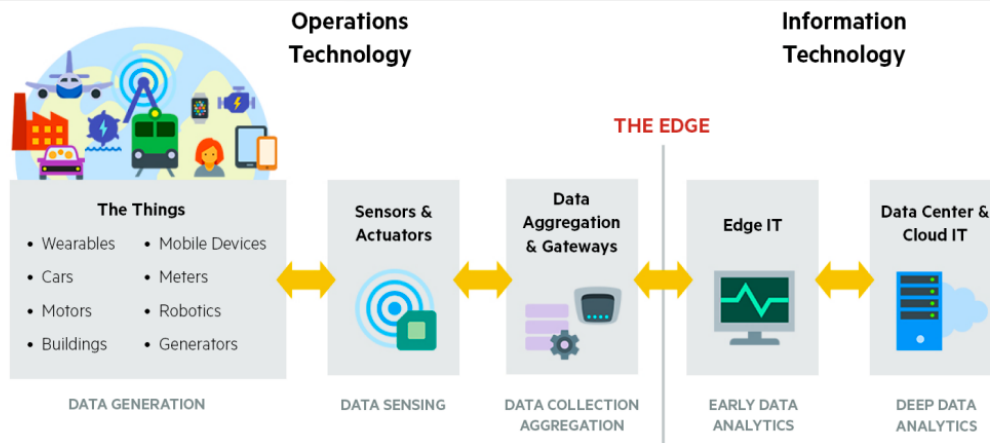
Figure 2: Technologies by proportion of companies likely to adopt them by 2022 (projected)



Source: Future of Jobs Survey 2018, World Economic Forum.

IoT Skills

	Individual	Community	Society
Level			
IoT	Smart phones Wearables	Connected Cars Health devices Smart homes	Smart Cities Smart Grids
Examples	GPS, Fitbits Visa PayWave Mastercard Paypass Employee passes	Intelligent Transport Systems Event Data Recorders (EDRs) Blood pressure monitors; remote burglar/heating systems	Smart metering; Smart water meters Traffic monitoring
Data	Mobile money Fitness data, GPS location-based data	Speed, distance, airbag, crash locations/alerts; Heart rate, blood pressure, Diet, remote heating data	Electricity/water consumption & billing; Traffic flow data
Intended Audience	Individual person Immediate friends/ family; banks; employers	GP, health authorities; health & car insurance; police, social networks	Authorities/regulators Utility companies; Other citizens



Big Data & AI Skillset

- Around the world, 2.5 quintillion bytes (2.5×10^{18} bytes) of data are created every day, with 90 per cent of the data in the world generated in the last two years alone ([IBM, 2016](#)).
- Government generates and holds a vast amount and diverse array of data, including spatial data, operational data, transactional service data, and data collected from or about citizens and businesses.
- Data literacy across the Government will have a critical role in supporting evidence-based decision making, developing more efficient government policy and delivering services.
- Skills and knowledge in publishing, linking and sharing public data will help to make government services more citizen-focused.

Human Resource:

Key foundation for Data ecosystem



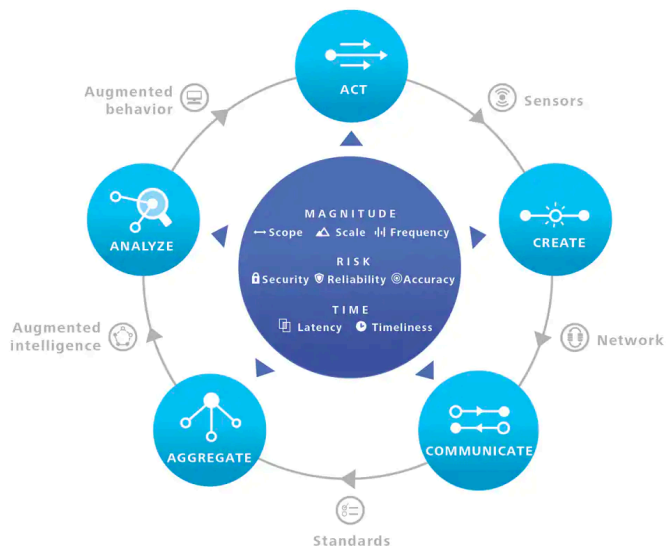


Realising the importance of “Data”

“Data” as enablers for Digital Economy and Digital Society

- Data as the new “oil”

- Data is a vital strategic asset - central source of innovation and economic growth.



