SMIRI ENGINEERING LTD

Presentation
Digital transformation and industry 4.0 Consultancy
CSA (SIRI ©) Assessor

17-12-2023

Legal Identity of **SMIRI ENGINEERING** SARL **Since 2011**

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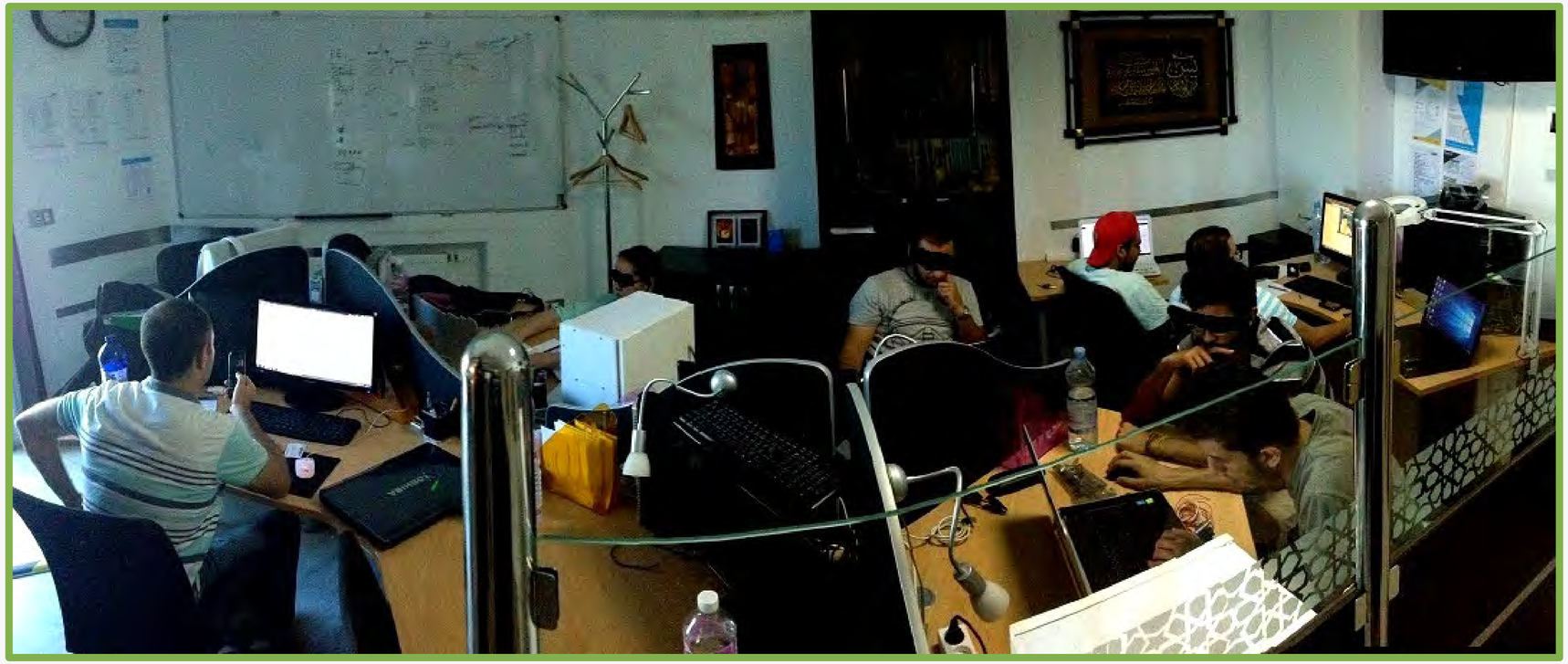
Legal IDs

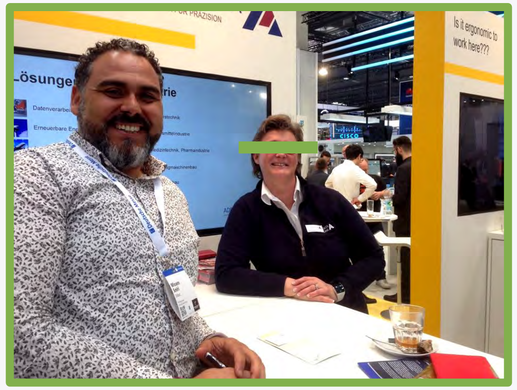
SMIRI ENGINEERING SARL
Capital: 120 kTND – 40 k$ USD
Reg ID: 1182431M
Tax ID :1182431M/A/M/000

La SOUKRA ARIANA TUNISIA

Team and Office Photos



Visit of Hannover Mess 2019 Germany – Update on Industry 4.0 technologies



Wissem SMIRI –Introduction

- Industrial computer and electrical Engineer since 2001
- 22 years experience, including 16 years in multi-national company in the oil and gas domain SCHLUMBERGER. Almost done 32 trainings around the word (in UK, US, UAE, TUN, ITA) for technical skills, soft skills, management and consultancy.
- Manager of SMIRI ENGINEERING SARL www.smiriengineering.com since 2011 (Create services the sub brands www.elibot.io for industry 4.0 product | and http://wissem.smiri.com.tn for Oil and Gas QA-QC)
- Former member in **CJD** since 2016, Former **CEED**er Generation 5 Grow in 2017, Certified from **EJD** school on 2017, registered in **EEN** data base as ICT consultant since 2017, trained in consultancy business with **EBRD**, member of Alumni of **MTP GIZ** Manager training program with GIZ in Berlin in 2019, member of Strategic studies center of Tunisia association **CTRS** in 2020, **CONECT** former member since 2017, Former of **INTECH** PG since 2018, former member of **RB CONECT Ariana** and former 1st VP of PG **GPC** (Consultants professional Group) since 2020. In 2023 Certified CSA (Certified Smart industry readiness Index assessor)

1- Real-time data
Data Acquisition Specialist in Oil & Gas
2001-2015

2- ICT Advisor and
Consultant
2016 - 2021

3- Digital transformation
& Industry 4.0
Specialist - CSA©
2019 - 2023

SMART INDUSTRY READINESS INDEX

The SIRI Institute and approving Examination Body confer the right to use the

Certified Smart Industry Readiness Index Assessor

designation to

Wissem Smiri

for fulfilling all the necessary requirements prescribed for use of this designation subject to

fulfilling the ongoing obligations of a Certified Smart Industry Readiness Index (SIRI) Assessor.

