GETTING WORKERS READY FOR THE DATA ECONOMY

Tableau Data Day Out 2018
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ntuc
National Trades Union Congress

Patrick Tay

Assistant Secretary-General

DATA AS THE WORKING LANGUAGE OF THE DIGITAL ECONOMY

Singapore's Workforce is the **World's most Data-Literate**

-University of Pennsylvania's Research

7 out of 10 of the world's most valuable companies today have their business models predicated on **DATA AND ANALYTICS.**

-McKinsey Global Institute 2016 study

Jobs that require data skills recorded **17 times** the rate of growth between 2013 and last year.

- Linkedin's 2018 Emerging Jobs in Singapore

Firms are hiring "**Translators**" by the millions - people who play a critical role in bridging the technical expertise of **data scientists** with the operational expertise of **marketing**, **supply chain**, **manufacturing**, **risk**, etc.
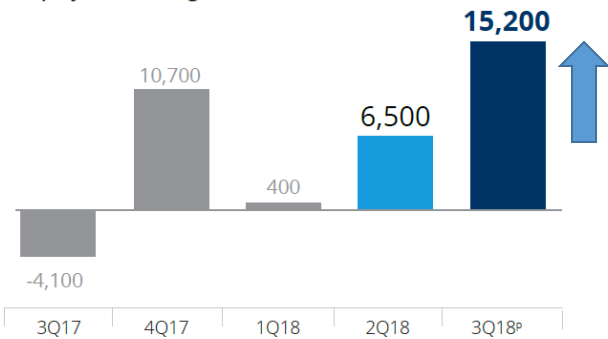
Launch of the Digital Government Blueprint that **20,000** civil servants - or **1 in 7** employees - will acquire data skills within the next decade.

SINGAPORE EMPLOYMENT LANDSCAPE

3rd Quarter 2018 Labour Market Advance Release

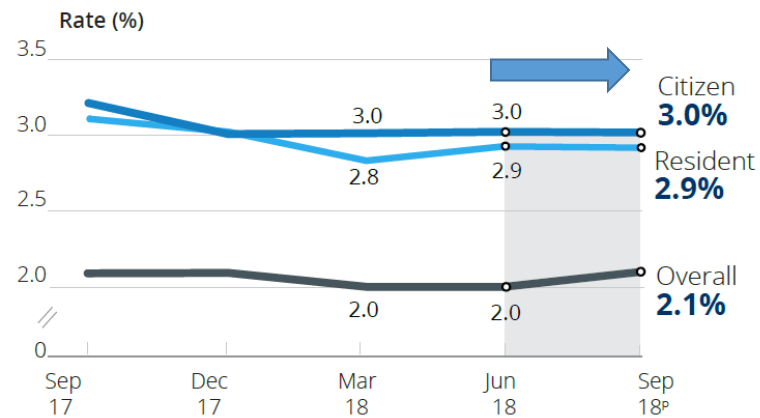### 1 Total employment growth in 3Q18 more than doubled of previous quarter

Employment Change

- 3Q17: -4,100
- 4Q17: 10,700
- 1Q18: 400
- 2Q18: 6,500
- 3Q18P: **15,200**

	2Q18	3Q18P
Services	+7,200	**+12,300**
Manufacturing	-100	**+3,500**
Construction	-700	**-400**

Data exclude foreign domestic workers

2 Resident and citizen unemployment rates held steady over the quarter

Rate (%)

- Citizen **3.0%**
- Resident **2.9%**
- Overall **2.1%**

Citizen: Sep 17 → Dec 17 → Mar 18 (3.0) → Jun 18 (3.0)
Resident: Mar 18 (2.8) → Jun 18 (2.9)
Overall: Mar 18 (2.0) → Jun 18 (2.0)

Sep 17 | Dec 17 | Mar 18 | Jun 18 | Sep 18P

With employment growth, the slightly elevated unemployment rates compared to March reflected the continued inflow of job seekers into the labour market.

3 Lower retrenchments

Number Retrenched

- 3Q17: 3,400
- 4Q17
- 1Q18
- 2Q18: 3,030
- 3Q18P: **2,500**
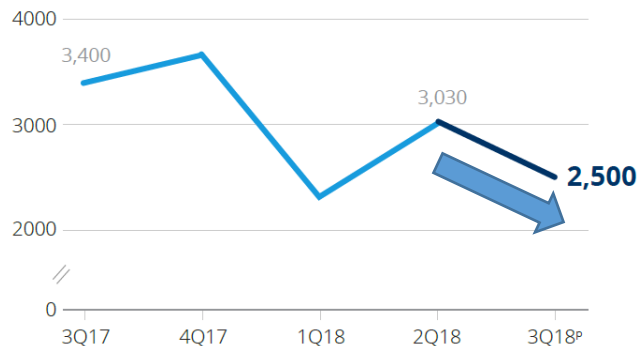
	2Q18	3Q18P
Services	1,740	**1,500**
Manufacturing	820	**800**
Construction	470	**200**

