
digital skills:
unlock opportunities for all.
randstad
human forward.
$ 2,011,344
Statistic Graph
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# the impact of AI and emerging tech on work.

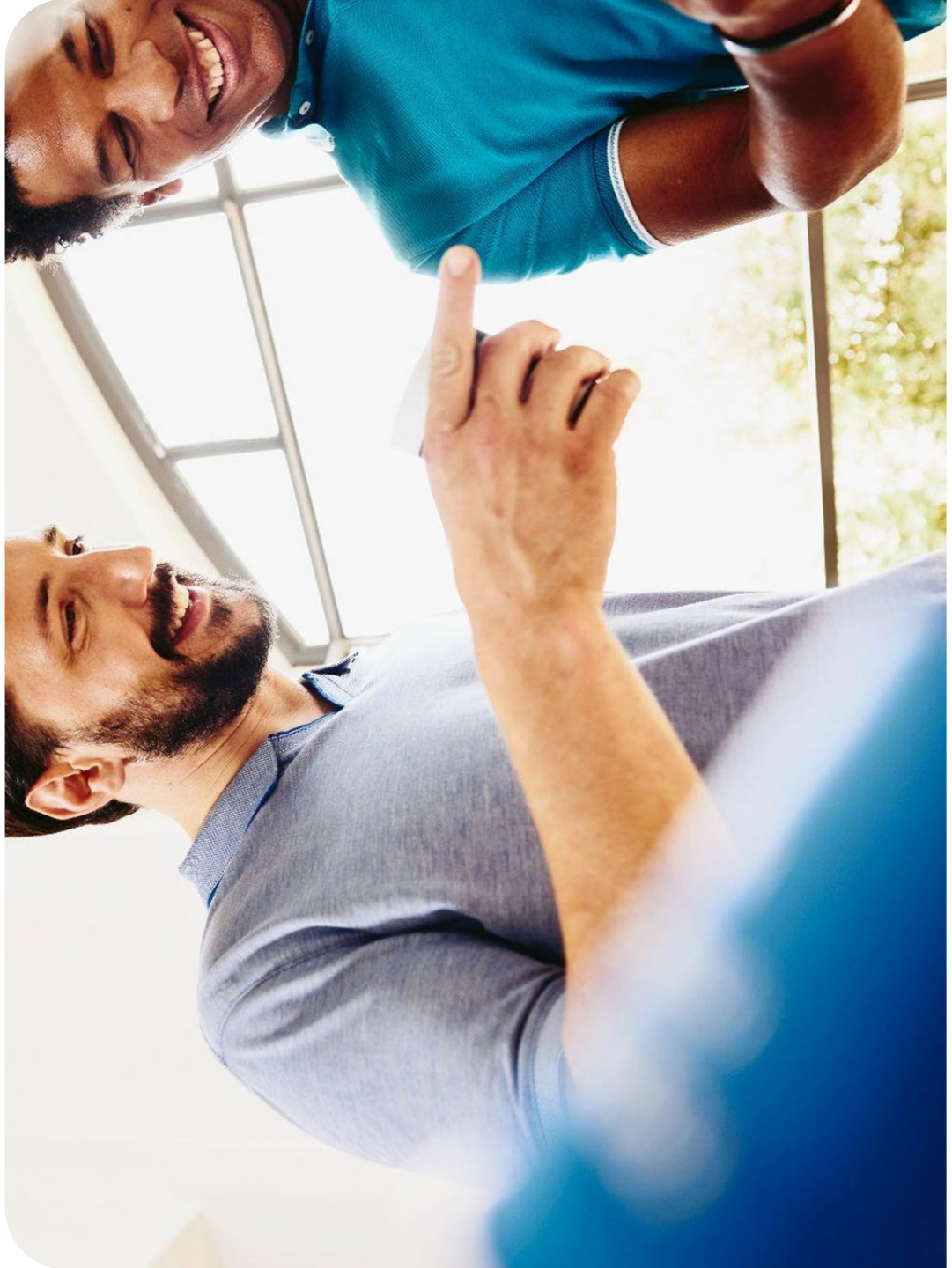
# AI and automation: the age of acceleration.