VALUE DRIVERS STAGES TECHNOLOGIES

Data innovation

- Service efficiency
- Operational enhancement

The Economics of Data

- Data trading / data marketplace
- Co-creation of data-based application
- Movement of data

Data Strategy and Management Framework

- The Digital Government Strategy 2015-2020
- To achieve the mission of leading the digital transformation and making government services simpler, faster, and more accessible, six key focus areas are identified:
 - (i) Service innovation; (ii) collaboration and integration; (iii) capability and mindset; (iv) optimization; (v) security; and (vi) enterprise information management.

The background of the slide is a dark blue field filled with a complex network of glowing blue and white nodes connected by thin, light blue lines. The nodes vary in size and brightness, creating a sense of depth and connectivity. The overall effect is a futuristic, digital network.

Equipping Future Skills

About the future of jobs

- Growing occupations include roles such as Data Analysts, Software and Applications Developers and E-commerce and Social Media Specialists – jobs that are significantly based on, and enhanced by, the use of technology.
- Employers anticipate a significant shift in the division of labour between humans, machines and algorithms for the tasks of today.

The Jobs Landscape in 2022

emerging
roles,
global
change
by 2022

133
Million

Top 10 Emerging

1. Data Analysts and Scientists
2. AI and Machine Learning Specialists
3. General and Operations Managers
4. Software and Applications Developers and Analysts
5. Sales and Marketing Professionals
6. Big Data Specialists
7. Digital Transformation Specialists
8. New Technology Specialists
9. Organisational Development Specialists
10. Information Technology Services

Top 10 Declining

1. Data Entry Clerks
2. Accounting, Bookkeeping and Payroll Clerks
3. Administrative and Executive Secretaries
4. Assembly and Factory Workers
5. Client Information and Customer Service Workers
6. Business Services and Administration Managers
7. Accountants and Auditors
8. Material-Recording and Stock-Keeping Clerks
9. General and Operations Managers
10. Postal Service Clerks

declining
roles,
global
change
by 2022

75
Million

Source: Future of Jobs Report 2018, World Economic Forum

Why we should address the need for digital skills



Culture of learning
People think that learning is for the young



Motivation
People don't see a need for digital skills



Leadership
Organisations' leaders need to drive digital transformation



Resources
Learning puts pressure on the resources of businesses and individuals



Access to training
People can't find training that is relevant to their needs

The supply of digital skills is lagging far behind demand



38%
of workplaces in Europe report that a lack of digital skills is harming their business.¹¹