Further signs of improvement in the labour market

Source: Manpower Research and Statistics Department, Ministry of Manpower

EVOLVING SINGAPOREAN WORKFORCE

New opportunities and challenges for society and governance

AGEING & SHRINKING WORKFORCE

YEAR 2020 (projected)
610,000
Singapore residents aged over 65

YEAR 2030 (projected)
960,000
Singapore residents aged over 65

YEAR 2015
460,000
Singapore residents aged over 65

MULTI-GENERATIONAL

UNDEREMPLOYMENT

DIVERSE CULTURE

PMETs

CHANGING ASPIRATIONS: FULFILLING PACE OF LIFE & ALTRUISTIC PURPOSES

HIRING & INVESTING in mature and experienced talents are ways to be more competitive.

STRUCTURAL MISMATCHES

Jobs Skills Expectations
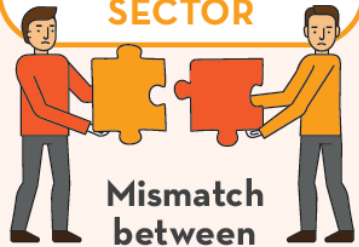
on remuneration and/or job requirement

MISMATCHES CAN TAKE DIFFERENT FORMS

MANUFACTURING SECTOR

Mismatch **of jobs and skills are distinct,** and it remains consistent over time.

SERVICES SECTOR

Mismatch **between jobs and expectations is less clear** for the near future.

More than one type of mismatch could affect an individual worker simultaneously.

For example, one type of mismatch for worker A could be made up of:

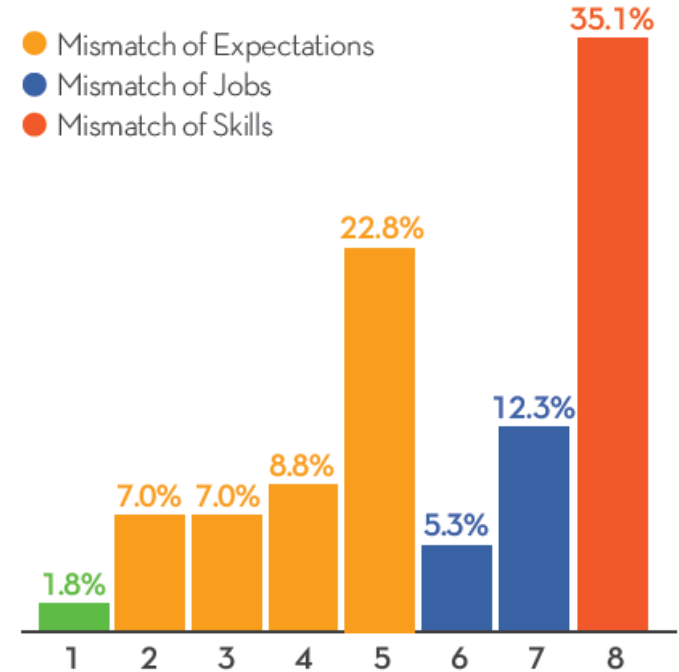| Skills | Expectations |

Over time it could shift into other type of mismatch.

