

Industry 4.0 in Textile & Garment Industry:



FOR SUSTAINABLE JOBS

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BACKGROUND



Textile & Garment Industry is one of the focus of Industry 4.0 Roadmap that was launched in April 2018



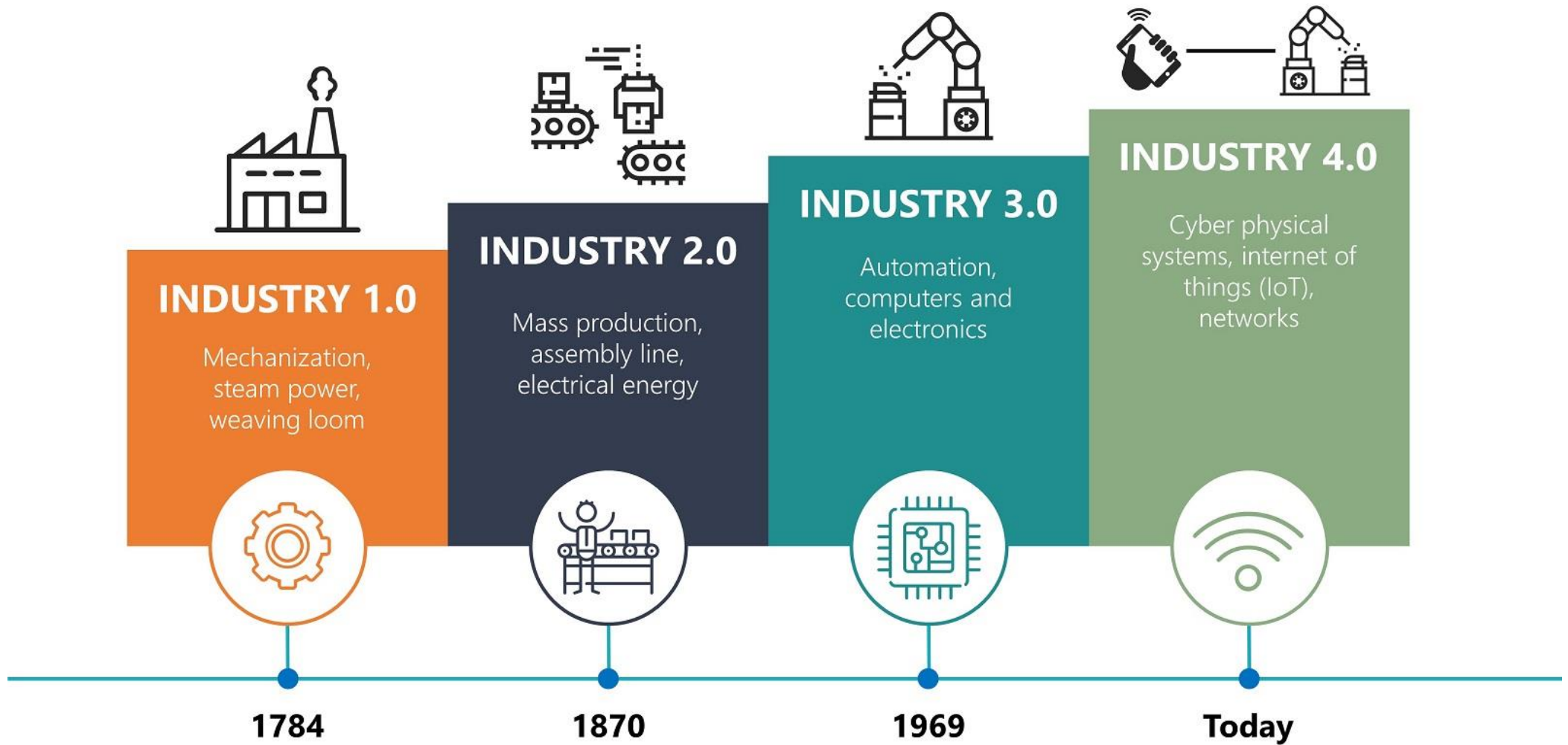
Textile & Garment industry's growth in 2017 was 6,6%; this has outgrown national economic growth in 2017.

