

Factsheet on Industry 4.0 Human Capital Initiative (IHCI)

In partnership with the Singapore Business Federation (SBF), the Industry 4.0 Human Capital Initiative (IHCI) is aimed at helping companies strengthen their strategic Human Resource (HR) planning, workforce development and job redesign capabilities to augment the implementation of industry 4.0 (i4.0) solutions in a sustainable manner.

The IHCI comprises of the IHCI self-help portal and IHCI Enabler Programme to help manufacturing companies build up their HR capabilities to kick-start and sustain job redesign to aid their i4.0 transformation journey.

a. **IHCI Self-Help Portal (URL: <https://ihci.sbf.org.sg>)**

Diagnostics, Prioritisation and i4.0 Solution Selection

The self-help portal will provide companies access to EDB's SIRI and Prioritisation Matrix to analyse their digital readiness gaps. It helps companies prioritise the adoption of suitable i4.0 solutions based on their readiness, projected impact and supports the development of a business case to kick-start companies' i4.0 journey. Results generated (i4.0 solutions identified) will be used to map against the contextualised job redesign contents provided on the self-help portal.

Job Redesign Implementation and Human Capital Capability Development

To help companies maximise the gains from the adoption of the recommended i4.0 solutions, the self-help portal will support the implementation of the technology by providing guidelines on strategic HR/manpower planning (e.g. adopting older worker friendly practices), job redesign and change management plan. Contextualised contents such as mapping out the new manpower capabilities needed, and key job redesign considerations will be provided to allow companies to identify changes to the job roles and new competencies requirements referenced to the Skills Frameworks to enable digital transformation. The portal will also provide relevant templates, JR frameworks and cases studies to allow companies to learn from successful cases.

b. **IHCI Enabler Programme**

In-depth knowledge on i4.0, job redesign construct and HR capability development

The Enabler Programme aims to drive greater industry-level adoption of i4.0, HR capability development and job redesign efforts to complement company transformation with workforce transformation. The programme will help companies learn and trial i4.0 technologies, develop an accompanying job redesign roadmap and companies' HR capability to better support transformation. Through the programme, companies will develop the technology and workforce transformation roadmap that includes strategic HR/manpower planning (e.g. adopting senior worker enabling tech solutions and workplace practices, advising company on competitive wages for enhanced and redesigned job roles based on market benchmarks) and change management plan to support future implementation. This will allow the company to be equipped with HR capabilities to drive job redesign and workforce transformation.

On-site training and trial implementation of curated i4.0 solutions.

The IHCI Enabler programme enables companies to trial i4.0 solutions. This helps remove the implementation cost/risk and allow companies to test the workforce-enabling solutions before deciding on subsequent full-scale implementation. Business owners’ buy-in will similarly be significantly stronger, as they are able to see the immediate positive results and impact of the pilot adoption of i4.0 solutions. The enabler programme will involve CXO (or equivalent/relevant), operations representatives, and HR representatives to ensure alignment in the company’s transformation journey and to ensure that HR is well equipped with the right skillset to execute the job redesign in support of subsequent technology adoption and company transformation.

Eligibility Criteria for IHCI Enabler Programme

Companies who are eligible for funding must fulfil the following criteria:

- Company registered with ACRA with its Unique Entity Number (UEN)

Funding Support & Requirements

The participating company will receive the following funding support from the original cost of **\$63,250**.

Cost after Funding by WSG	Original Fee	Subsidised Fee
SME¹	\$63,250	\$6,325 (after 90% subsidy)
Non-SME	\$63,250	\$18,975 (after 70% subsidy)

On top and beyond the subsidised fees from WSG, the IHCI Enabler programme qualifies for further support under:

- a) SkillsFuture Enterprise Credit (SFEC) - \$10,000 credit to cover up to 90% of out-of-pocket expenses. More information can be found at <https://www.enterprisesg.gov.sg/financial-assistance/grants/for-local-companies/skillsfuture-enterprise-credit>
- b) SBF Rising in Support of Enterprises (RISE) - \$500 cost offset for companies that have paid-up capital of less than \$5mn. More information can be found at <https://www.sbf.org.sg/activities/sbf-rise-programme>

¹ To enjoy the SME subsidy at 90%, the company must (i) be registered and operating in Singapore; (ii) have minimum 30% local shareholding; and (iii) have Group annual sales turnover not more than S\$100 million; OR Group employment size not more than 200 workers.

Contact Details

For more information and to visit the IHCI self-help portal, please visit <https://ihci.sbf.org.sg>

For more information about the IHCI Enabler Programme, please visit <https://ihci.sbf.org.sg/enabler-programme>

Supplementary Information

Accelerating Industry 4.0 Adoption for Manufacturing Cluster in Singapore. The manufacturing cluster is a key pillar of Singapore's economy contributing 21.4% of Singapore's GDP in 2018². It employs approximately 13.1% of Singapore's total workforce³. Under the five Industry Transformation Maps (ITMs) for the sectors within the manufacturing cluster⁴, the adoption of Industry 4.0 (i4.0) technologies is identified as one of the key enablers to spur growth and enable manufacturing companies to develop new competitive advantages through new processes, products, services and business models.

This shift will disrupt existing jobs and workers are expected to take on higher value-added (VA) manufacturing activities such as digital manufacturing, additive manufacturing, etc. Based on the Singapore i4.0 National Impact Study conducted by Boston Consulting Group (BCG) for the Committee for Future Economy, companies adopting i4.0 technologies can potentially generate 20%-50% higher net operating surplus⁵. Furthermore, while certain jobs will be made obsolete, more new and higher value-added jobs will be created.

Despite the push for business transformation, it was reflected in an ASEAN business study conducted by McKinsey⁶ that 70% of business transformations failed largely due to inadequate capability building, training and change management. These findings were further reinforced during the inter-agencies⁷ focus group sessions where it was highlighted that companies will also need to focus on workforce development and job redesign to augment technology adoption in order to optimise transformation benefits. Companies⁸ that were approached subsequently for feedback also echoed on the findings.

Key points which guided the development of the IHCI programme:

- a. Approaches to i4.0 adoption differs among various companies based on their awareness and readiness level;
- b. Impactful business/productivity returns can be achieved with basic level of i4.0 implementation if coupled with purposeful job redesign;
- c. HR and C-Suite's involvement and sponsorship is key to ensure the success of enterprise transformation;
- d. Job redesign and human capital capability building is needed to support technology adoption to ensure holistic transformation and optimise performance; and
- e. A more deliberate approach is necessary to achieve job and worker transformation that supports substantial wage improvements, as wage increases in past JR projects were generally not made explicit and left to the discretion of employers.

² Source: Singstat "Singapore's Economy 2018"

³ Source: Based on SSIC C15-36 (Manufacturing), 2017 Employment Data extracted from Singapore Yearbook of Manpower Statistic 2018, Ministry of Manpower.

⁴ Manufacturing cluster comprises Aerospace, Chemicals, Electronics, Marine & Offshore and Precision Engineering sectors.

⁵ Source: BCG - Singapore i4.0 National Impact Study

⁶ Source: McKinsey ASEAN DCC Study

⁷ Inter agencies include EDB, ESG, SSG, IMDA, MPA, CAAS and Union reps.

⁸ Companies include PSA, SATS, YCH, Jurong Port, Yang Kee Logistics, Container Printers, Keystone Cable, Golden Bridge, Polar.