



Dr. Mazlina Shafi'i
Timbalan Pengarah

P
URPOSE

The purpose of the meeting is to :

1. Clarify the Objective of work
2. Exchange preliminary ideas of way forward

O
UTCOME

1. Define clearly the Objective of work
2. Understand the status of work

W
HY

1. To ensure we are aligned
2. To be able to start documenting ideas

Machinery & Equipment Productivity Nexus

Ir Dr Shahreen Madros

25th November 2020



Disahkan Oleh:

Dr. Mazlina Shafi'i
Timbalan Pengarah



Machinery & Equipment Productivity Nexus

**Where we were
in 2020**

5 STRATEGIC THRUST

5 Key Strategic Thrusts under the Malaysia Productivity Blueprint

1



Building Workforce of the Future

Restructuring workforce by raising the number of high-skilled workers, tightening entry of low-skilled workers, and meeting demands of the future economy.

2



Driving Digitalisation and Innovation

Strengthening the readiness of enterprises to effectively adopt and exploit the technology and digital advantage (such as 4th Industrial Revolution).

3



Making Industry Accountable for Productivity

Reducing reliance on non-critical subsidies, linking financial assistance and liberalisation efforts to productivity outcomes, and strengthening industry positioning in higher value and segments of the value chain.

4



Forging a Robust Ecosystem

Addressing regulatory constraints and developing a robust accountability system to ensure effective implementation of regulatory reviews.

5



Securing a Strong Implementation Mechanism

Institutionalise a strong coordination and governance model to secure implementation certainty across government, sector, and enterprise levels.

Source: Malaysia Productivity Blueprint (MPB)