TEXTILE & GARMENT WORKERS DEMOGRAPHICS

<i>Worker's role within factory</i>	<i>Worker count</i>	<i>%</i>
Sewing operator	468	51.4
Cutter	55	6
Spreader	4	0.4
Checker	19	2.1
Mechanic	3	0.3
Packer	34	3.7
Quality Control	88	9.7
Supervisor	6	0.7
Helper	88	9.7
Other	145	15.9

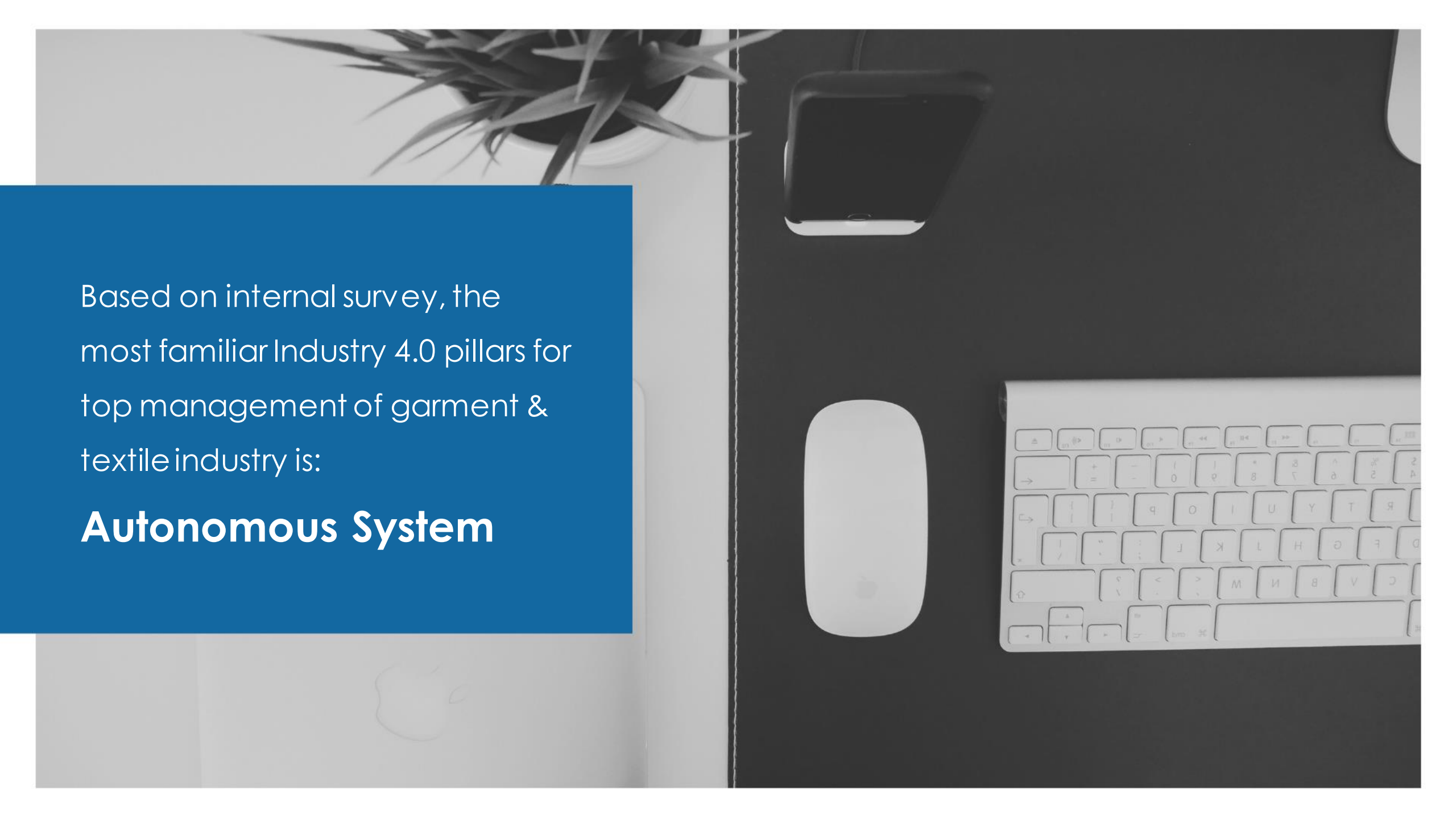
<i>Level of education</i>	<i>Worker count</i>	<i>%</i>
No formal education	3	0.3
Elementary school	165	18
Junior High school	402	43.8
High School	342	37.3
University	6	0.7