- In January 2023, ChatGPT users crossed 57 million, which furthered to over 100 million in February 2023. It had a record-breaking adoption rate in the history of the tech industry.
- 60% of jobs will be automated which will continually change skills required to engage in meaningful work.
- The World Economic Forum's "The Future of Jobs Report 2020" predicts AI will replace 85 million jobs globally by 2025. The same report further indicates that AI may create 97 million new roles.
- Data shows that the use of AI in many sectors of business has grown by 270% over the last four years.

With 20-50 million digital jobs being created by 2030, we need to get going with reinventing how you build, access and engage your workforce.

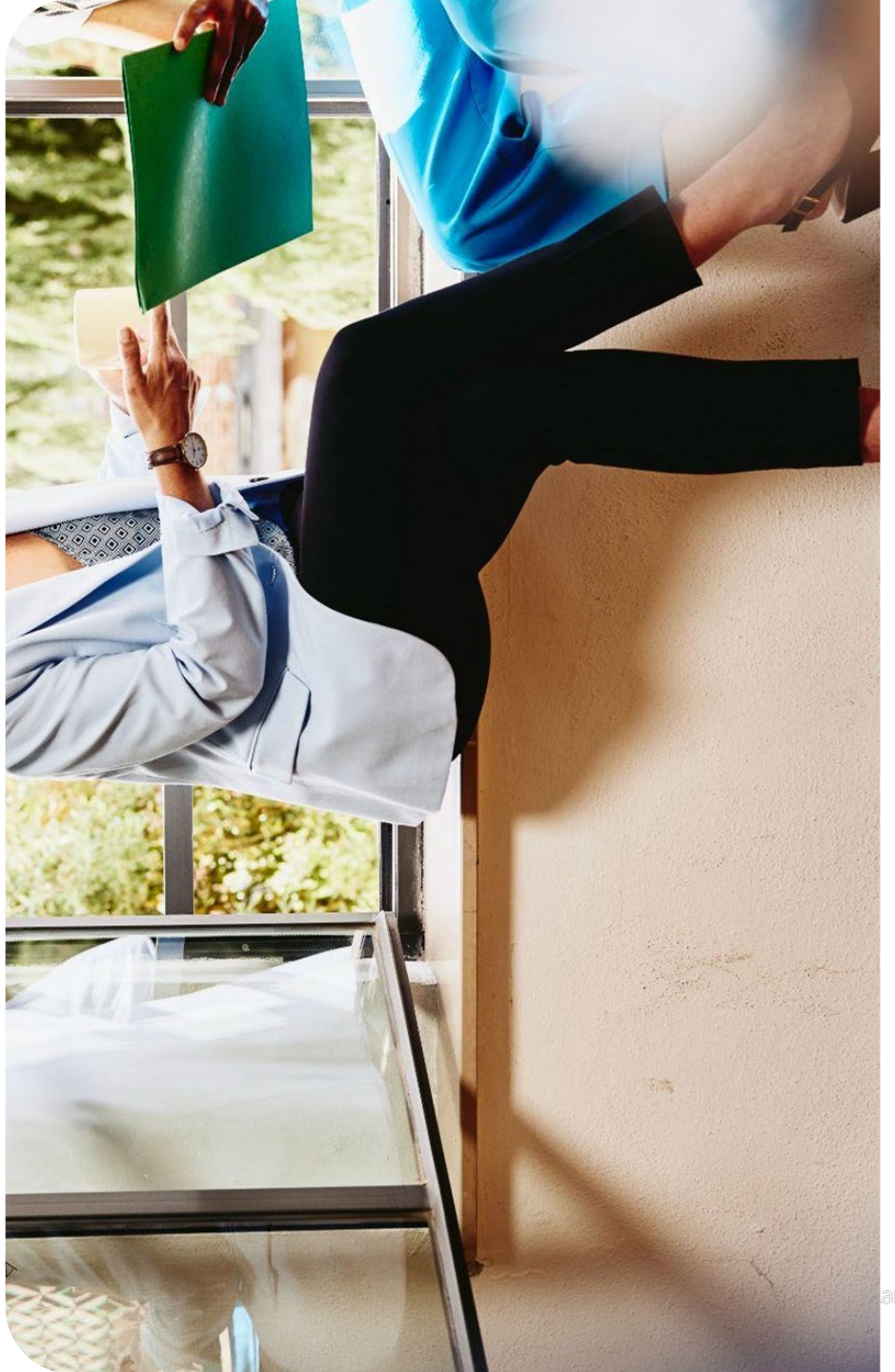
# impact of automation
## on workforms and workforce.