This appointment is issued on 16 Nov 2023.

Assessor ID: SIRI161123SN007

Mr Raimund Klein
Chief Executive Officer
International Centre for Industrial Transformation

INTERNATIONAL CENTRE FOR INDUSTRIAL TRANSFORMATION

TÜV SÜD

Dr Andreas Hauser
CEO Digital Service
TUV SUD ASIA PACIFIC PTE. LTD.

ICT Consultancy – Company digital transformation

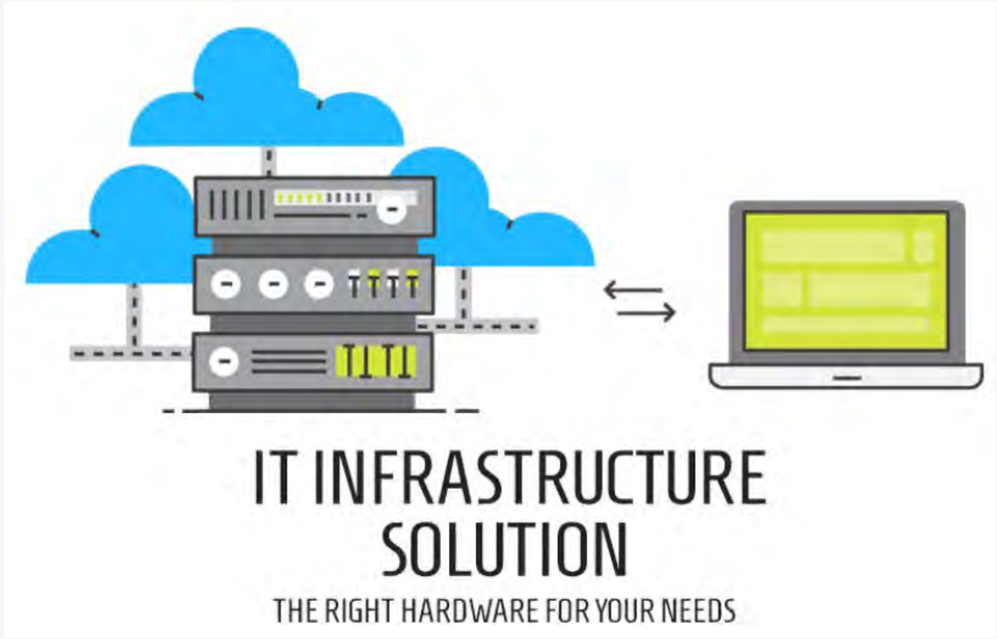
- We review your existing IT infrastructure and prepare a diagnostic and recommendation report in accordance with the industry standard.

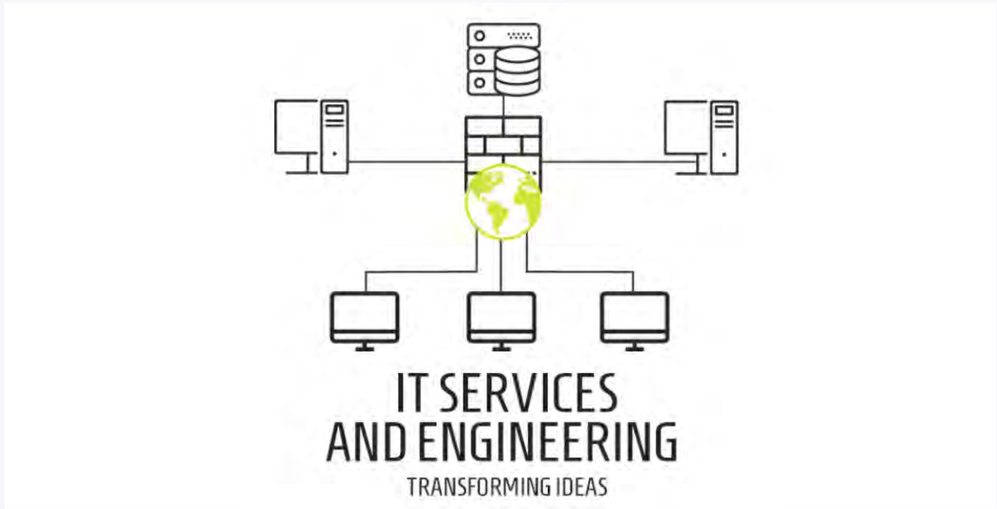
- Project management assistance (Project steering): drafting of requirements, specifications, validation of functional specifications, assistance with the choice of tools, choice of providers, highlighting the users experience, reviewing process and change management.

- The implementation of short- or medium-term action plans in order to enable the transformation plan to contribute effectively to the overall objectives of the enterprise (KPIs and Costs).

- Optimization of your human resources: preparation of job descriptions and plan to build competence (training, seminars or events, team coaching, communication ...).

