



► Skills shortages and labour migration in the field of ICT

Key findings

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Agenda



Project summary



Trends in the ICT
sector



Skills shortages
and gaps



Key findings and
recommendations



Project summary



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Skills shortages
and gaps



Key findings and
recommendations

- ▶ Many parts of the world are facing potential shortages of ICT specialists – may negatively impact a country’s economic growth and development efforts
- ▶ “The Future of Work in Information and Communication Technology” research project focused on:
 - i. anticipated needs for skilled workers
 - ii. scaling up of investments in ICT education and training
 - iii. better governance of ICT specialist migration flows
- ▶ Target countries: Canada, China, Germany, India, Indonesia, Thailand, Singapore



Project summary



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Skills shortages
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Key findings and
recommendations

- ▶ Tremendous growth in the ICT sector in the past few years
- ▶ Growth driven largely by ICT-services sub-sector
- ▶ ICT sector an important contributor to the national economy

Country (year)	Contribution of ICT sector to GDP (%)
Canada (2018)	4.5
China (2015)	4.8
Germany (2017)	4.2
India (2018)	7.9
Indonesia (2016)	7.2
Singapore (2018)	4.1



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Key findings and
recommendations

- ▶ ICT specialists have become one of the most in-demand workers of the labour force
- ▶ ICT specialists are increasingly working in sectors other than ICT
- ▶ Highly mobile workforce



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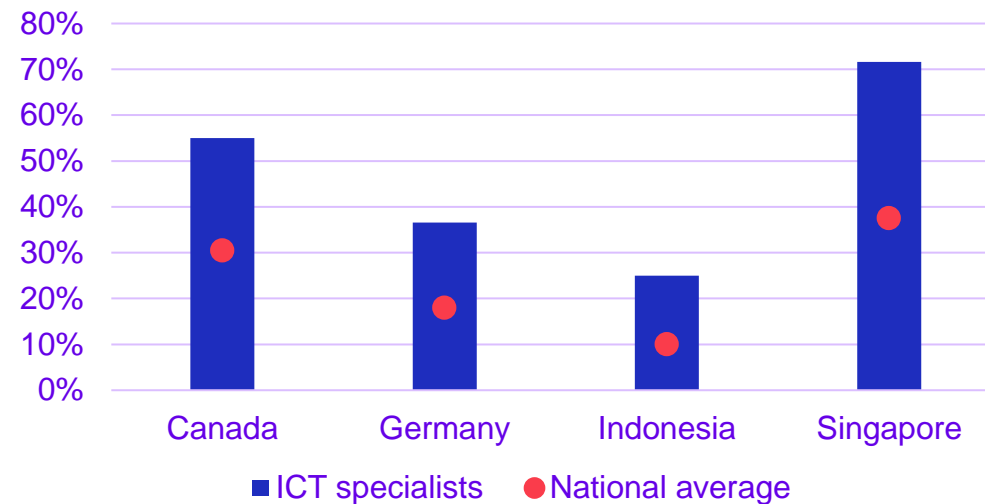
Skills shortages
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Key findings and
recommendations

▶ ICT specialists' educational attainment and wages are higher than average

Share of ICT specialists with higher education degree





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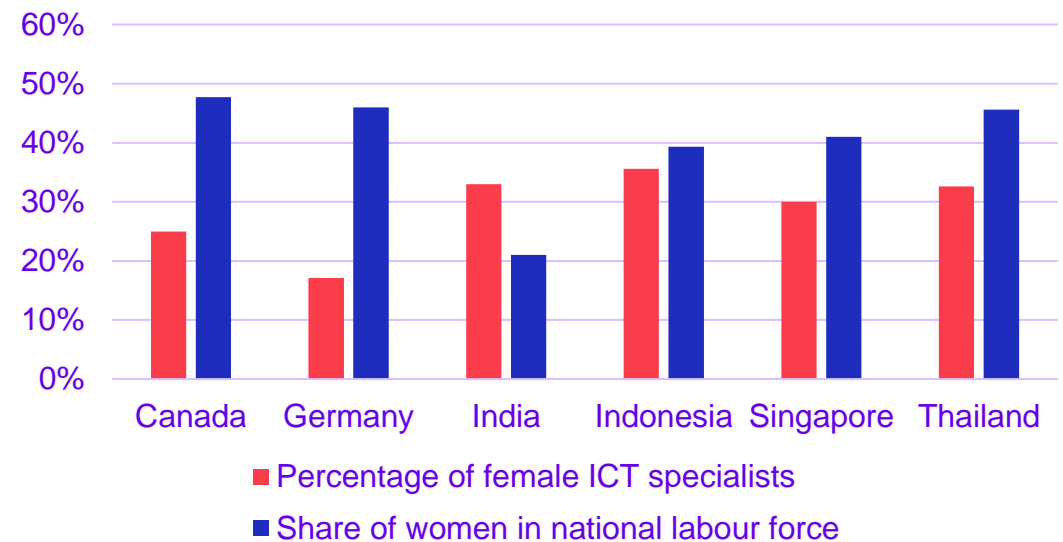
Skills shortages
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Key findings and
recommendations