- routine & rule based tasks
- globalization & urbanization
- rising diversity of work forms



# impact of artificial intelligence is much less clear.

- software with intelligence
- machine learning from massive amounts of data
- predictions based on past (human) experiences



# responsible digital transformation

## increasing role and leadership expected of government, businesses and society.

| World Economic Forum's framework: discussing the impact of five emerging digital developments | | | |
|---|---|---|---|
| 1 | cyber-resilience | primary source of vulnerability is human error | 1. train employees on digital habits & security protocols - e.g. confidential/business/public<br>2. central inventory of networked devices and applications - e.g. breach response plans |
| 2 | data privacy | privacy rests on personally identified information (PII) | 1. govern how to seek, manage and process data - e.g. sensitive & personal data strategy<br>2. build logic by design and default into all front-end innovations |
| 3 | IoT | rethink operations, products and service offerings | 1. improve productivity by access to real-time data - e.g. product innovation<br>2. new value creation models - e.g. pay-as-you-go or subscription models |
| 4 | blockchain | distributed ledger technology | 1. explore removing trusted brokers - e.g. financial services, health, supply chains<br>2. essential characteristic immutability w/o alterations of all blocks & consensus network |
| 5 | AI / ML | software capable of learning & making decisions | 1. business challenge: AI trained for a purpose cannot be used for another (unresponsible)<br>2. avoid bias - data needs to be complete, measurable and repeatable |

# AI’s impact on gender diversity.

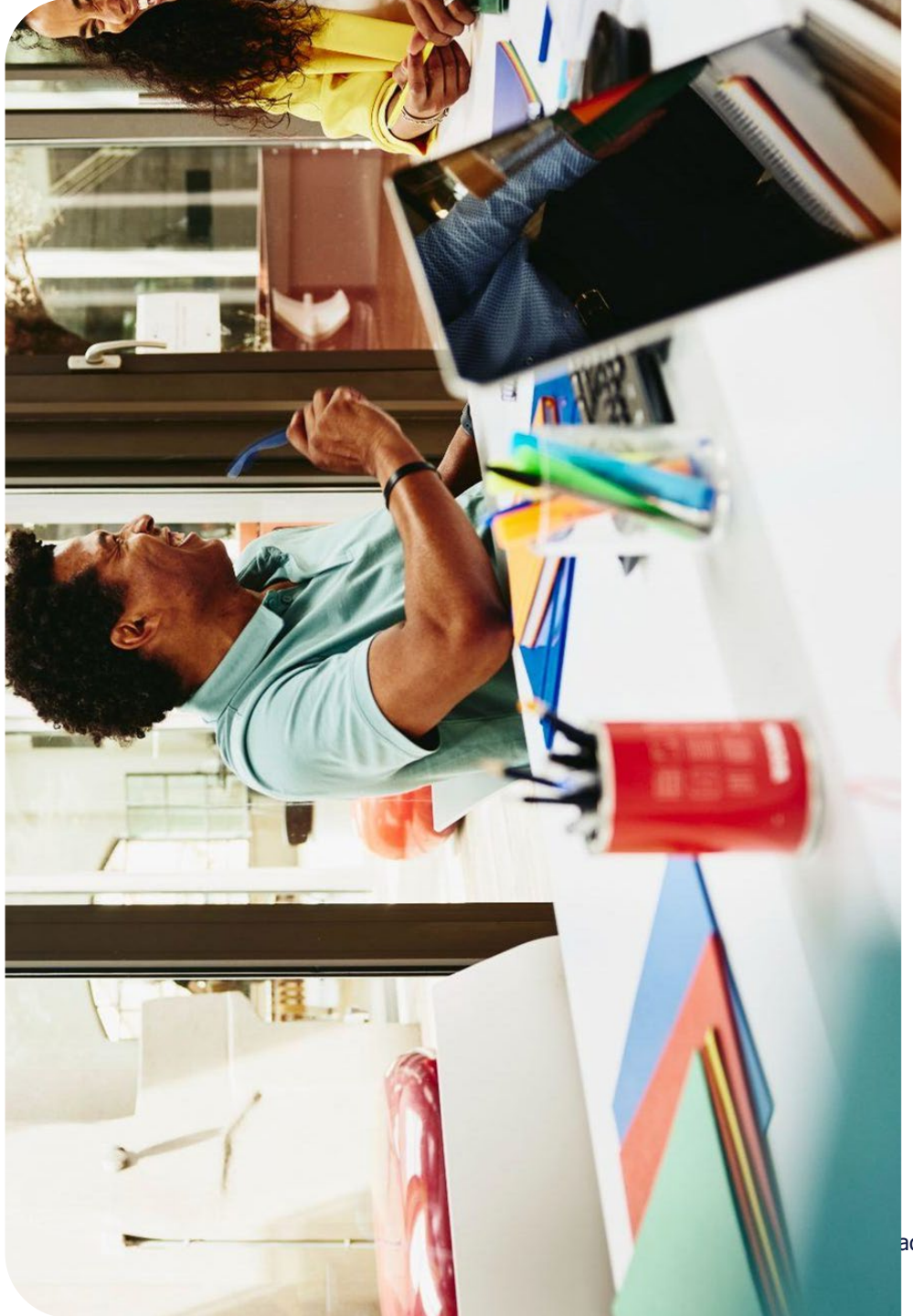
The widespread impact of AI has elicited much concern, resistance, and backlash, including alarmist accusations of algorithms as vessels for “coded bias”.