40%
of employers claim that they struggle to find candidates for ICT roles.¹²



40%
of people who use software at work do not know how to do so effectively.¹³

TOP SKILLS IN 2015

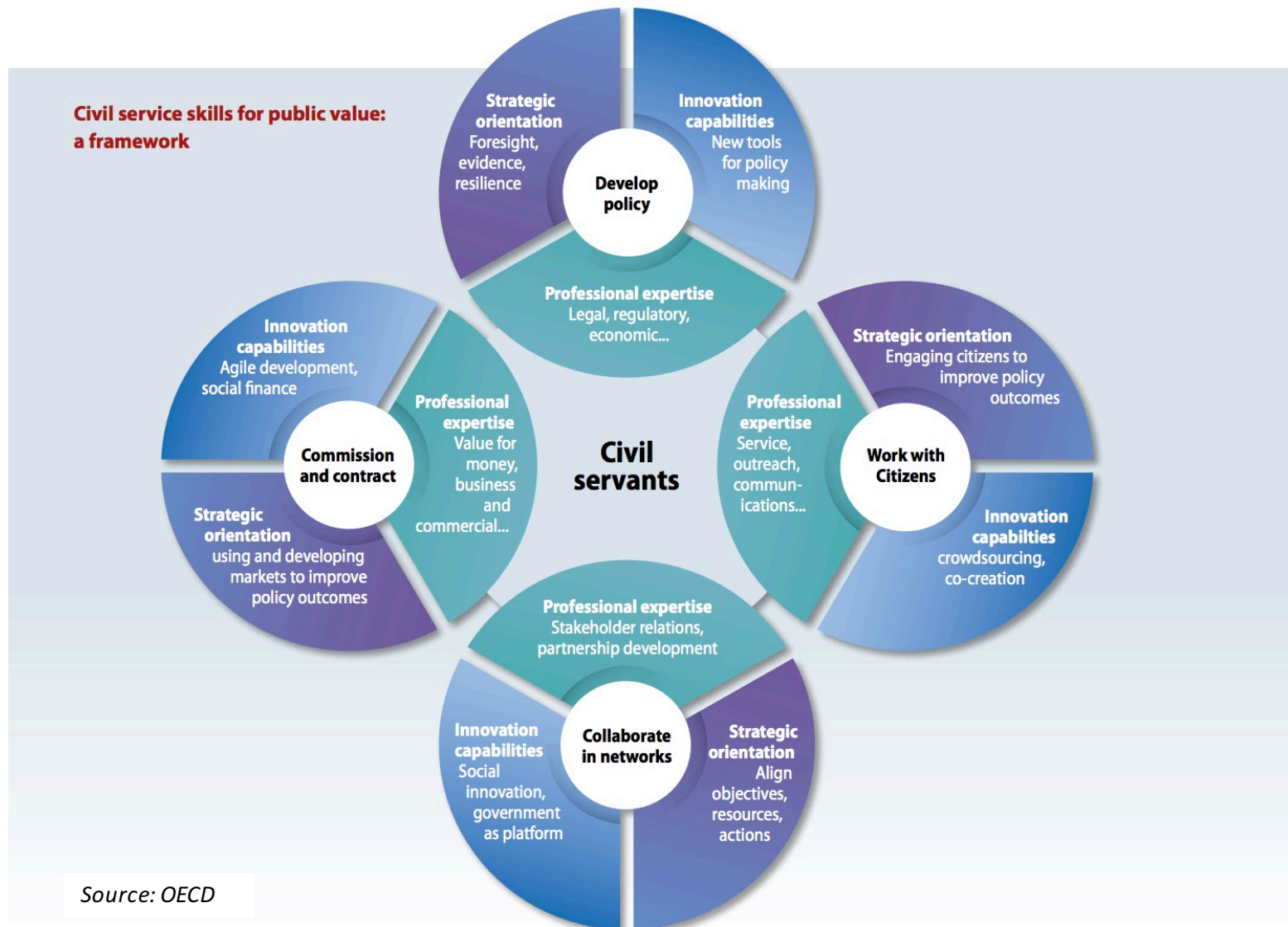
1. Complex problem-solving
2. Coordinating with others
3. People management
4. Critical thinking
5. Negotiation
6. Quality control
7. Service orientation
8. Judgement and decision-making
9. Active listening
10. Creativity

