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The National Policy on Industry 4.0 (Industry4WRD) 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.

**1. Industry4WRD**

Industry4WRD

The National Policy on Industry 4.0 (Industry4WRD) 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.
A programme developed under Strategy Regulatory Framework & Industry Adoption.

**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

**READINESS ASSESSMENT**

A programme developed under Strategy Regulatory Framework & Industry Adoption.
2. Industry4WRD Readiness Assessment

Industry4WRD Readiness Assessment (Industry4WRD-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 Industry4WRD-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 Industry4WRD-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.

<table>
<thead>
<tr>
<th>STUDY</th>
<th>DEVELOP</th>
<th>CONSULT</th>
<th>PILOT</th>
<th>EXECUTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research and evaluate existing Industry 4.0 concepts, policies &amp; best practices of pioneer and leading economies</td>
<td>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</td>
<td>Expert consultation with industry professionals &amp; academia to validate the draft guidelines</td>
<td>Conduct assessments on targeted sectors and market segments</td>
<td>Commission Industry4WRD-RA</td>
</tr>
</tbody>
</table>
4. Target Audience

<table>
<thead>
<tr>
<th>MARKET SEGMENT</th>
<th>MANUFACTURING</th>
<th>MANUFACTURING-RELATED SERVICES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELIGIBILITY</td>
<td>Incorporated under the Companies Act 1965/ Registration of Business Act (1956)</td>
<td>Hold a valid Manufacturing License (ML) and/or business licenses</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In operation for more than three (3) years in the current business line</td>
</tr>
</tbody>
</table>

5. Assessment Process

1. Public announcement & awareness
2. Company registers interest
3. Industry4WRD - RA Technical / Steering Committee review
4. Assessment process takes place
5. Full report
6. Table to Industry4WRD - 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.
Focuses on the application of intelligent, connected and automated technologies, measured at three different layers of the business: shop floor, facilities and enterprise.

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.

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.

Readiness Profile and Scoring

<table>
<thead>
<tr>
<th>READINESS PROFILE</th>
<th>PERCENTAGE SCORED</th>
<th>GENERAL DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional</td>
<td>0 % to 20 %</td>
<td>Operation remains “as is” with no intention or initiative to move into Industry 4.0 adoption.</td>
</tr>
<tr>
<td>Newcomer</td>
<td>21 % to 40 %</td>
<td>Has interest to pursue Industry 4.0 but with none or very minimal efforts or initiatives.</td>
</tr>
<tr>
<td>Learner</td>
<td>41 % to 60 %</td>
<td>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.</td>
</tr>
<tr>
<td>Experienced</td>
<td>61 % to 90 %</td>
<td>Has pursued small to medium scale Industry 4.0 adoption initiatives in operation, horizontal integration and ready for large scale system adoption.</td>
</tr>
<tr>
<td>Leader</td>
<td>91 % to 100 %</td>
<td>Has implemented large scale Industry 4.0 adoption initiatives (company-wide) and system integration.</td>
</tr>
</tbody>
</table>
7. Example of Assessment Report

FINDINGS

- 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

IMPROVEMENT PLAN

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

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.