According to a report by IBM, "85 percent of AI professionals believe the industry has become more diverse over the past few years; of those, 91 percent think that shift is having a positive impact.”

The World Economic Forum has shown that about 78% of global professionals with AI skills are male, while a study by the AI Now Institute of New York University showed that over 80% of AI professors are men.

Women make up only 15% of AI researchers working at Facebook and 10% of AI researchers working at Google. Also, only 2.5% of Google’s entire workforce and 4% of Facebook’s and Microsoft’s are black. These figures need to change – and quickly.

## AI will impact diversity positively… as long as we have diverse AI experts.



# which jobs impacted by artificial intelligence:
## a research from Stanford University

research all US patents related to AI found in patent titles
for top verbs & related nouns

1. recognize - pattern, image etc
2. predict - treatment, effect
3. detect - object, defect
4. identify - type, relationship
5. determine - state, risk
6. control - process, traffic
7. generate - warning, recommendation
8. classify - data, image, motion

research occupations database and assess task capabilities for jobs in the US with same verb noun combinations

better paid, highly educated jobs will be impacted most!

how? to be assessed

1 substitute tasks
2 complementary
3 new work

digital skills will unlock opportunities for all!

# looking ahead: what skill clusters are highest in demand?

| skills | physical and manual | basic cognitive | higher cognitive | social and emotional | technological and digital |
|---|---|---|---|---|---|
| hours spent, today (billion) | 203 | 115 | 140 | 119 | 73 |
| example jobs | drivers, assembly line workers car mechanics, electricians, nurses, cleaners, packers, security guards | sales representatives, real estate agents, counselors, social workers, therapists, emergency responders, teachers, instructors | paralegals, financial analyst, accountants, doctors, insurance underwriters, purchasing agents, front line supervisors, lawyers, | customer service, managers, personal coaching, career counselors, business leadership | software developer, network specialist, engineers, Robotics experts, product designers, scientists |
| change in hours spent by 2030 (%) | -14 | -15 | +8 | +24 | +55 |
| skills with the biggest shift in demand | ▼ equipment operation and navigation<br>▼ inspecting and monitoring | ▼ basic data input and processing<br>▼ basic literacy, numeracy, and communication | ▲ creativity<br>▲ complex information processing and interpretation | ▲ entrepreneurship and initiative taking<br>▲ leadership and managing others | ▲ advanced IT skills and programming<br>▲ basic digital skills |

Source: McKinsey

# skills for the digital transition:
# assessing recent trends using big data.

The report from OECD is based on big data analysis of millions of online job postings over a period of 10 years in 10 countries:

Belgium, Canada, France, Italy, Germany, the Netherlands, Singapore, Spain, the United Kingdom and the United States.