- Optimization of your hardware resources: refers to the company's optimal IT architecture reallocation of equipment as required availability and cost of use.



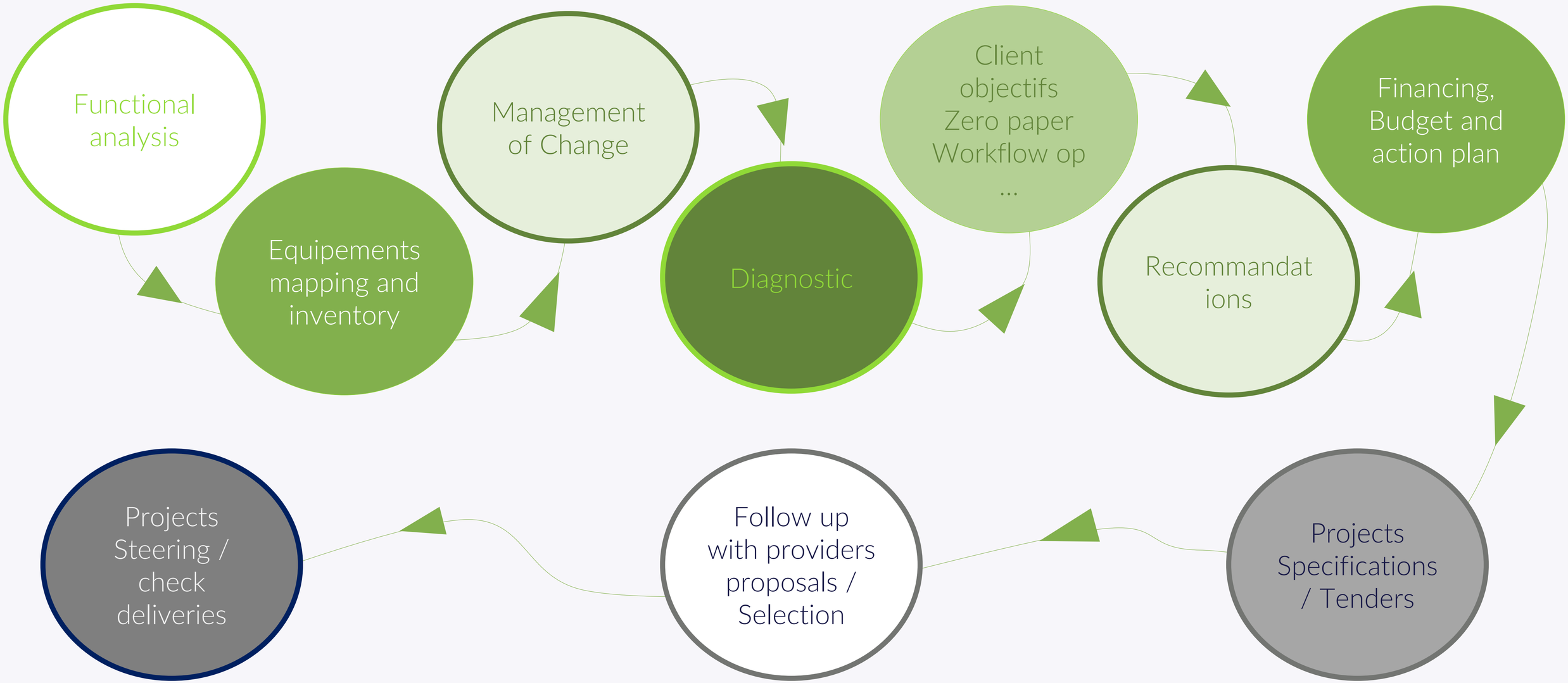


DIA : Digital transformation In Action

A success Job is accomplished by

- Making a good relation ship with client’s team members
- Making a detailed diagnostic if the IT infrastructure.
- Understanding of the client requirements
- Recommending the latest solution in the market
- Having good communication: Present and explain selected solutions
- Plan the transformation for four or three years ahead
- A good and smooth management of change

ICT Consultancy –Digital Project Managment



SIRI© ASSESSMENT

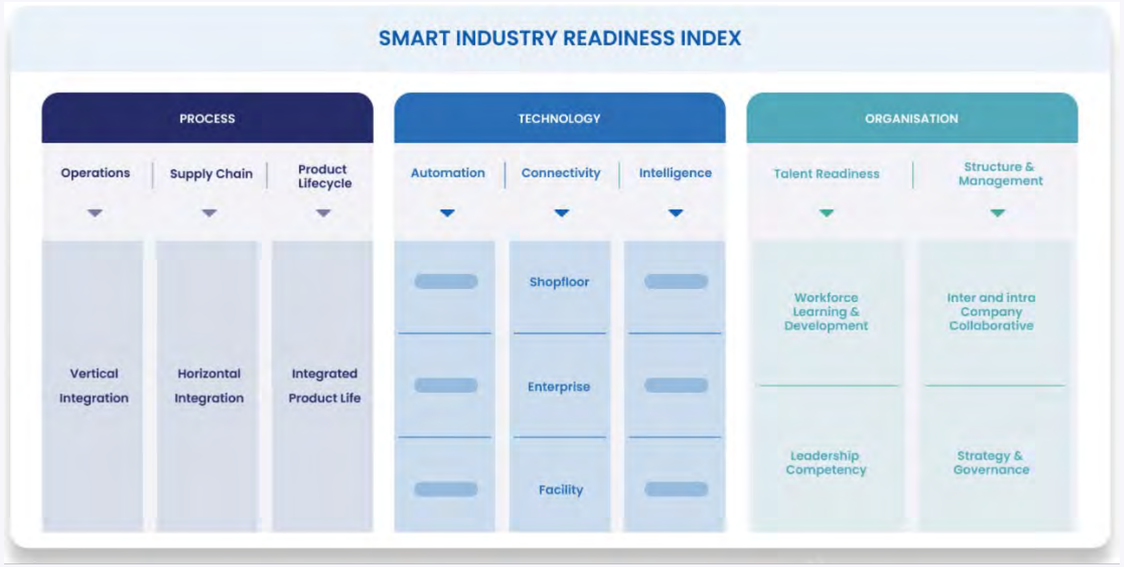
SIRI© ASSESSMENT, AN IMPORTANT STEP

We cannot make any improvement without measuring the actual situation.

