Industry4WRD

READINESS ASSESSMENT

((•)) ATTRACT   ⊗ CREATE   ◎ TRANSFORM

what's

INSIDE

(((•))) ATTRACT   ✕ CREATE   ⬡ TRANSFORM

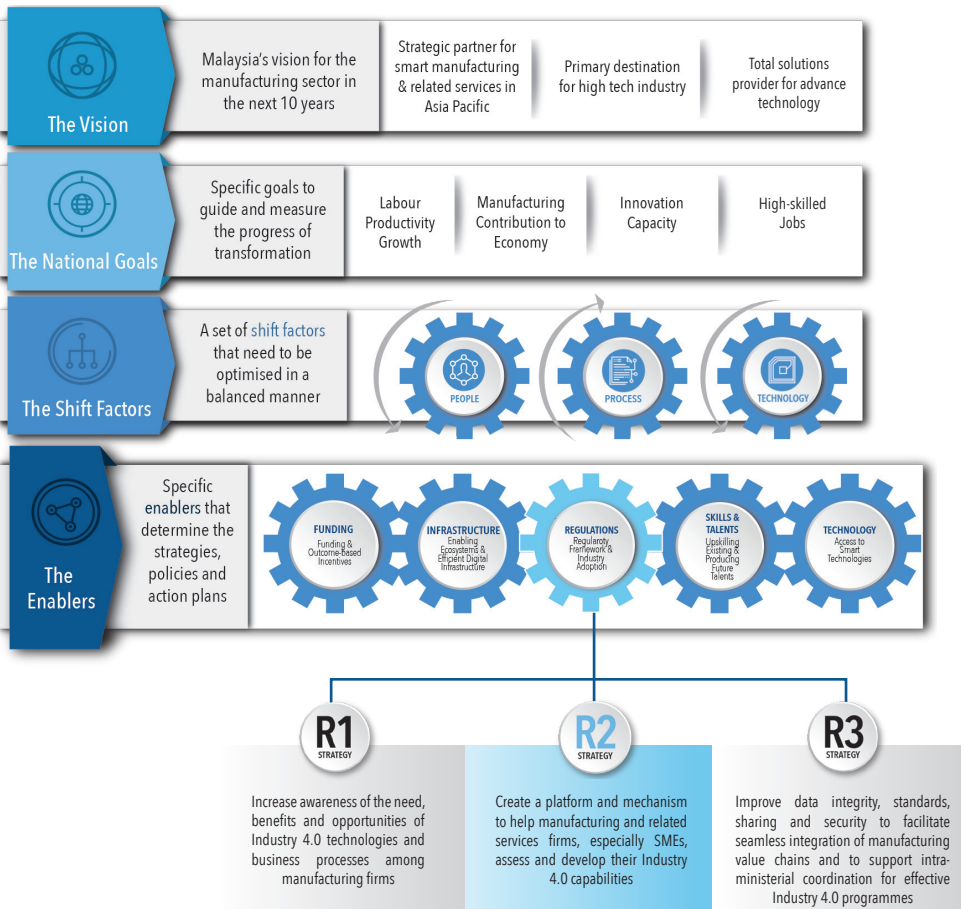### Industry*4WRD*

The National Policy on Industry 4.0 (Industry*4WRD*) is a proactive measure undertaken by the Ministry of International Trade and Industry (MITI) to transform the Malaysian manufacturing industry and its related services to be smarter, more systematic and resilient.

The Vision	Malaysia's vision for the manufacturing sector in the next 10 years	Strategic partner for smart manufacturing & related services in Asia Pacific	Primary destination for high tech industry	Total solutions provider for advance technology

The National Goals	Specific goals to guide and measure the progress of transformation	Labour Productivity Growth	Manufacturing Contribution to Economy	Innovation Capacity	High-skilled Jobs

The Shift Factors — A set of shift factors that need to be optimised in a balanced manner

PEOPLE — PROCESS — TECHNOLOGY

The Enablers — Specific enablers that determine the strategies, policies and action plans

FUNDING Funding & Outcome-based Incentives

INFRASTRUCTURE Enabling Ecosystems & Efficient Digital Infrastructure

REGULATIONS Regulatory Framework & Industry Adoption

SKILLS & TALENTS Upskilling Existing & Producing Future Talents

TECHNOLOGY Access to Smart Technologies

R1 STRATEGY — Increase awareness of the need, benefits and opportunities of Industry 4.0 technologies and business processes among manufacturing firms

R2 STRATEGY — Create a platform and mechanism to help manufacturing and related services firms, especially SMEs, assess and develop their Industry 4.0 capabilities