## big data analysis of:

- 417 million online job postings
- 10-year period
- 10 countries

# the top 10 global in-demand skill clusters.

1. artificial intelligence & machine learning (AI/ML)
2. cloud computing
3. big data
4. business intelligence & data visualization (BI/DV)
5. user interface & user experience (UI/UX)
6. mobile app development
7. cybersecurity
8. customer service
9. sales & business development (BD)
10. financial management / budgeting & accounting

# five digital skills diffused throughout the job market.

advanced data analytics

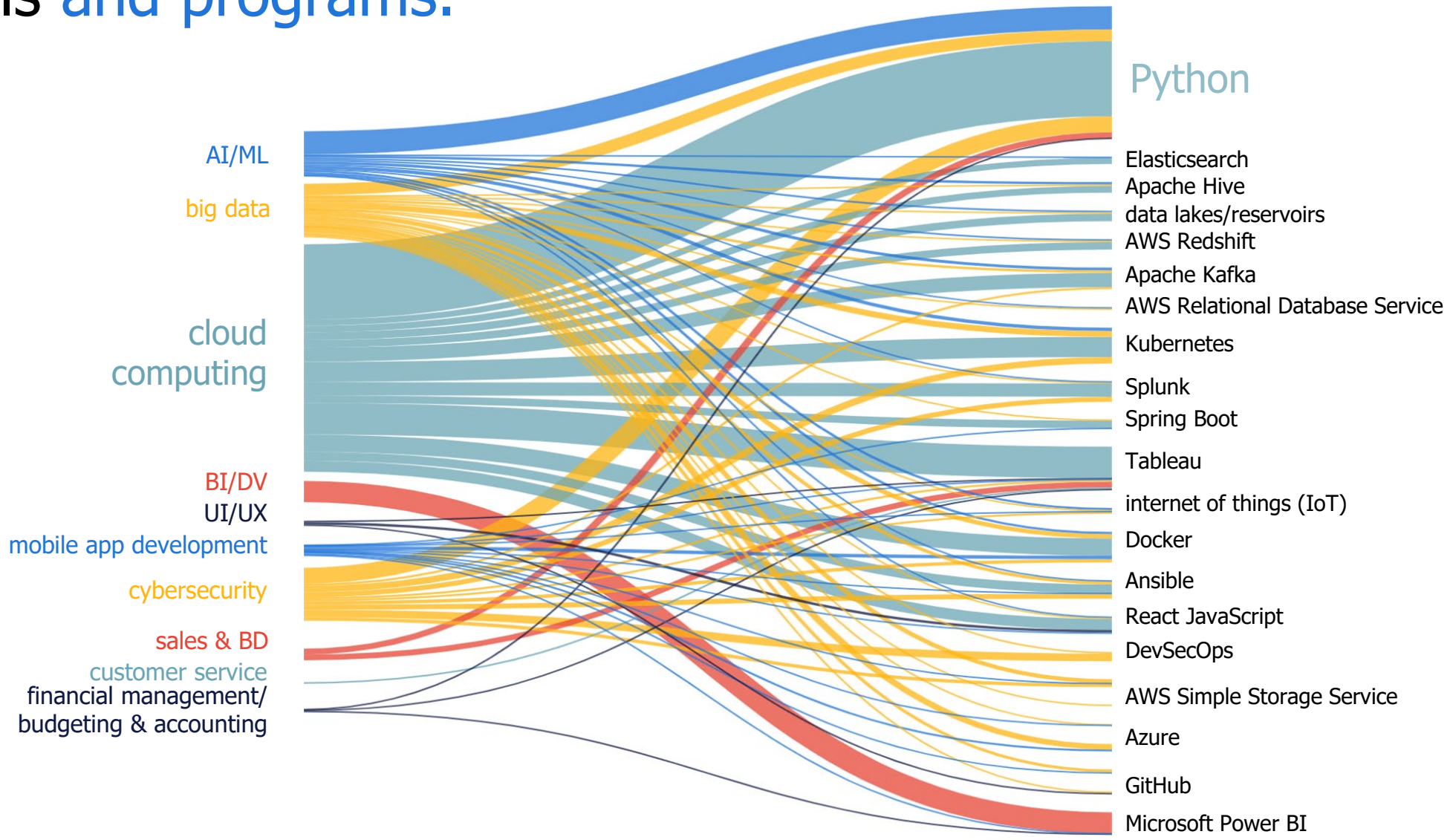
programming

automation and the Internet of Things (IoT)