| Jobs | Skills |

HOW ORGANISATIONS TACKLE MISMATCHES

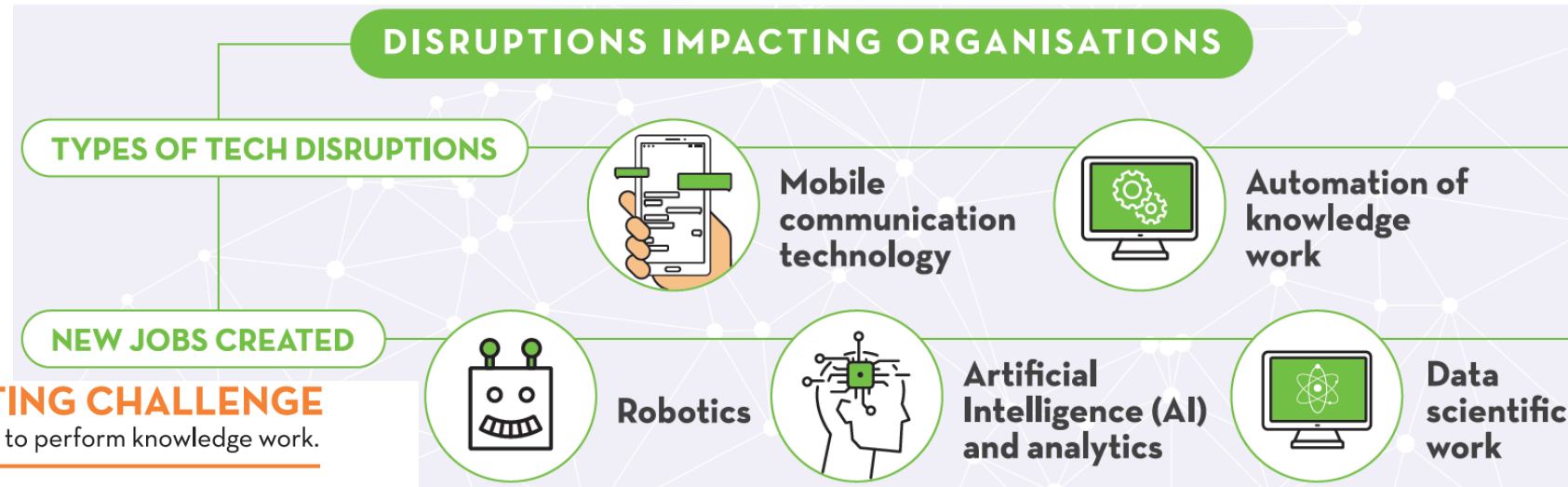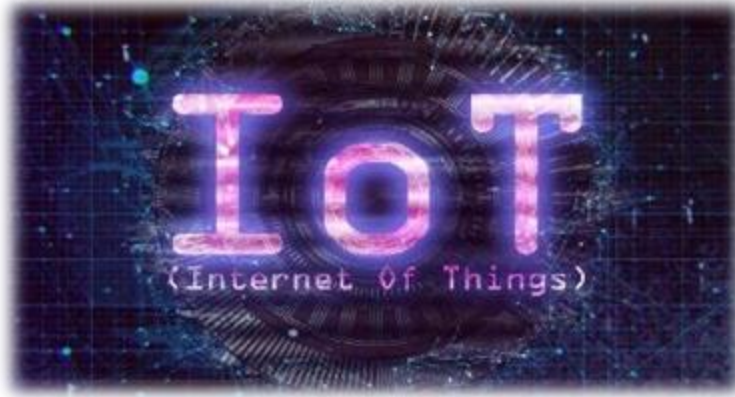**35.1%**
Training

36.8%
Change of employer's or employee's attitudes

1.8%
Impossible to tackle
Extend of mismatch has exceeded what training can bridge

- ● Mismatch of Expectations
- ● Mismatch of Jobs
- ● Mismatch of Skills

Bar chart values:
- 1: 1.8%
- 2: 7.0%
- 3: 7.0%
- 4: 8.8%
- 5: 22.8%
- 6: 5.3%
- 7: 12.3%
- 8: 35.1%

1. No way to bridge
2. Matching expectations of employers & employees
3. Change attitude of employers (e.g. accept mid-career changes, change hiring practices)
4. Re-designing of jobs, better clarity in job role description
5. Change attitude of job applicants
6. Policy on foreigners or hiring foreigners
7. Improve platforms for job search and selection process of candidates
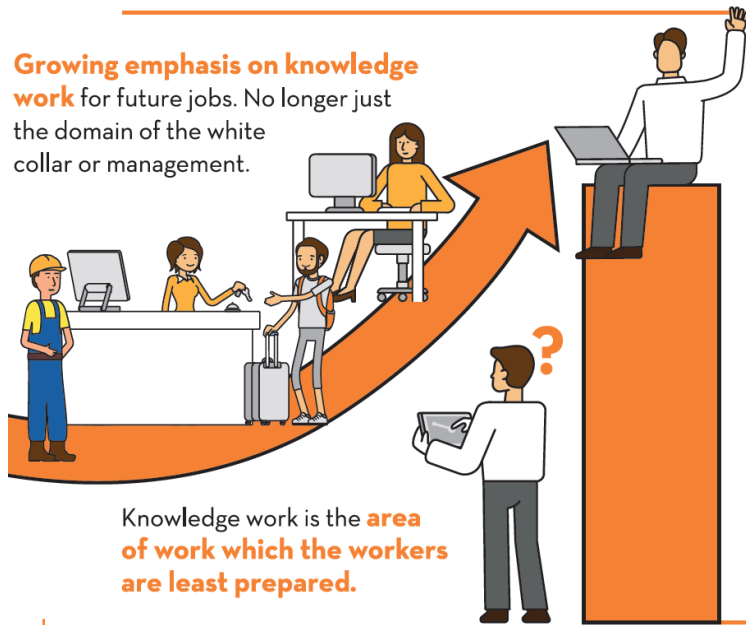8. Training (e.g. formal education, OJT, re-skilling, internship)

Source: Ong Teng Cheong Labour Leadership Institute

KNOWLEDGE WORK
'High-Tech' or 'High-Touch'

IoT (Internet Of Things)

DISRUPTIONS IMPACTING ORGANISATIONS

TYPES OF TECH DISRUPTIONS

NEW JOBS CREATED

- Mobile communication technology
- Automation of knowledge work
- Robotics
- Artificial Intelligence (AI) and analytics
- Data scientific work

ORGANISATIONS FACING A MOUNTING CHALLENGE
especially increasing reliance on almost all of their workers to perform knowledge work.