R3 STRATEGY — Improve data integrity, standards, sharing and security to facilitate seamless integration of manufacturing value chains and to support intra-ministerial coordination for effective Industry 4.0 programmes

R2
STRATEGY

Create a platform and mechanism to help manufacturing and related services firms, especially SMEs, assess and develop their Industry 4.0 capabilities

STRATEGIC OUTCOMES

- ⚙ Better understanding of best practices, own capabilities and transformation requirements by manufacturing firms

- ⚙ Profile of the state of readiness of local manufacturing industry in adopting Industry 4.0 for targeted technological improvement and support prioritisation

ACTION PLANS/PROGRAMMES

- ⚙ Create tools and processes to help manufacturing and related services firms, assess their capabilities and readiness to adopt Industry 4.0 technologies and processes

- ⚙ Establish a national Readiness Assessment Programme as a tool for conducting assessment, sharing global and local best practices, supporting the development of local firms and identifying national Industry 4.0 priorities

- ⚙ Establish collaborative programmes with other countries that are leading in the Industry 4.0 transformation to share best practices and help guide Malaysia's programmes for optimal impact

Industry4WRD
READINESS ASSESSMENT

A programme developed under Strategy Regulatory Framework & Industry Adoption.

2. Industry*4WRD* Readiness Assessment

Industry*4WRD* Readiness Assessment (Industry*4WRD*-RA) is a comprehensive programme to help firms assess their capabilities and readiness to adopt Industry 4.0 technologies and processes. The assessment uses a pre-determined set of indicators to understand their present capabilities and gaps, from which will enable firms to prepare feasible strategies and plans to move towards Industry 4.0.

The Industry*4WRD*-RA will help firms to:
- Determine their state of readiness in the adoption of Industry 4.0 technologies;
- Identify the gaps and areas of improvement for Industry 4.0 adoption as well as opportunities for productivity improvement and growth; and
- Develop feasible strategies and plans to perform outcome-based intervention projects.

3. Development Methodology

The Industry*4WRD*-RA Guideline was developed through extensive literature review and consultations with multiple ministries, agencies and academia. A process of verification was also undertaken with several profound international organisations to adopt best practices accordingly. The Guideline was tested on pilot companies from various sectors and sizes to determine its validity.

STUDY	DEVELOP	CONSULT	PILOT	EXECUTE
Research and evaluate existing Industry 4.0 concepts, policies & best practices of pioneer and leading economies	Design and develop the Guideline as a tool to commission the assessment across industries and firms regardless of size, profile and level of business maturity	Expert consultation with industry professionals & academia to validate the draft guidelines	Conduct assessments on targeted sectors and market segments	Commission Industry*4WRD*-RA

4. Target Audience

| MARKET SEGMENT	MANUFACTURING	MANUFACTURING-RELATED SERVICES *(FROM Q2 2019)*
ELIGIBILITY	☑ Incorporated under the Companies Act 1965/ Registration of Business Act (1956) ☑ Hold a valid Manufacturing License (ML) and/or business licenses ☑ In operation for more than three (3) years in the current business line	