Source: ILO, 2018



It has been more than 40 years since our last industrial revolution.

How will we bridge the gap?

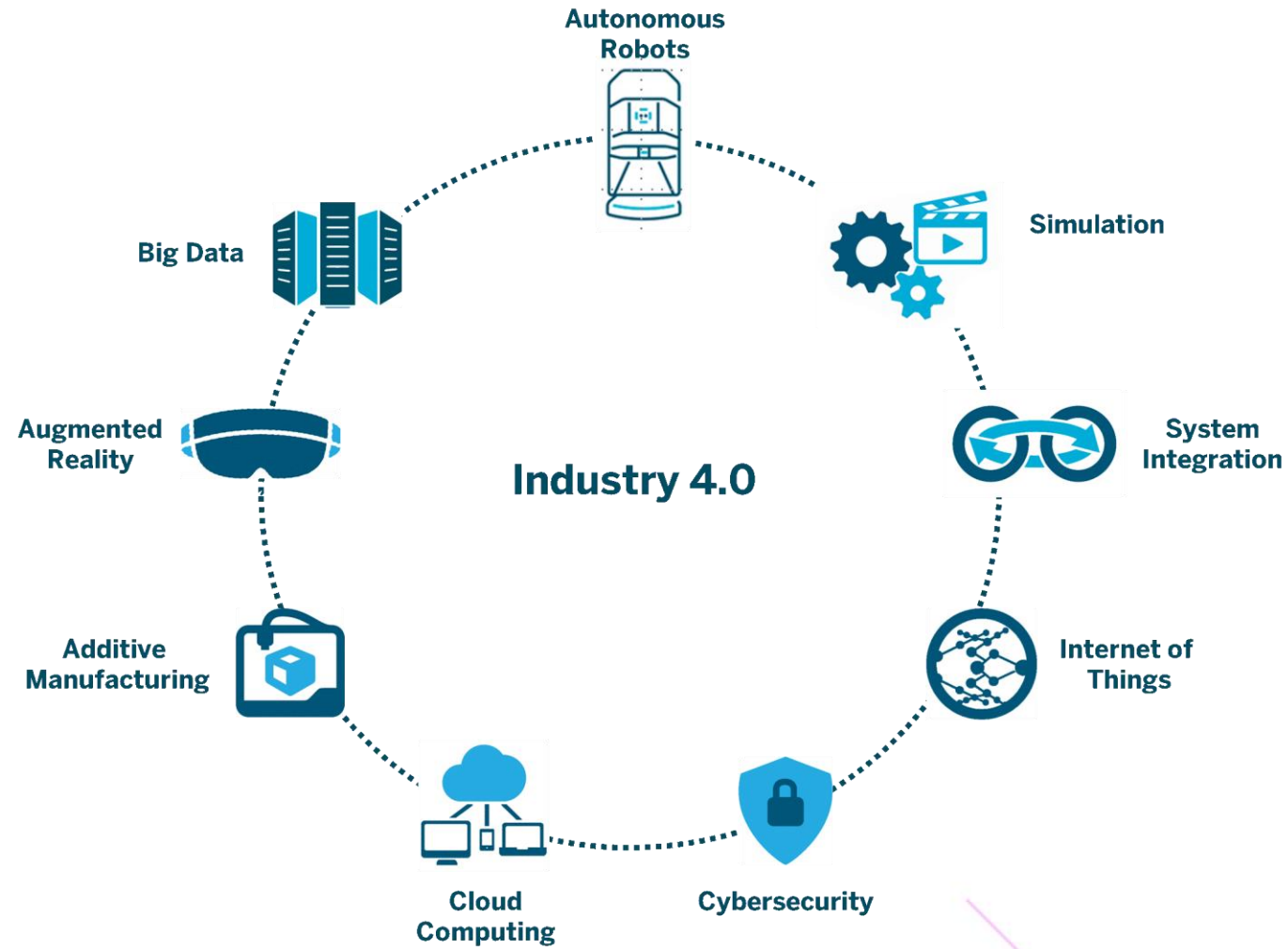


Based on internal survey, the most familiar Industry 4.0 pillars for top management of garment & textile industry is:

Autonomous System

Company shall understand that automation is not the only translation of Industry 4.0 and shall never put workers at risk to lose their jobs.





We have to ensure that top management of garment & textile factories deeply understand this concept.

FORESIGHT:

**OPPORTUNITIES &
RECOMMENDATIONS**

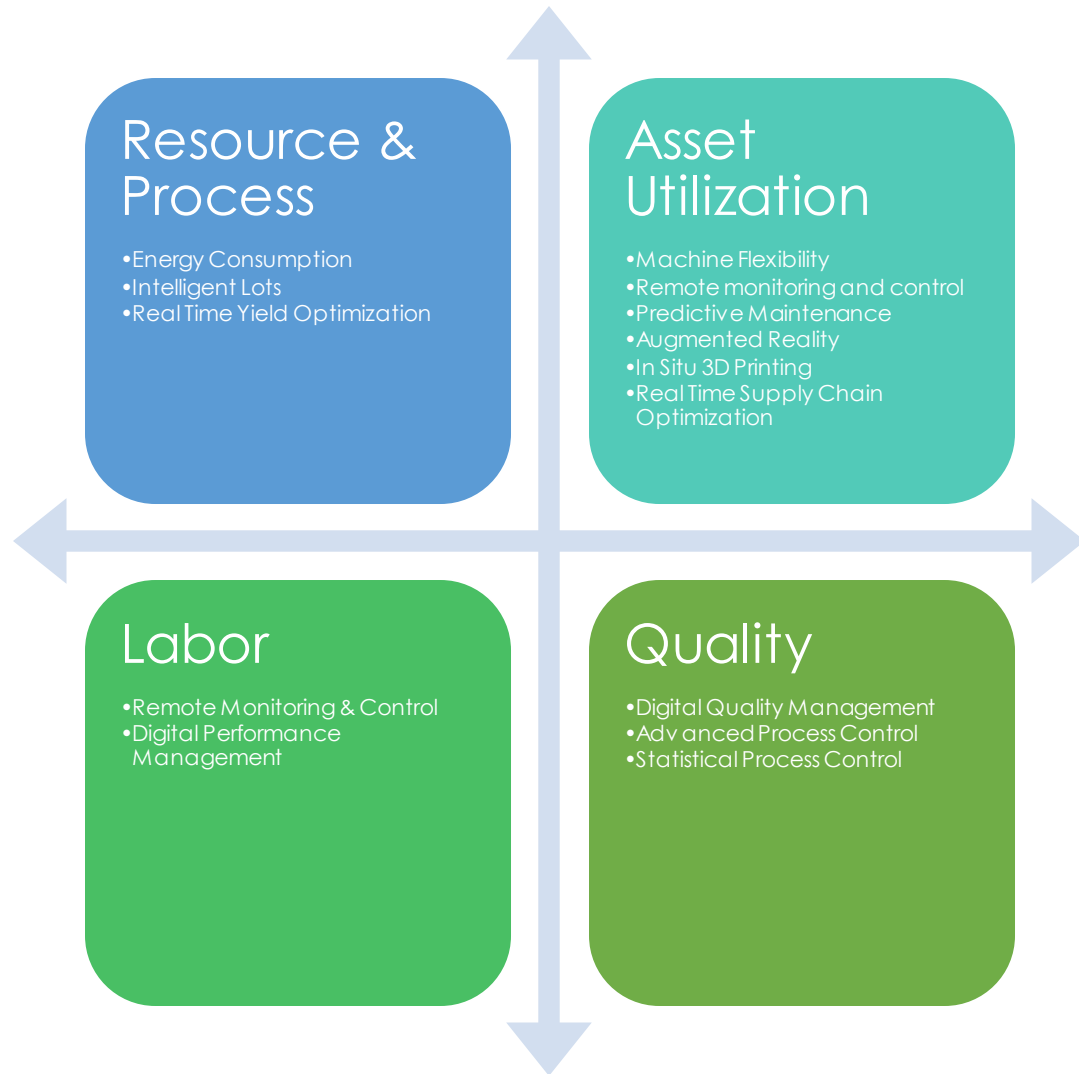


BRIDG.IT provides user friendly method for textile and garment companies to determine their pathway to implement Industry 4.0

This guideline mainly refers to **SDG 8** which is to promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