DSM

Building Workforce

Digitalization

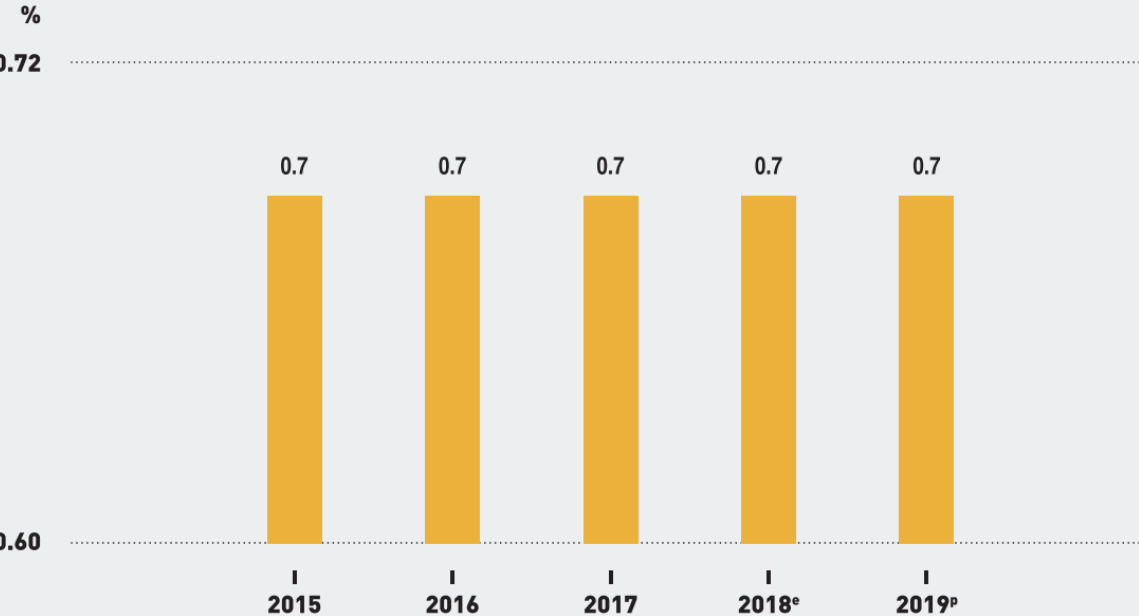
Industry Accountability

Robust Ecosystem

Strong Implementation

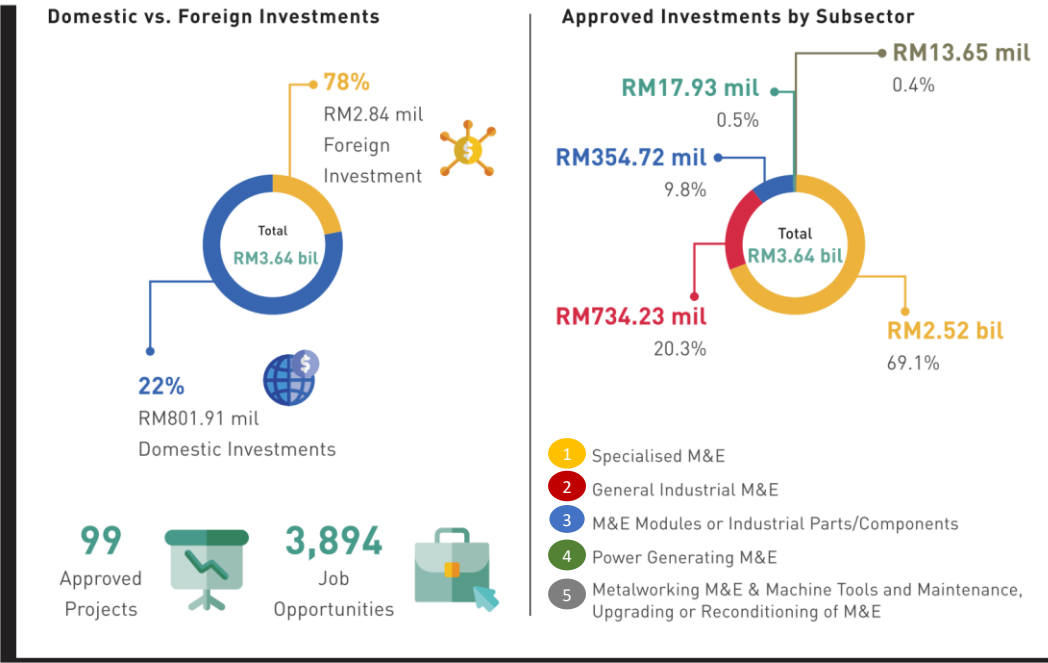
M&E SUBSECTOR ECONOMIC CONTRIBUTION

Machinery & Equipment Subsector Contribution to GDP 2015-2019



Note : e – estimated
: p – preliminary
: Data is based on constant 2015 prices
Source: Department of Statistics, Malaysia