cybersecurity

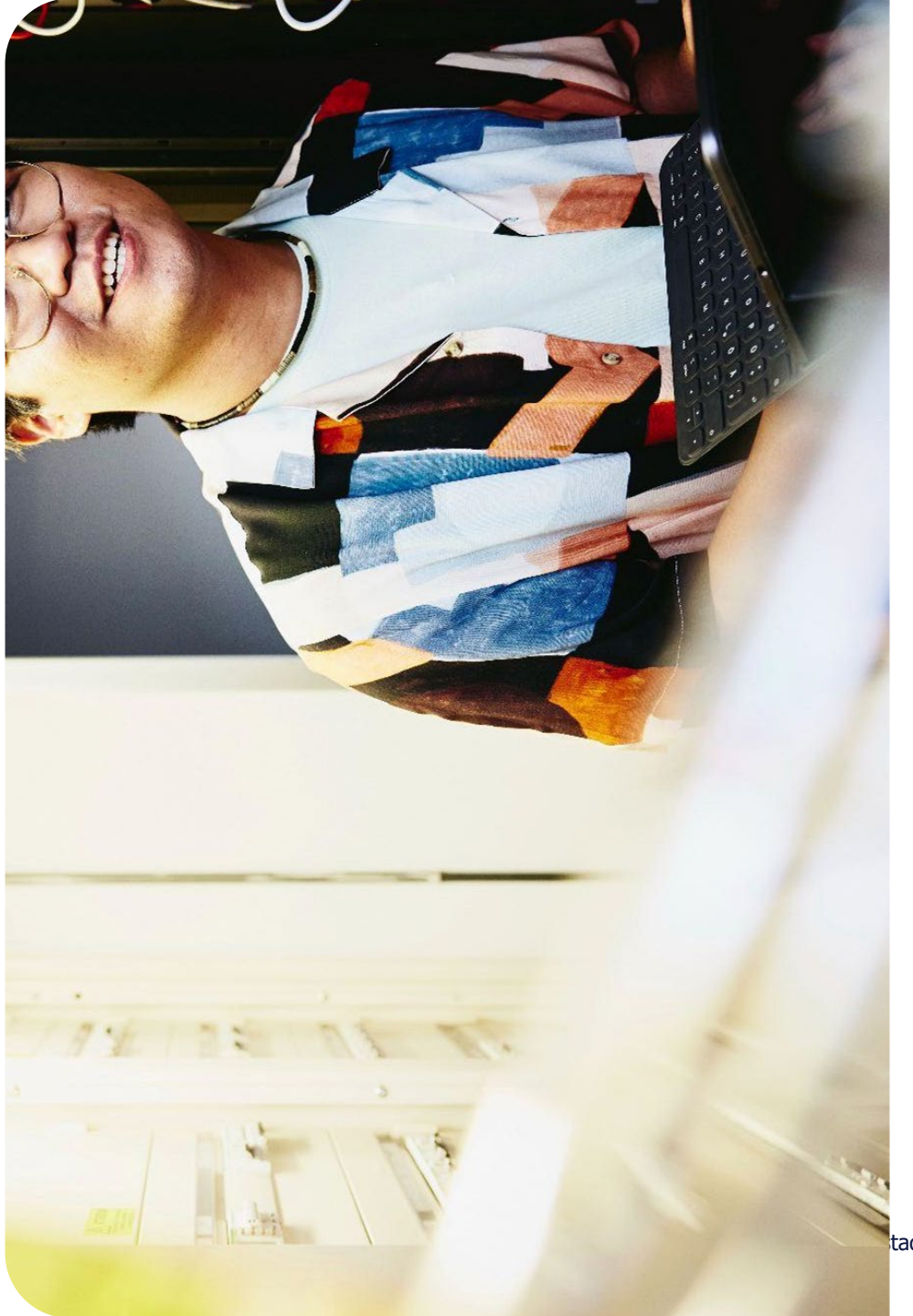
digital skills related to business and sales