TOP SKILLS IN 2020

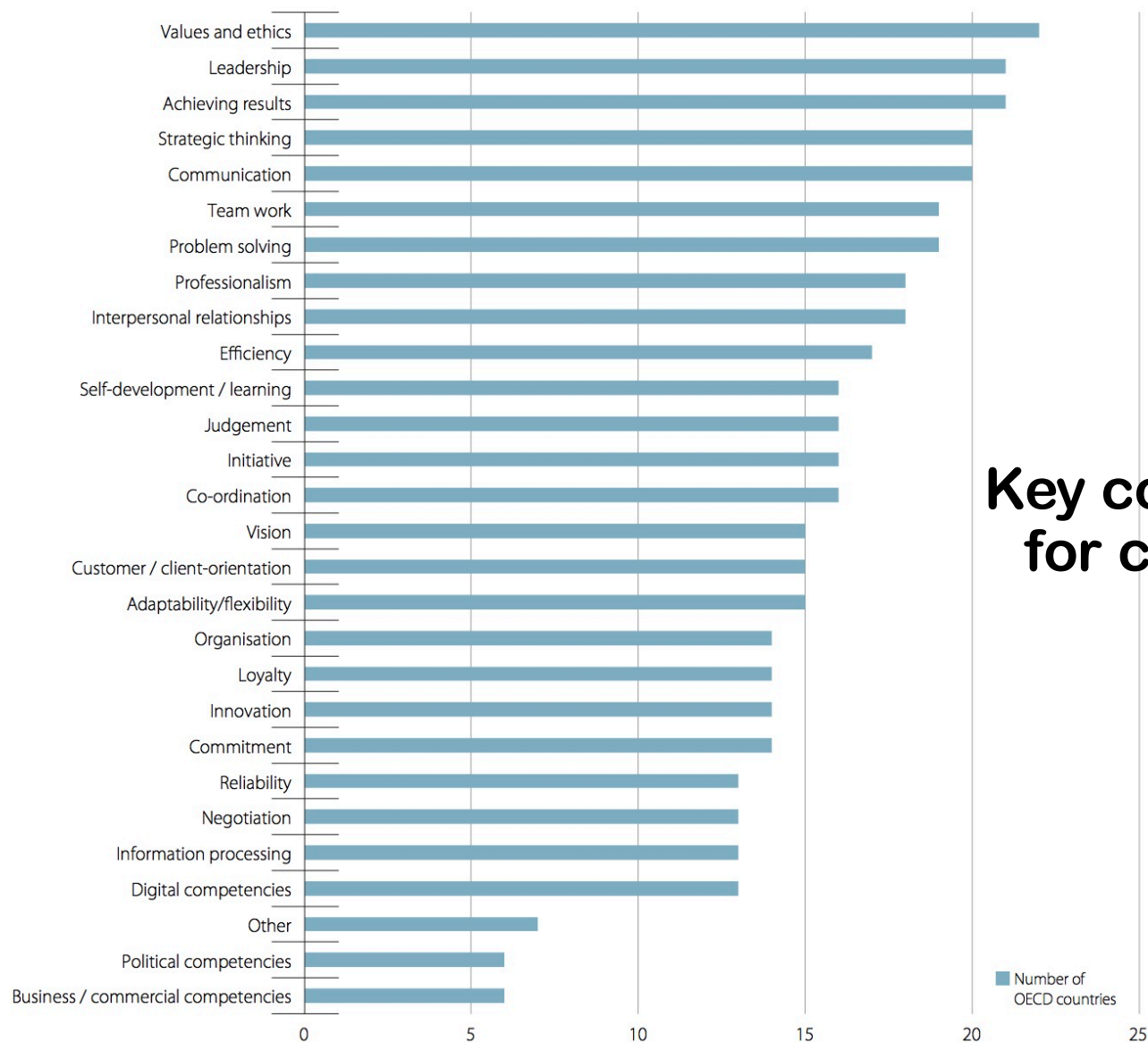
1. Complex problem-solving
2. Critical thinking
3. Creativity
4. People management
5. Coordinating with others
6. Emotional intelligence
7. Judgement and decision-making
8. Service orientation
9. Negotiation
10. Cognitive flexibility