1

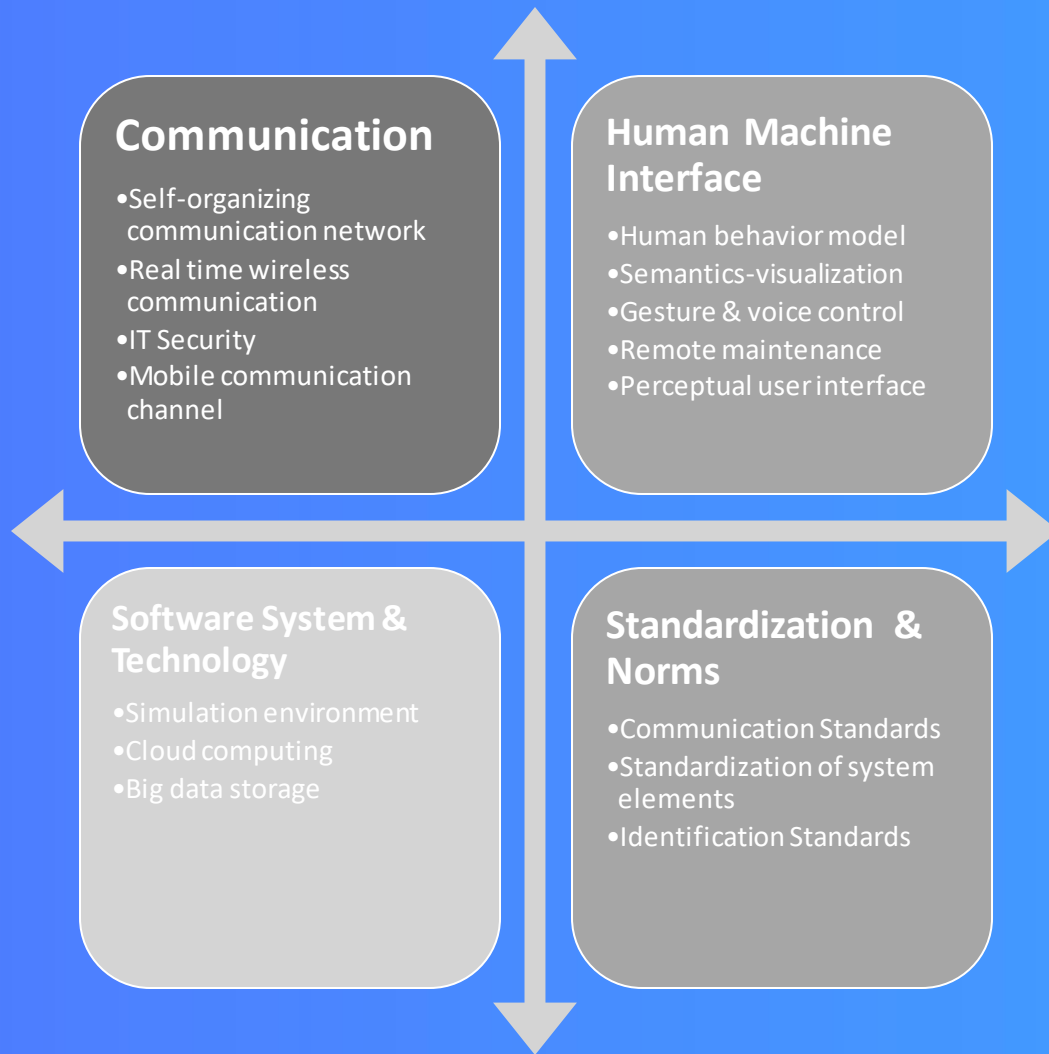
Bridge the Value Drivers & Levers



To sort through the advancement choices, companies can use practical Industry 4.0 levers to help defining their strategy for deciding how to approach the fourth industrial revolution.

2

Bridge the Area & Technology



Technologies might enhance the capabilities of factories to cope with the changing market demand and to remain globally competitive in the future.

3

Bridge The Skills

Based on survey from World Economic Forum in 2018, **cognitive abilities, system skills and complex problem solving skills** are the top three skills expected to be high in demand and will continue to remain important.

Company shall identify and later develop skill matrix to match required future skills.

3

Bridge The Skills

Existing Skills & Knowledge

Task	Knowledge of	Ability to	Technical skill	Attributes
Attach and change sewing needles	<ul style="list-style-type: none"> - Manufacturing specifications - Sewing needles - Sewing machine parts and components 	<ul style="list-style-type: none"> - Attach sewing needle to sewing machine - Identify type and size of needle - Identify sewing machine components for attaching needles 	<ul style="list-style-type: none"> - Procedures for attaching sewing needle 	<ul style="list-style-type: none"> - Language skills - Good vision, including colour - Tolerance to stress - Attention to detail
Attach and change presser foot	<ul style="list-style-type: none"> - Manufacturing specifications - Presser foot - Sewing machine parts and components 	<ul style="list-style-type: none"> - Identify type of presser foot - Identify sewing machine - Components for attaching presser foot - Attach presser foot to sewing machine 	<ul style="list-style-type: none"> - Procedures for attaching presser foot - Adjust for the right presser foot tension 	-



Future Skills & Knowledge

Cognitive Analytics

- > Cognitive Flexibility