- Planning and executing an Industry 4.0 transformation roadmap is no small undertaking. It requires companies to invest significant resources into various areas such as conducting research, engaging solution providers, running cost-benefit analyses, and monitoring progress of projects.

- We aim to help manufacturers along this journey by educating them on the Industry 4.0 keys and providing concepts that form a useful foundation for future action.

As with all things, knowledge is only useful when it is put into practice. We hope the suite of SIRI frameworks and tools will bolster companies' confidence, reduce their uncertainty, and encourage them to take the next step towards implementation.



SIRI© THE UNIQUE SELLING POINT

- Define your current state using assessment matrix (16 dimensions).
- Define the 4 important dimensions using the prioritization matrix to focus on.
- Benchmarking by comparing your results with 4000 companies in history in the SIRI platform.

SIRI© The 5 Principles of Assessment

- The SIRI Assessment provides a snapshot of a facility's current state but not its future potential.

- The SIRI Assessment uses Industry 4.0 concepts as the reference points. Future manufacturing and industrial concepts, as well as technologies, should also be taken into consideration, if relevant.

- All dimensions should be considered, though the importance and relevance of each will vary depending on the nature of the industry and the company's current and future needs.

- Companies should not feel compelled to achieve Band 5 across all dimensions. Instead, they should strive towards higher bandings based on specific business needs and aspirations.

- The SIRI Assessment is more than a one-off exercise — it should be used on an ongoing basis.

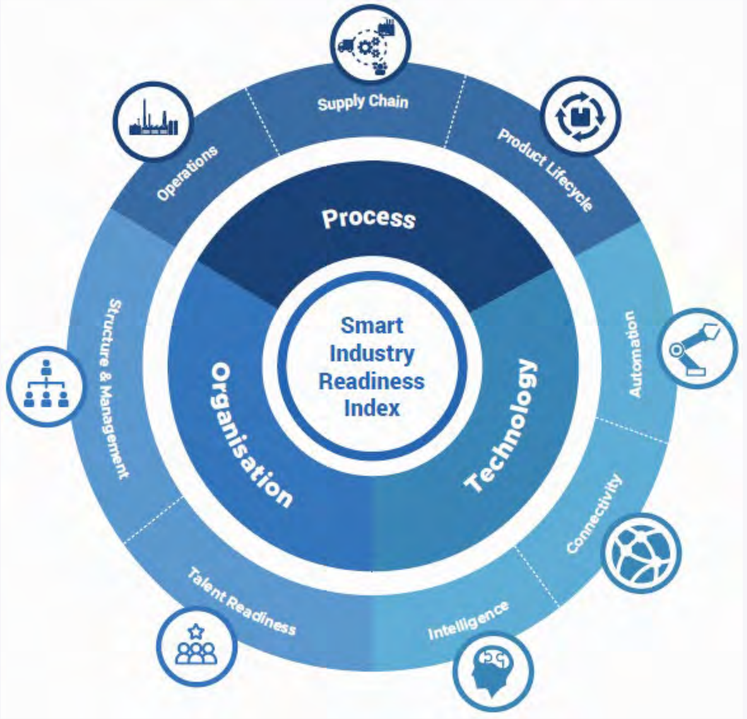
SIRI© the 16 dimensions to assess (1)

- Dimension 1: **Process** — Vertical Integration
  is the integration of processes and systems across all hierarchical levels of the automation pyramid within a facility to establish a connected, end-to-end data thread.

- Dimension 2: **Process** — Horizontal Integration
  is the integration of enterprise processes across the organization and with stakeholders along the value chain.

- Dimension 3: **Process** — Integrated Product Lifecycle
  is the integration of people, processes and systems along the entire product lifecycle, encompassing the stages of design and development, engineering, production, customer use, service, and disposal.

- Dimensions 4–6: **Technology - Automation** – Shop Floor, Enterprise, and Facility
  Shop Floor
  is the application of technology to monitor, control and execute the production and delivery of products and services, within the location where the production and management of goods is carried out.
  Enterprise
  is the application of technology to monitor, control and execute processes, within the location where the administrative work is carried out. These processes include, but are not limited to, sales and marketing, demand planning, procurement, and human resource management and planning.