5. Assessment Process

① Public announcement & awareness

② Company registers interest

③ Industry*4WRD* - RA Technical / Steering Committee review

④ Assessment process takes place

⑤ Full report

⑥ Table to Industry*4WRD* - RA Technical / Steering Committee

⑦ Inform assessment results to company

The readiness criteria model consists of three interconnected layers of rings with three shift factors (the core ring). Each shift factor is then divided into thrusts (the middle ring), and each thrust is subsequently divided into dimensions (the third and outermost ring). The structure of interconnected shift factors, thrusts and dimensions is visualised in the model below.
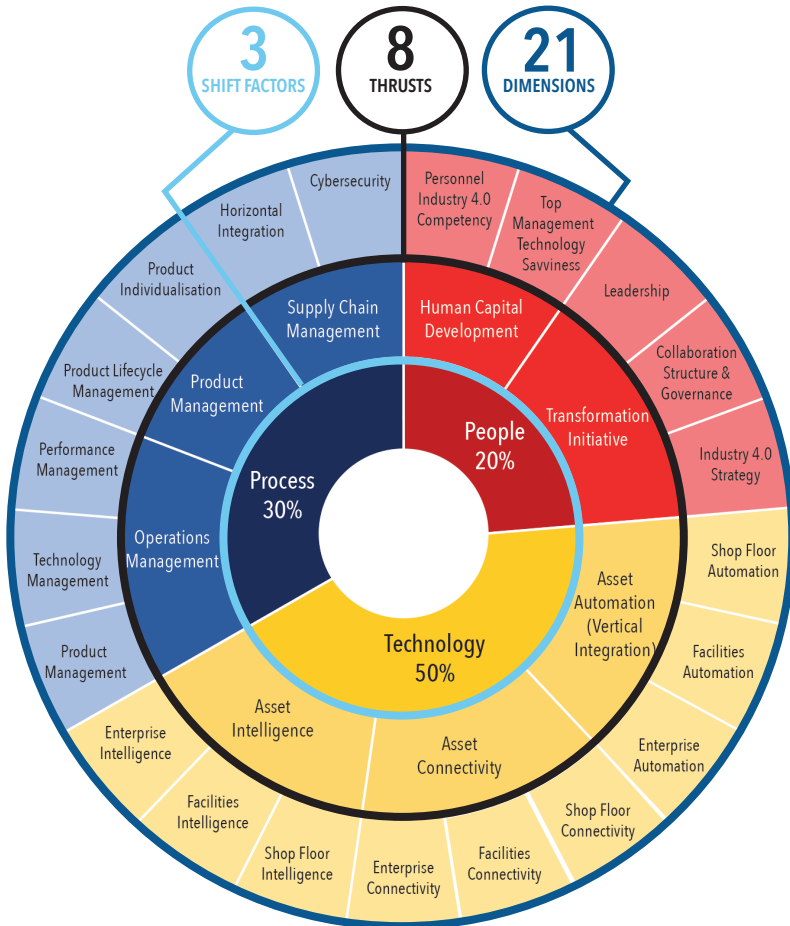
Shift factor: PEOPLE	Focuses on the people and the entire organisation by emphasising on strategies towards having a suitable set of workforce. This can be achieved through the development of the required human capital and sustainable transformation activities with regards to organisational strategies, collaboration and governance.
Shift factor: PROCESS	Focuses on the management system involved in running business operations, supply chain and product lifecycle, by emphasising on smart and strategic public-private partnerships, security, sustainability and product co-creation.
Shift factor: TECHNOLOGY	Focuses on the application of intelligent, connected and automated technologies, measured at three different layers of the business: shop floor, facilities and enterprise.

Readiness Profile and Scoring

READINESS PROFILE	PERCENTAGE SCORED	GENERAL DESCRIPTION
Conventional	0 % to 20 %	Operation remains "as is" with no intention or initiative to move into Industry 4.0 adoption.
Newcomer	21 % to 40 %	Has interest to pursue Industry 4.0 but with none or very minimal efforts or initiatives.
Learner	41 % to 60 %	Has interest to pursue pilot line Industry 4.0 adoption in operation, with existence of planning and strategies, efforts or simple and patches of initiatives being implemented. Ready for some system adoption.
Experienced	61 % to 90 %	Has pursued small to medium scale Industry 4.0 adoption initiatives in operation, horizontal integration and ready for large scale system adoption.
Leader	91 % to 100 %	Has implemented large scale Industry 4.0 adoption initiatives (company-wide) and system integration.

FINDINGS

PEOPLE
PERSONAL INDUSTRY 4.0 COMPETENCY

- Right cul...
- Good lea...
- Good leo...
- Person... Ve... depth for ri...
- Req... G... Strategic te...
  - S...
  - P... p...

PROCESS
PRODUCT MANAGEMENT

TECHNOLOGY

- Some investments within technology area
- Technology plan / roadmap not properly addressed
- Limited connectivity to Enterprise layer without much consideration to Shop Floor layer
- Automation only at Enterprise layer
- Very manual driven and requires a lot of human intervention

SUMMARY
TECHNOLOGY

CURRENT VALUE

INDUSTRY 4.0 READINESS :
65.6% (EXPERIENCED)

Company ABC has shown an excellent grasp of Industry 4.0 in its process and people factor. However, the lack of technology to support their day-to-day operations is a significant setback.

IMPROVEMENT PLAN

RECOMMENDATION TO IMPROVE PEOPLE

- As digital transformation expands across the organisation and the war for talent take place...

RECOMMENDATION TO IMPROVE PROCESS

- Conduct a team-based Value Stream Mapping (VSM) exercise on the Order to Delivery process within the...

RECOMMENDATION TO IMPROVE TECHNOLOGY

SPECIFIC ACTION		
Shift Factor (Thrust)	TECHNOLOGY (Asset Connectivity)	
Initiative	Connectivity Improvement Implementation	
Description	Implement connectivity improvement to connect critical function horizontally and vertically to support Industry 4.0 requirements	
Estimated Timeline	6 months	**Priority**	Medium
Expected Deliverables	Highly available connectivity throughout Shop floor, Facilities, and Enterprise	