# skills and programs.

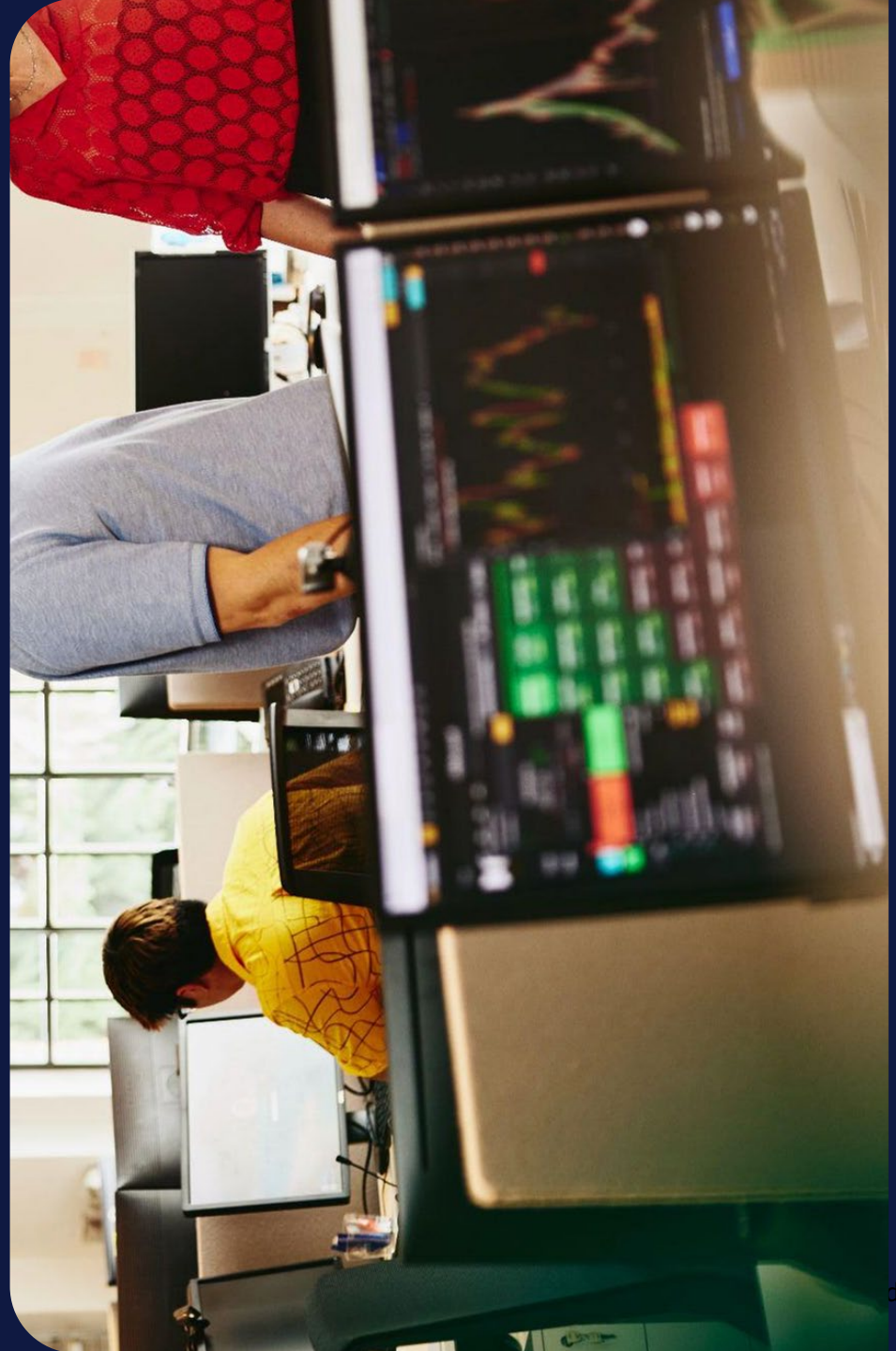


# impact on jobs in Canada.

- software developers and engineers account for 50% of the postings for digital professionals
- Online job postings for data scientists in Canada, and the US increased more than 40 times between 2012 and 2021.
- The number of job postings for user interface and user experience designers was three times larger in 2021 than it was in 2012.
- Some of the biggest growth in digital jobs is in software development, programming and engineering: online job postings for these areas were more than three times higher in 2021 than in 2012.



# how to future-proof your talent architecture?



# skills for the digital transition:

## assessing recent trends using big data.

Four steps organizations can take to guide employees in declining roles into thriving ones:

1. use big data to identify declining and thriving roles in your organization
2. identify similarities between the roles
3. offer colleagues a clear retraining plan
4. support them in their transition

declining role : accounting clerk -1.9%

Excel (pivot tables)

dashboard reports (PowerBI)

SAS (reporting programs, data visualization)

statistics modeling

thriving role : data analyst +2.2%

10 year role growth rate - stats can

step 1

## use big data to identify declining and thriving roles in your organization.

You can find through publicly available research (stats can, conference board, etc.) data that can show the expected decline or growth in job types. The OECD report used an example from the US Bureau of Labour statistics.
Roles for advertising sales agents will dip by 18.7% between 2020-2030, while digital marketing specialist roles are projected to grow 22.1%.