SIRI© the 16 dimensions to assess (2)

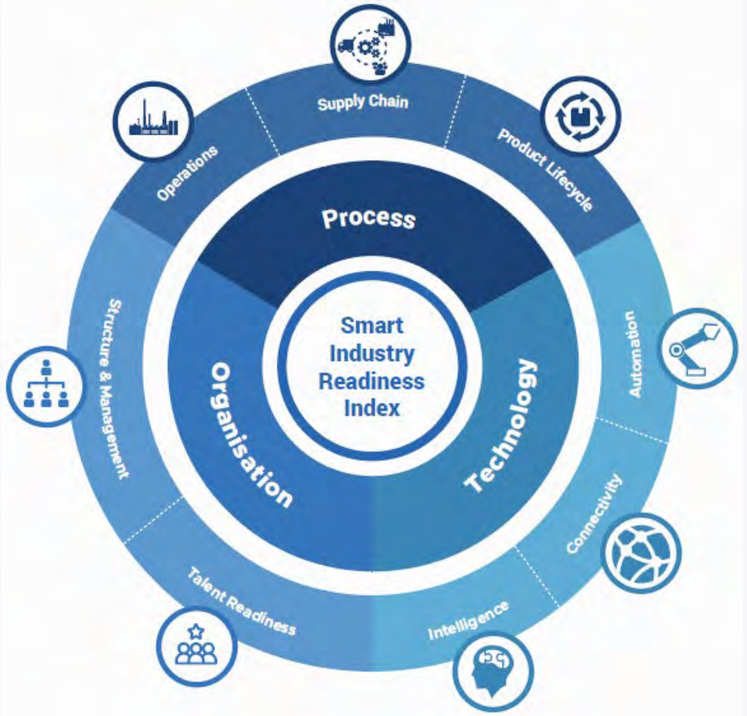
Facility
is the application of technology to monitor, control and execute processes within the physical building and/or premises where the production area is located. These processes include but are not limited to the management of HVAC, chiller, security, and lighting systems.

- Dimensions 7–9: Technology - Connectivity — Shop Floor, Enterprise, and Facility

  Shop Floor
  Is the interconnection of equipment, machines and computer-based systems, to enable communication and seamless data exchange, within the location where the production and management of goods is carried out.

  Enterprise
  Is the interconnection of equipment, machines and computer-based systems, to enable communication and seamless data exchange, within the location where the administrative work is carried out.

  Facility
  Is the interconnection of equipment, machines and computer-based systems, to enable communication and seamless data exchange, within the physical building and/or land plot where the production area is located.



- Dimensions 10–12: Technology - Intelligence — Shop Floor, Enterprise, and Facility

  Shop Floor
  Is the processing and analysis of data to optimize existing processes and create new applications, products, and services, within the location where the production and management of goods is carried out.

SIRI© the 16 dimensions to assess (3)

Enterprise

Is the processing and analysis of data to optimize existing administrative processes and create new applications, products and services.

Facility

Is the processing and analysis of data to optimize existing processes and create new applications, products and services, within the physical building and premises where the production area is located.

- Dimension 13: Organization — Workforce Learning and Development

  is a system of processes and programs that aims to develop the workforce's capabilities, skills and competencies to achieve organizational excellence.

- Dimension 14: Organization — Leadership Competency

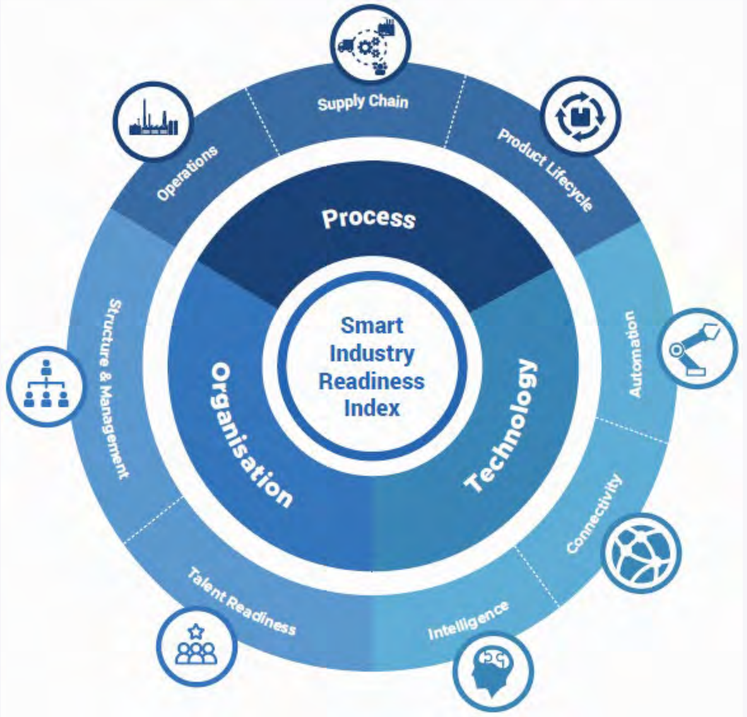
  refers to the readiness of the management core to leverage the latest trends and technologies for the continued relevance and competitiveness of the organization.