Growing emphasis on knowledge work for future jobs. No longer just the domain of the white collar or management.

PMETs are first to be affected by this new heightened demand for knowledge work.

Supervising the performance of knowledge work will be a growing challenge, especially when the supervisors themselves are also challenged by the new skill requirement.

Knowledge work is the **area of work which the workers are least prepared.**

Source: Ong Teng Cheong Labour Leadership Institute

NEW TYPES *of* EMPLOYMENT

Traditional businesses face major disruptions by new business models with an emerging group of **FREELANCERS**.

There are between 180k and 200k freelancers and self-employed people in Singapore (10% of the workforce)

DEMOGRAPHICS

- **55%** Female
- **72%** Married
- **67%** With Children
- **70%** Living in HDB Flats
- **85%** Home Owners

✓ Older ✓ Earn Lesser ✓ Telecommute More

NEW WAYS OF WORKING

46% Work in **Co-working spaces**
8% Participate in **Hackthons**

Platforms to market skills

66% Word-of-mouth
49% Direct liaison

CONCERNS

1. Skills recognition is lacking
2. Job security
3. Income security
4. Inadequate retirement savings
5. Inadequate savings for medical expenses
6. Payment issues
7. Loss of income during training

THE KEY MOTIVATORS

- **83%** Flexible work schedule
- **73%** Passion
- **49%** To create a greater social impact

Top industries with freelancers:

- **15%** Education
- **12%** Transport
- **7%** Real Estate
- **7%** Professional Service

SKILLS GAP AND THE FUTURE OF TRAINING

WORKER 4.0

ADAPTIVE SKILLS

TECHNOLOGY SKILLS

TECHNICAL SKILLS

WAGES • WELFARE • WORK PROSPECTS

CURRENT STRATEGIES TO ADDRESS SKILLS GAP

On-the-job training

89.4%
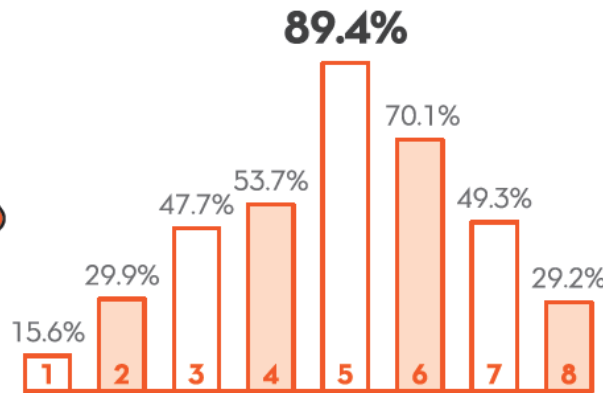
Hiring rather than training

70.1%

53.7%

49.3%

47.7%

29.9%

29.2%

15.6%

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

1. Local work attachment with other organisations **2.** Overseas training programme and/or overseas work attachment **3.** Courses through online platform, e-learning, open eduation and/or distance learning **4.** Ad-hoc seminars and/or workshops **5.** On-job-training or training by supervisors and/or co-workers **6.** Short courses conducted by trainers **7.** Professional qualifications training programme **8.** Formal education

Source: Ong Teng Cheong Labour Leadership Institute

COLLABORATIVE TRANSFORMATION INTO 2020

LABOUR MOVEMENT

WORKERS

GOVERNMENT

EDU & TRAINING PROVIDERS

ENTERPRISES

HR PROFESSIONALS

TRADE ASSOCIATIONS PROFESSIONAL GUILDS

FUTURE READY . RELEVANT . RESILIENT

❖ Play an active role in transformation to stay:
Able with abilities
Adaptable to changes, and
Agile to cope with disruption

❖ **Adapt & Grow** – Upskill yourself with **Bite-Sized** training programmes

❖ Collectively, we can transform workers to be:
Ready for new jobs,
Relevant with new skills, and
Resilient to new ways of working

❖ The future worker 4.0 will be equipped with a combination of **Adaptive**, **Technology** and **Technical** skills

MORE FUTURE JOBS, SKILLS & TRAINING CONTENT AT
WWW.NTUC.ORG.SG/FJST