

# INDUSTRY 4.0



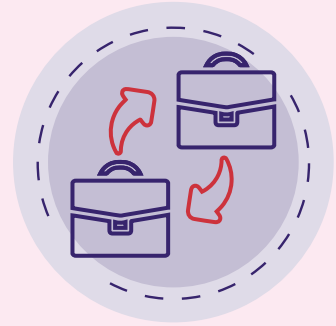
## Growth in Robotics

Singapore is ranked second globally in terms of robot density in manufacturing with **605** robots per **10,000** workers. This number is expected to increase as more sectors adopt Industry 4.0 (I4.0).



## Ageing Workforce

More sectors will adopt I4.0 as a response to Singapore's ageing workforce demographics and manpower shortages.



## Changing Job Roles

I4.0 will change work processes and functions, and will impact job tasks. Companies need to upskill the workforce to support job roles that are emerging and in demand.

## Key Jobs and Skills Trends in I4.0 Implementation



### I4.0, Digital and Green Skills

In end-to-end manufacturing processes, a mix of I4.0, digital, and green skills are fast growing and highly transferable across job roles. These include Quality Assurance, Data Engineering, and Carbon Footprint Management.



### Changing Engineering Skills

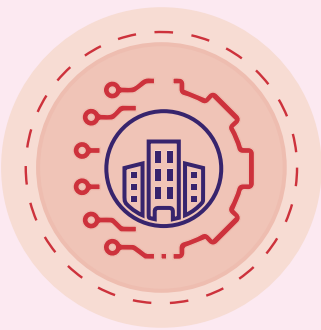
The fastest growing skills in engineering are a mix of digital and I4.0 skills. These include 3D Modelling, Additive Manufacturing, and Programming and Coding.



### Evolving Non-tech Roles

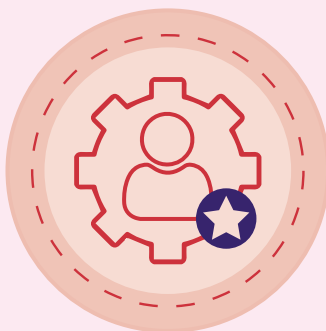
I4.0 implementation has enabled non-tech roles such as customer service, sales, and HR now need to focus on more high value-added areas, instead of manual tasks. Skills required include Human Resource Digitalisation, AI Application, and Applications Support and Enhancement.

# CRITICAL CORE SKILLS



## Supporting Business Transformation

There is increasing employer demand for Critical Core Skills (CCS) as these soft skills are essential for supporting business transformation.



## Most Important CCS

The top three most important CCS used at work are Self Management, Influence, and Creative Thinking.



## Acquisition of CCS

Workplace learning through trial and error, on the job training and peer support has been shown to be more effective than classroom training in acquiring CCS.

## Use of CCS differs across 7 unique work role archetypes



### Front-liners

Engage customers and manage customers' requests.  
*E.g. Self Management, Customer Orientation, Influence.*



### Nurturers

Perform carer roles with high level of interpersonal engagement.  
*E.g. Self Management, Creative Thinking, Communication.*



### Deal Makers

Grow the company through business development and synthesise information and insights.  
*E.g. Problem Solving, Creative Thinking, Decision Making.*



### Wayfinders

Ensure smooth operation of businesses.  
*E.g. Customer Orientation, Self Management, Communication.*



### Analysers

Require strong cognitive skills to create value.  
*E.g. Sense Making, Decision Making, Problem Solving.*



### Administrators

Create solutions to enhance work processes and productivity.  
*E.g. Problem Solving, Learning Agility, Influence.*



### Managers

Work across multiple stakeholders to coordinate delivery of services and solutions.  
*E.g. Self Management, Collaboration, Digital Fluency.*

Discover your CCS profile to plan your skills development journey at [go.gov.sg/ccs-profiling](https://go.gov.sg/ccs-profiling)

Book an appointment with a Skills Ambassador for a free 1-to-1 consultation to better understand your upskilling options. Register at: [go.gov.sg/registration-sta](https://go.gov.sg/registration-sta)



Get more insights to guide your career progression and skills development at [skillsfuture.gov.sg/skillsreport](https://skillsfuture.gov.sg/skillsreport)