- Dimension 15: Organization — Inter- and Intra- Company Collaboration

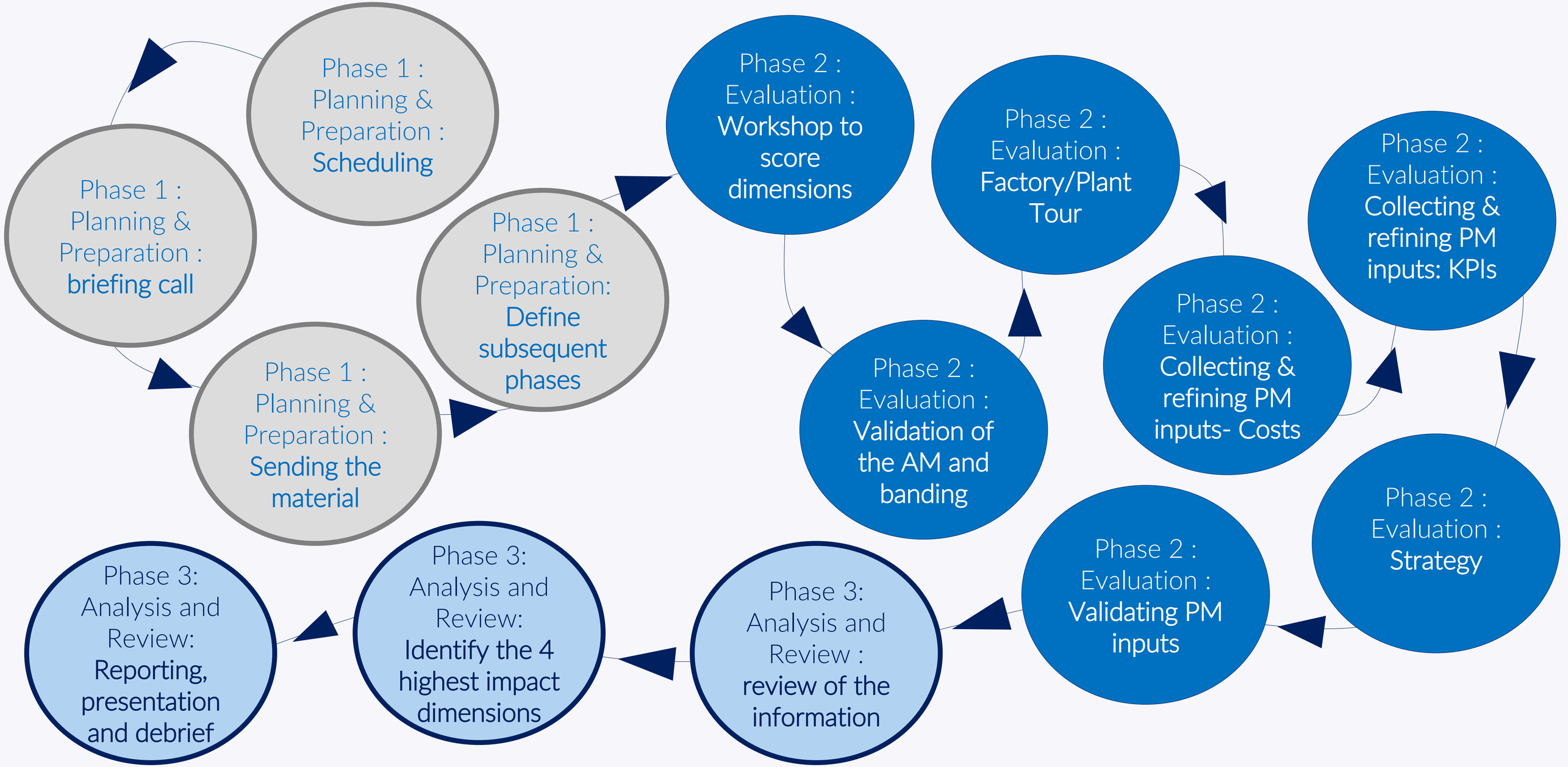
  is the process of working together, through cross functional teams and with external partners, to achieve a shared vision and purpose.

- Dimension 16: Organization — Strategy and Governance

  is the design and execution of a plan of action to achieve a set of long-term goals. It includes identifying priorities, formulating a roadmap, and developing a system of rules, practices and processes to translate a vision into business value.



SIRI© - Assessment Phases



OSR : Official SIRI© Report (Some pages)

SMART INDUSTRY READINESS INDEX

Official SIRI Assessment Report

Catalysing the transformation of manufacturing

Company: Company A

Assessment Record: ~~SIAT20JUN0001~~

Content Page

Overview of SIRI

The Smart Industry Readiness Index (SIRI) was created by the Singapore Economic Development Board (EDB) in partnership with a network of leading technology companies, consultancy firms, and industry and academic experts. SIRI comprises a suite of frameworks and tools to help manufacturers – regardless of size and industry – start, scale, and sustain their manufacturing transformation journeys. SIRI covers the three core elements of Industry 4.0: Process, Technology, and Organisation.

Familiarity with SIRI is critical for the interpretation of the results. However, we recognise that not everyone reading this Official SIRI Assessment Report will be familiar with the concepts and terminology relating to SIRI. Therefore, we have included an overview of the following SIRI frameworks and tools that will facilitate the reader in making sense of the results and insights provided within this Official SIRI Assessment Report.

1. **LEAD Framework**: A circular, continuous four-step process that all manufacturers can adopt in their approach towards Industry 4.0 transformation.
2. **SIRI Framework**: An overview of the key building blocks, pillars and dimensions for Industry 4.0 Transformation.
3. **Assessment Matrix**: The world's first self-diagnostic Industry 4.0 tool to evaluate the current state of a manufacturing factory or plant.
4. **TIER Framework**: A summary of four key principles for companies to consider as part of a holistic prioritisation exercise.
5. **Prioritisation Matrix**: A management planning tool to assist companies in quantitatively identifying the high-priority SIRI Dimensions where improvements will bring the most benefit.

The LEAD Framework

Transforming and upgrading a manufacturing facility is not a one-off exercise. Rather, it is a continuous and iterative process. This is encapsulated in the LEAD framework – a circular, continuous four-step process that all manufacturers can adopt in their approach towards Industry 4.0 transformation.

Figure 1 – The LEAD Framework

The SIRI Framework

The SIRI Framework comprises three layers. The topmost layer identifies three fundamental building blocks of Industry 4.0: Technology, Process, and Organisation. The second layer underpinning the building blocks comprises eight key pillars, which represent critical aspects that companies must focus on to become future-ready organisations. Finally, the third layer consists of 16 dimensions, which are areas of assessment that companies can use to evaluate the current Industry 4.0 readiness of their factories or plants.