Source: Future of Jobs Report, World Economic Forum

Skills needed for civil service

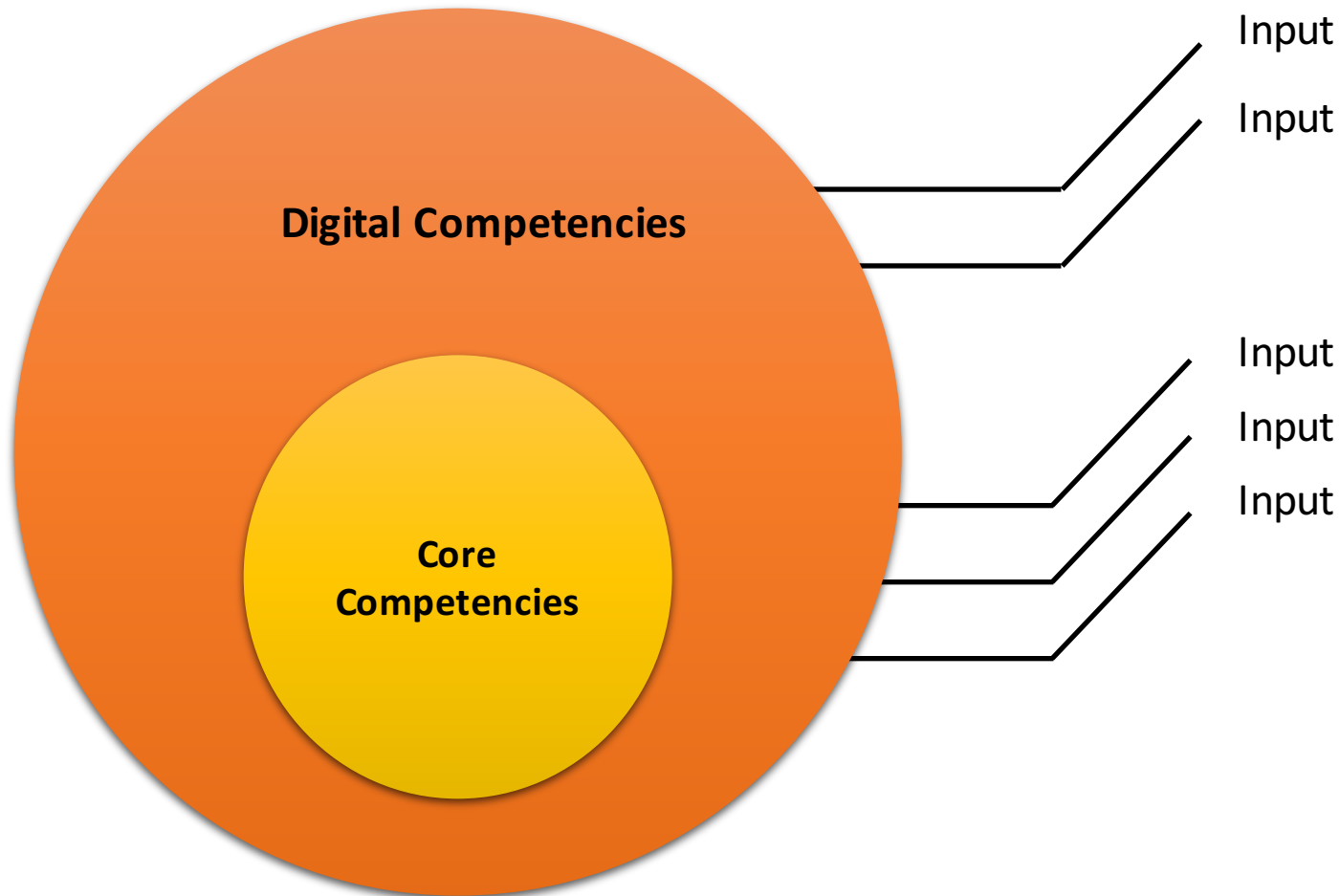


Competencies highlighted in competency profiles (OECD 35, 2016)