- > Creativity
- > Logical Reasoning
- > Problem Sensitivity
- > Mathematical Reasoning
- > Visualization

Content Skills

- > Active learning
- > Oral expression
- > Reading comprehension
- > Written expression
- > ICT literacy

Social Skills

- > Coordinating with others
- > Emotional intelligence
- > Negotiation
- > Persuasion
- > Service orientation
- > Training & teaching others

Physical Abilities

- > Physical strength
- > Manual dexterity
- > Manual precision

Process Skills

- > Active listening
- > Critical thinking
- > Monitoring self and others

Resource Management Skills

- > Managing financial resources & material resources
- > People management
- > Time management

Systems Skills

- > Judgement and decision making
- > Systems analysis

Complex Problem Solving Skills

- > Complex problem solving

Technical Skills

- > Equipment maintenance, repair, operation & control
- > Programming
- > Quality control
- > Troubleshooting
- > Technology & user experience design

Abilities

Basic Skills

Cross-functional Skills

POTENTIAL BENEFITS



Benefit for Workers:

- Empower workers by improving their skills and knowledge



Benefit for Factories:

- Help management to create an effective strategy for company by determining adequate resources and process required during the transition



Next, **BRIDG.IT** will develop tools to integrate those 3 bridges to make easier decision making process for company



IMPLICATIONS FOR POLICY & PRACTICE

Supporting Industry 4.0 Roadmap issued by Indonesian Government

Changing stigma about implementation of industry 4.0 towards workers and management

Determine accurate element of industry 4.0 to be focused on from human resources aspects

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ALWAYS REMEMBER

Where industry 4.0 is adopted, we must ensure that workers are profited from this decision. Even with industry 4.0, our approaches have to be human-centered.