The TIER Framework

Prioritisation is the next crucial exercise in formulating effective Industry 4.0 roadmaps, as it helps companies identify business areas where improvements will generate the most value. The TIER Framework outlines four principles for companies to consider as part of a holistic prioritisation exercise. By evaluating these four principles, manufacturers can better focus their energies and resources on activities that bring the greatest benefits.

Figure 3 – The TIER Framework

The Assessment Matrix

The Assessment Matrix is the world's first self-diagnostic Industry 4.0 tool. Validated by a global advisory panel of industry experts, the Assessment Matrix is designed to strike a balance among technical rigour, usability, and relevance. Within the Assessment Matrix, there are six bands, in ascending order, tied to each of the 16 SIRI Dimensions. Each band describes a specific state within that dimension. Identifying a manufacturing facility's bands across all 16 dimensions therefore presents a snapshot of the manufacturing facility's current Industry 4.0 maturity level. This is referred to as the *Assessment Matrix Score*.

Assessment Matrix Results

DIMENSION		BAND	DEFINITION
OPERATIONS	1 Vertical Integration	2	Digital — Defined vertical processes are connected by humans with the support of digital tools.
SUPPLY CHAIN	2 Horizontal Integration	3	Integrated — Digitised supply chain processes and systems are securely integrated across business partners and clients along the value chain.
PRODUCT LIFECYCLE	3 Integrated Product Lifecycle	1	Defined — Product lifecycle processes are defined and executed by humans, with the support of analogue tools.
AUTOMATION	4 Shop Floor Automation	3	Full — Repetitive production processes are fully automated with no human intervention. Related support processes are partially automated, with limited human intervention.
	5 Enterprise Automation	2	Advanced — Enterprise processes are automated, with minimal human intervention.
	6 Facility Automation	2	Advanced — Facility processes are automated, with minimal human intervention.
CONNECTIVITY	7 Shop Floor Connectivity	2	Interoperable — Connected production assets and systems are interoperable across different communication technologies and protocols.
	8 Enterprise Connectivity	2	Interoperable — Enterprise IT systems are interoperable across multiple communication technologies and protocols.
	9 Facility Connectivity	1	Connected — Facility assets and systems are connected via multiple communication technologies and protocols.
INTELLIGENCE	10 Shop Floor Intelligence	2	Visible — Computerised OT and IT systems are able to identify deviations.
	11 Enterprise Intelligence	2	Visible — Enterprise IT systems are able to identify deviations.
	12 Facility Intelligence	2	Visible — Computerised OT and IT systems are able to identify deviations.
TALENT READINESS	13 Workforce Learning & Development	3	Integrated — Continuous L&D programmes are formally aligned with the organisation's business needs and human resources (HR) functions.
	14 Leadership Competency	2	Informed — Management is well-informed, through formal channels and avenues, of the most recent trends and technologies.
STRUCTURE & MANAGEMENT	15 Inter- and Intra-Company Collaboration	2	Cooperating — Formal channels are established to allow teams to work together on discussions-of-form and projects.
	16 Strategy & Governance	2	Development — Transformation initiative towards a Factory/Plant-of-the-Future is being developed or has been developed by a dedicated team.

Table 2 – Assessment Matrix Scores

Prioritised SIRI Dimensions

Based on the company inputs provided for the Prioritisation Matrix (refer to Annex C), the SIRI Dimensions with the highest Impact Values are listed in Table 3 below.

Planning Horizon	Tactical				
Weightages	Cost Factor	46%	KPI Factor	30%	Proximity Factor	25%
Recommended Dimensions for Prioritisation					
Building Block	Process		Technology		Organisation
Highest Impact Value	Vertical Integration		Shop Floor Intelligence, Enterprise Intelligence		Leadership Competency

Table 3 – Prioritised SIRI Dimensions ranked from the Prioritisation Matrix exercise

Manufacturing Sector Comparison

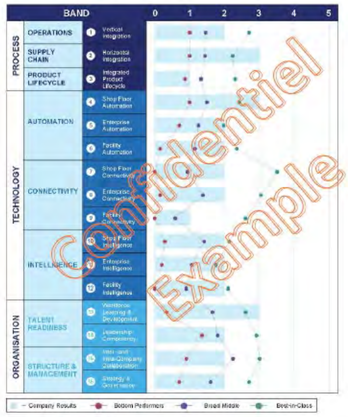


Table 4 – Comparison with SS Benchmark

Industry Group Comparison

DIMENSION		COMPANY BAND	INDUSTRY IPC	COMPARISON
PROCESS — OPERATIONS	1 Vertical Integration	2	1.36	
PROCESS — SUPPLY CHAIN	2 Horizontal Integration	3	1.31	
PROCESS — PRODUCT LIFECYCLE	3 Integrated Product Lifecycle	1	1.25	
TECHNOLOGY — AUTOMATION	4 Shop Floor Automation	3	1.62	
	5 Enterprise Automation	2	1.38	
	6 Facility Automation	2	1.00	
TECHNOLOGY — CONNECTIVITY	7 Shop Floor Connectivity	2	0.54	
	8 Enterprise Connectivity	2	0.86	
	9 Facility Connectivity	1	0.91	
TECHNOLOGY — INTELLIGENCE	10 Shop Floor Intelligence	2	1.23	
	11 Enterprise Intelligence	2	0.77	
	12 Facility Intelligence	2	0.54	
ORGANISATION — TALENT READINESS	13 Workforce Learning & Development	3	1.16	
	14 Leadership Competency	2	1.86	
ORGANISATION — STRUCTURE & MANAGEMENT	15 Inter- and Intra-Company Collaboration	2	2.00	
	16 Strategy & Governance	2	1.46	