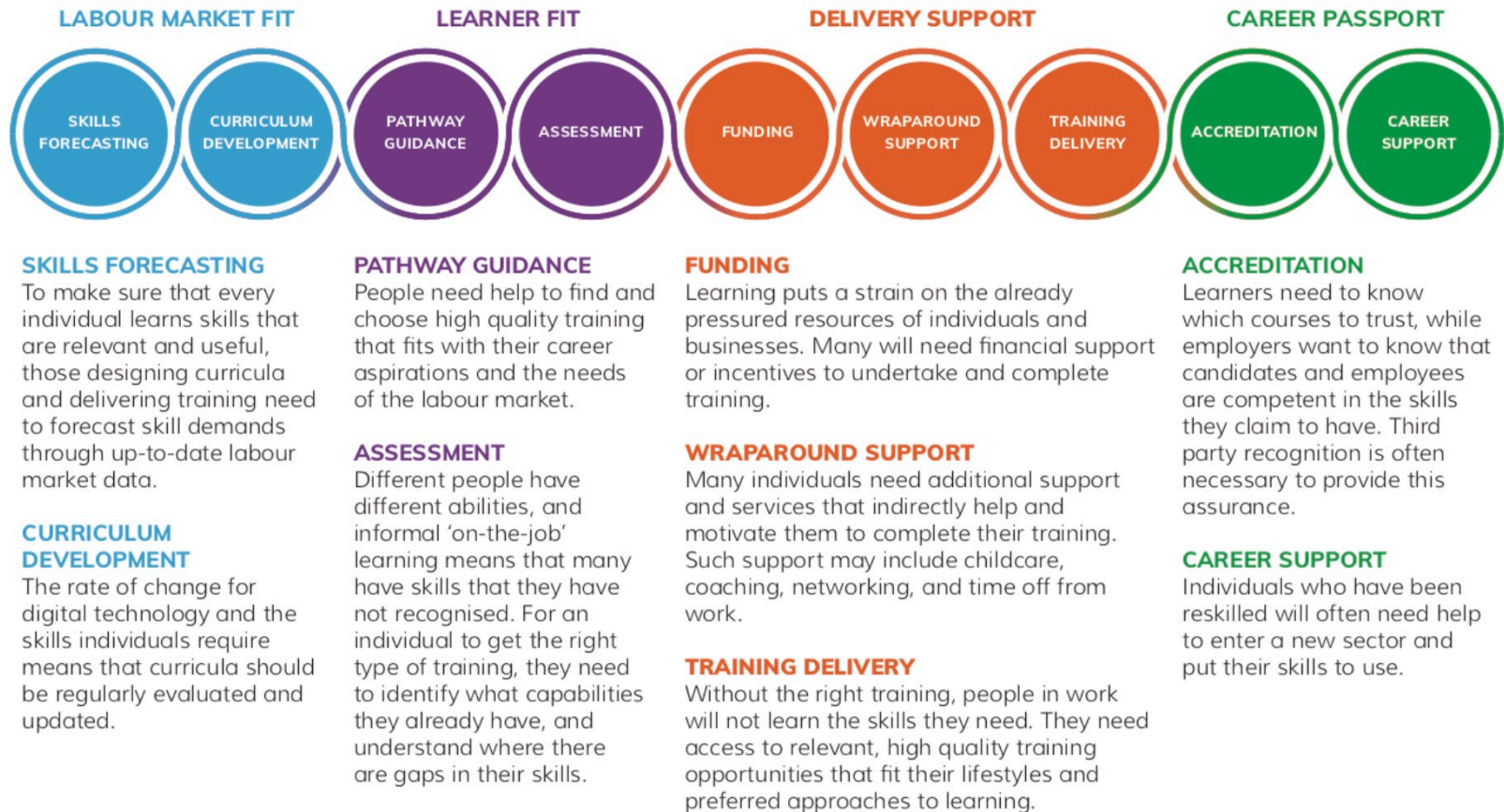


Key competencies for civil service

Competency Framework



An Inclusive and Responsive Learning Ecosystem

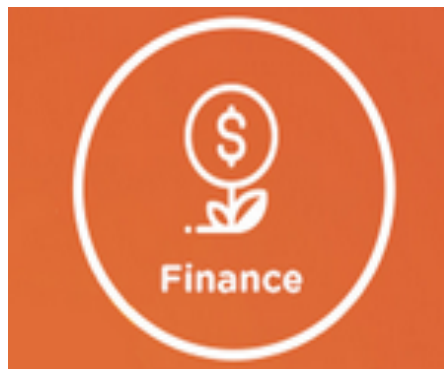


The background of the slide is a dark blue field filled with a complex network of glowing blue and white nodes connected by thin, light blue lines. The nodes vary in size and brightness, creating a sense of depth and connectivity. A horizontal dark blue band runs across the middle of the slide, serving as a backdrop for the text.