advertising sales agents

-18.7%

projected employment growth (2020-2030)

digital marketing specialist

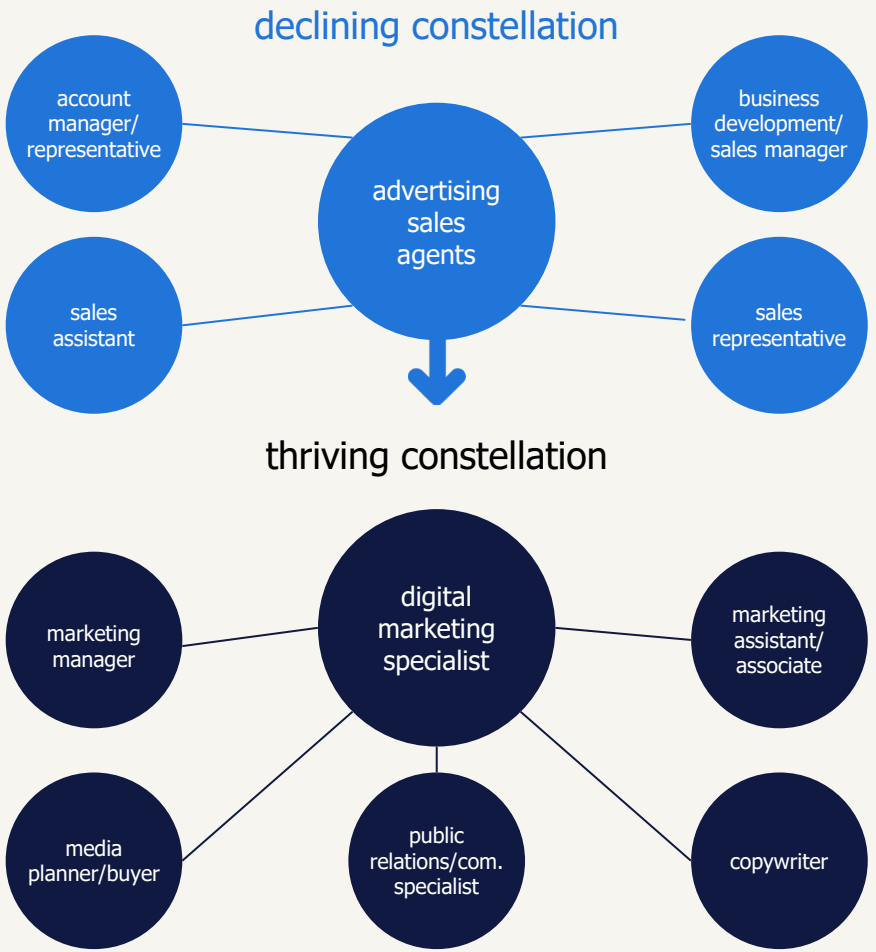
+22.1%

projected employment growth (2020-2030)

step 2

# identify similarities between the roles

By looking at the skills sets in different roles, you can see which positions offer the closest match. OECD calculations indicate that there is a high degree of skill overlap between advertising sales agents and digital marketing specialists.



step 3

# offer colleagues a clear retraining plan

When offering colleagues the opportunity to transition into new roles, ensure you offer transparent, data-led training plans to fill any knowledge gaps. In our example, the data shows that an advertising sales agent would need to boost knowledge of web analytics and online marketing in order to transition to a digital marketing role.

| skill distance from origin to destination |
| --- |
| web analytics |
| online marketing<br>semrush |
| online sales<br>SEO copywriting<br>brand management |
| advertising<br>marketing management |
| online advertising<br>pardot |

step 4

## support them in their transition

Changing professions, even within the same organization can be challenging. Offer colleagues switching roles the same support as new joiners. Induction processes, regular check-ins with line managers and introductions to their new colleagues can all help them to settle in faster.

# randstad's take on digital skills:
## how to unlock opportunities for all.

- use big data and be intentional about proactive career transitions
- prioritize learning at all career stages, enable a growth mindset environment
- shape policy to encourage studies in future skills, provide time for upskilling & reskilling
- embrace a new social contract with employees
- flexible employment becomes the status quo

# would love to connect with you.

contact me on LinkedIn : @carolynlevy

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human forward.