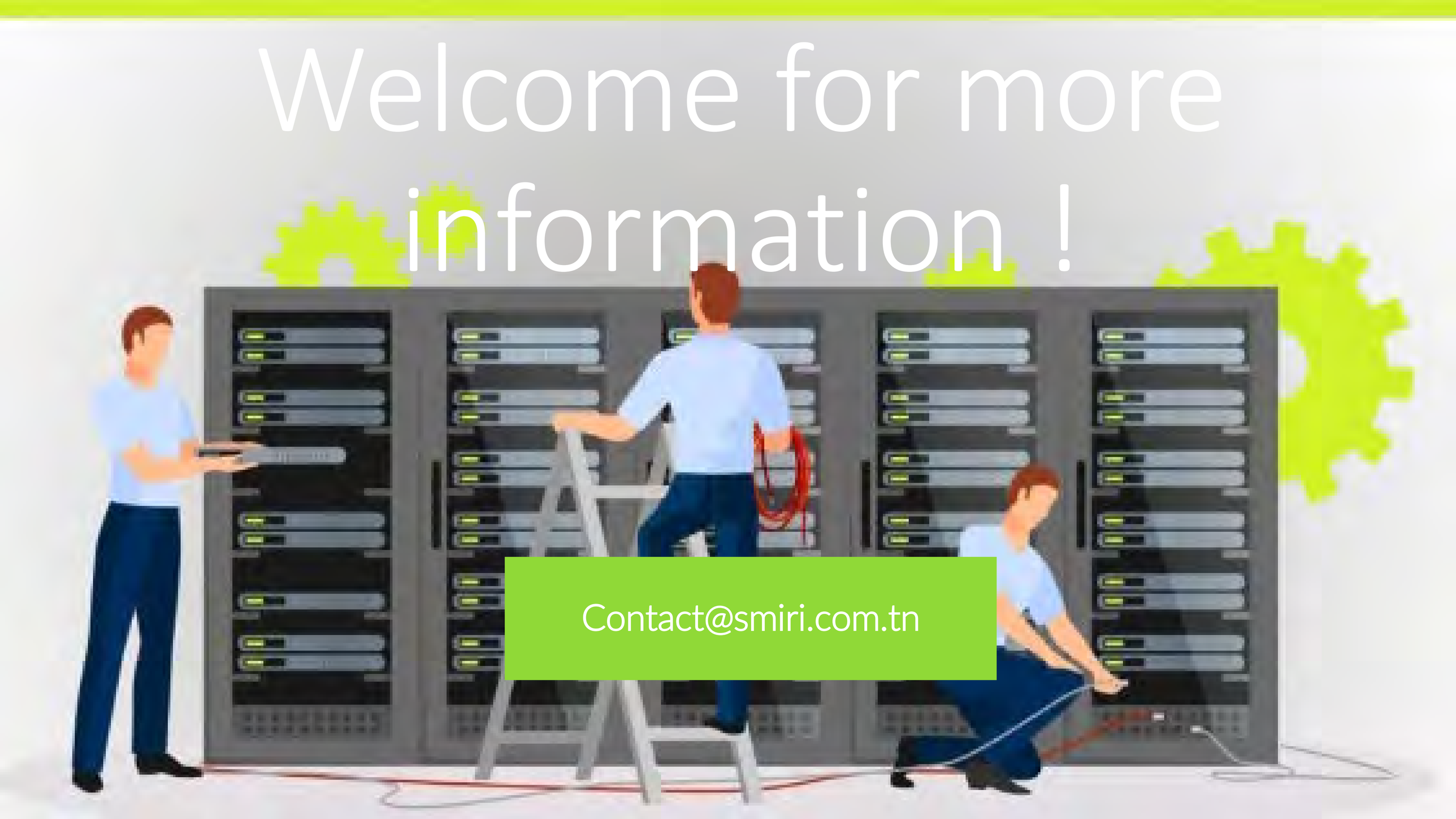
On Par or Above — Below

Table 5 – Comparison with General Manufacturing IPC

Assessor Comments

- Company A was established in 1980 with the objectives to manufacture powder detergent and shampoo in Singapore.
- Company's A top management has the vision to improve the productivity and competitiveness for the factory through implementing Industry 4.0 concepts.
- There are 4 main processes producing detergents: powder detergent mixing, powder detergent packaging, liquid detergent mixing and liquid detergent packaging. The factory is fully equipped with automation and has an integrated system for the production processes such as from raw material uploading, mixing and packaging processes.
- The company has started to implement some Industry 4.0 use cases to enable the full scale up of Industry 4.0 concepts in the factory.
- Enhancing Vertical Integration and Shop Floor Intelligence will improve Company A's ability to uphold the quality of its manufacturing processes through processing and analysing data. Working on these two dimensions will consequently strengthen Company A's Asset & Equipment Efficiency, Workforce Efficiency and Process Quality both of which were highlighted as the company's top KPI categories.
- Furthermore, an improvement in Enterprise Intelligence dimension will increase the Inventory Efficiency and Planning & Scheduling Effectiveness which help to This will help the company optimise the management of its Raw Materials & Consumables, which currently make up more than a third (42 per cent) of the company's annual revenue.
- Assessment Matrix Score of Company A is higher than Industry Benchmarks for most of the dimensions with only Integrated Product Lifecycle is below the Industry Benchmarks.

Welcome for more information !



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