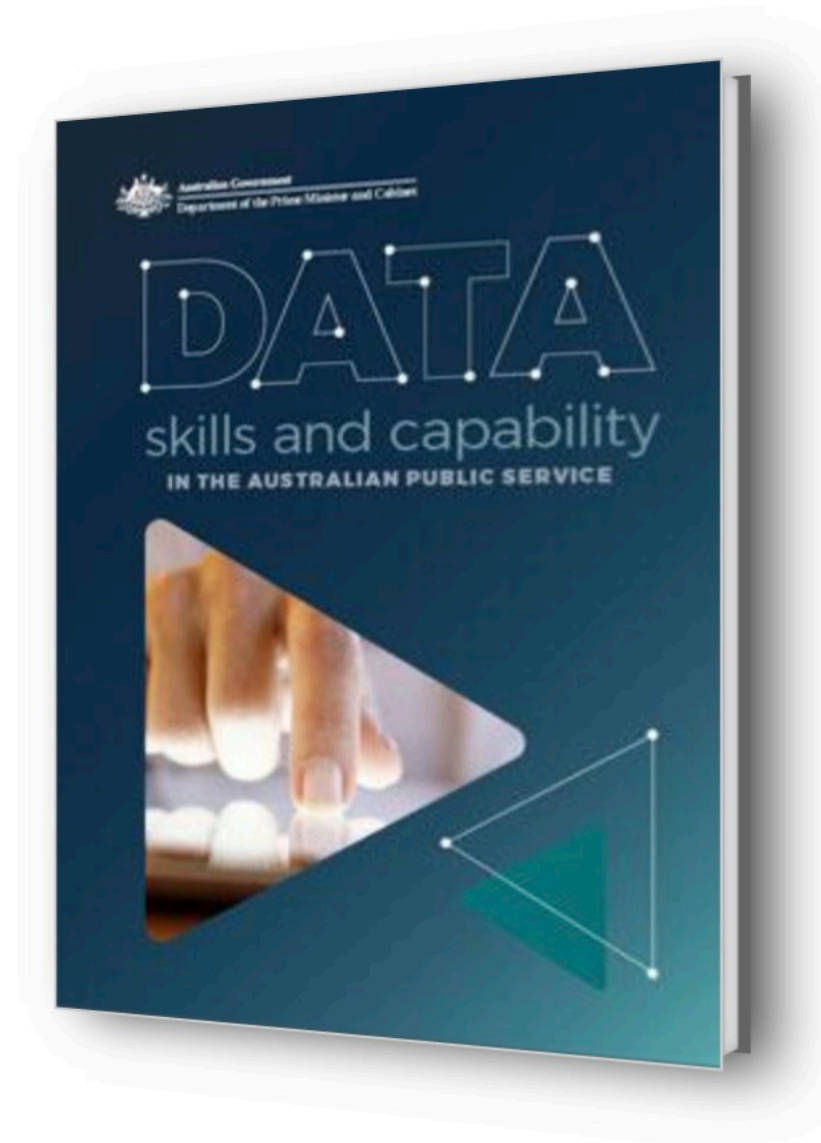
Best Practices

SkillsFuture Singapore

- 8 Emerging skills identified by SkillsFuture :



Australia Public Service (Data skills and capacity)



The background of the slide is a complex, abstract network of nodes and connections. The nodes are represented by circles of various sizes and colors, including shades of blue, teal, and grey. They are interconnected by a dense web of thin, light blue lines, creating a sense of a large, interconnected system or data network. The overall color palette is dark blue, with the network elements providing contrast.

Conclusion



Thank You

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