► ICT remains a male dominated field

Percentage of ICT specialists who are female compared to the proportion of female workers in the national labour force





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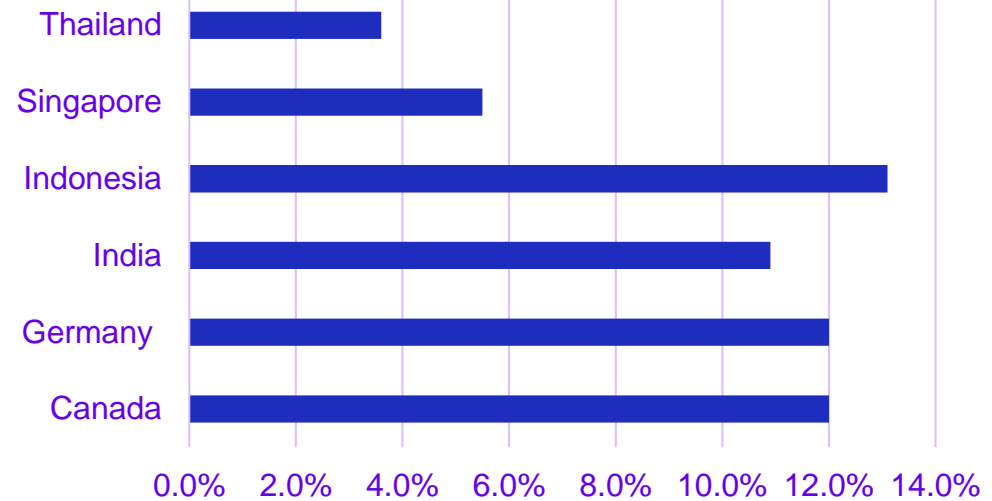
Skills shortages
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Key findings and
recommendations

► Self employment is prevalent

Percentage of self-employed ICT specialists





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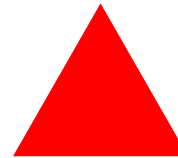
Skills shortages
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Key findings and
recommendations

▶ Potential shortage of ICT specialists or gaps in specific ICT skills

▶ Shortages expected to continue growing



40%

Increase in demand of ICT specialists in Canada by 2028

BSc > MSc

Shortages varied by level of educational attainment



Talent was particularly difficult to recruit for in certain roles and sectors



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Skills shortages
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Key findings and
recommendations

- ▶ Emerging technologies and the new occupations associated with them could significantly change skills requirements
- ▶ Shortage of specific technical skills



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Skills shortages
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Key findings and
recommendations

▶ Shortage of specific soft skills

**General requirements in ICT
occupations**

Required soft skills

Developing and using technologies

critical thinking, analytical thinking, creative thinking, problem-solving skills

Coping with technological change

ability to learn, flexibility

**Understanding organization of work and
maintaining client relations**

teamwork, leadership, communication, service orientation, business and management skills

▶ Increasing demand of interdisciplinary skills



Project summary



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Skills shortages
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Key findings and
recommendations

- ▶ Invest in a skill forecasting anticipation system to better understand the current and future needs
- ▶ Increase investment in post-secondary education institutions and teaching staff



Project summary



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Skills shortages
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Key findings and
recommendations

- ▶ Encourage more women to study Science Technology Engineering and Mathematics fields and increase their participations in ICT occupations



Project summary



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Skills shortages
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Key findings and
recommendations

- ▶ Tackle the skills gaps between skills acquired at universities or vocational institutions and skills demanded by industry
- ▶ Increase the focus of training and education on soft skills



Project summary



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Skills shortages
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Key findings and
recommendations

- ▶ Promote interdisciplinary approaches to skills development
- ▶ Invest in effective lifelong learning systems and continuous training in the field of ICT



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Key findings and
recommendations

- ▶ Facilitate better recognition of foreign formal qualifications and work experience
- ▶ Simplify visa application processes and provide support for migrant ICT specialists to settle in their new working and living environment



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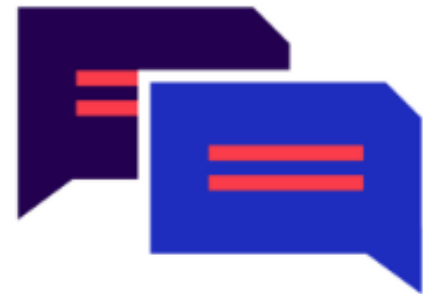


Skills shortages
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Key findings and
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- ▶ Promote coordination between the ministries and authorities and strengthen social dialogue



 **Thank you!**