Investments in Projects Approved in M&E Industry by Subsector for 2019

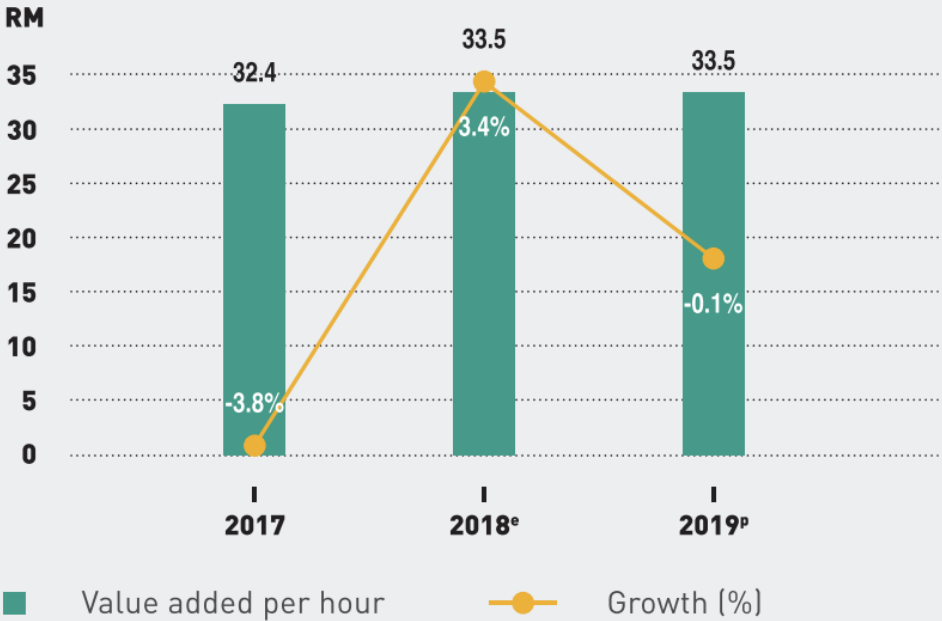


Source: Machinery & Equipment Productivity Nexus, MPC

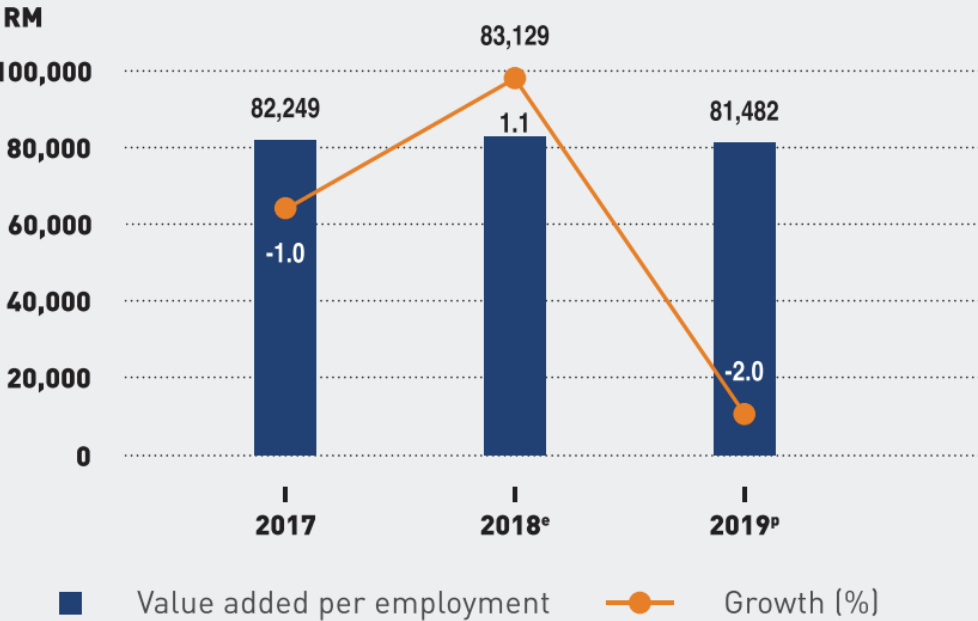
M&E PRODUCTIVITY PERFORMANCE

Machinery & Equipment Subsector Productivity Performance

Value Added Per Hour & Percentage Change



Value Added Per Employment & Percentage Change



Note : e – estimated
: p – preliminary
: Data is based on constant 2015 prices
Source: Department of Statistics, Malaysia

M&E PRODUCTIVITY INITIATIVES IN 2020



Initiative M1: Set up partnership between government and industry association to up-skill existing employees

Business Concerns

- Firms report constant vacancies for skilled production workers.
- Brain drain of skilled Malaysians.
- Graduates lack technical skills and require longer training time (+6 months)
- Mismatch between curriculum and industry needs leading to higher training cost.

Programmes

- **Facilitated a number of initiatives that involved TVET educational institutions, industry stakeholders and training, to improve overall skill levels of industry talent.**

Impact to Sector

- Improvement to the skill levels of existing talent, and better alignment between industry requirements and the talent that is produced.



Initiative M2: Set up centres of excellence (COE) for skilled professionals to share industry expertise and develop new technologies

Business Concerns

- Heavy reliance on low-skilled labour, limiting ability to adopt technology and automation
- MNCs rarely source their inputs from domestic firms due to quality of local manufacturers and lack of product availability.

Programmes

- **Establishment of M&E's COEs and COE Framework Report**
- **Productivity Enhancement Programme using self-diagnosis productivity measurement tools (ezBE and ePGM)**

Impact to Sector

- Increased number of industry players aware about I4.0.
- Increased number of industry players knowledgeable about productivity.



Initiative M3: Set up more product testing facilities to ensure standards are met

Business Concerns

- Current standards for local and imported products are lower than international standards for export products leading to lower investment on quality assurance and improvements.

Programme

- **Review Report on Industry Standards and Regulations**

Impact to Sector

Industry players will better understand existing gaps, as well as how to work toward closing these gaps.



Initiative M4: Update domestic product standards to be on par with international standards and enforce compliance

Business Concern

- Current standards for local and imported products are lower than international standards for export products leading to lower investment on quality assurance and improvements.

Programmes

- **Development of M&E Repository with 500 M&E and Engineering Supporting Services (ESS) high potential companies in the database**
- **Publication of Malaysian System Integrators Directory**
- **Streamlining process through Reduced Unnecessary Regulatory Burdens (RURB)**
 - Examples include:
 - > Temporary Import Permit for Mobile Crane
 - > Safety Passport Issued by Regulators
 - > Certificate of Approval for Imported Steel Products

Impact to Sector

- Easy access to the right information about M&E and Engineering Services providers.
- Helps Malaysian SMEs to find the right partners for Industry 4.0 implementation.
- Ease of doing business for industry players due to the improvement in regulations.

Machinery & Equipment Productivity Nexus

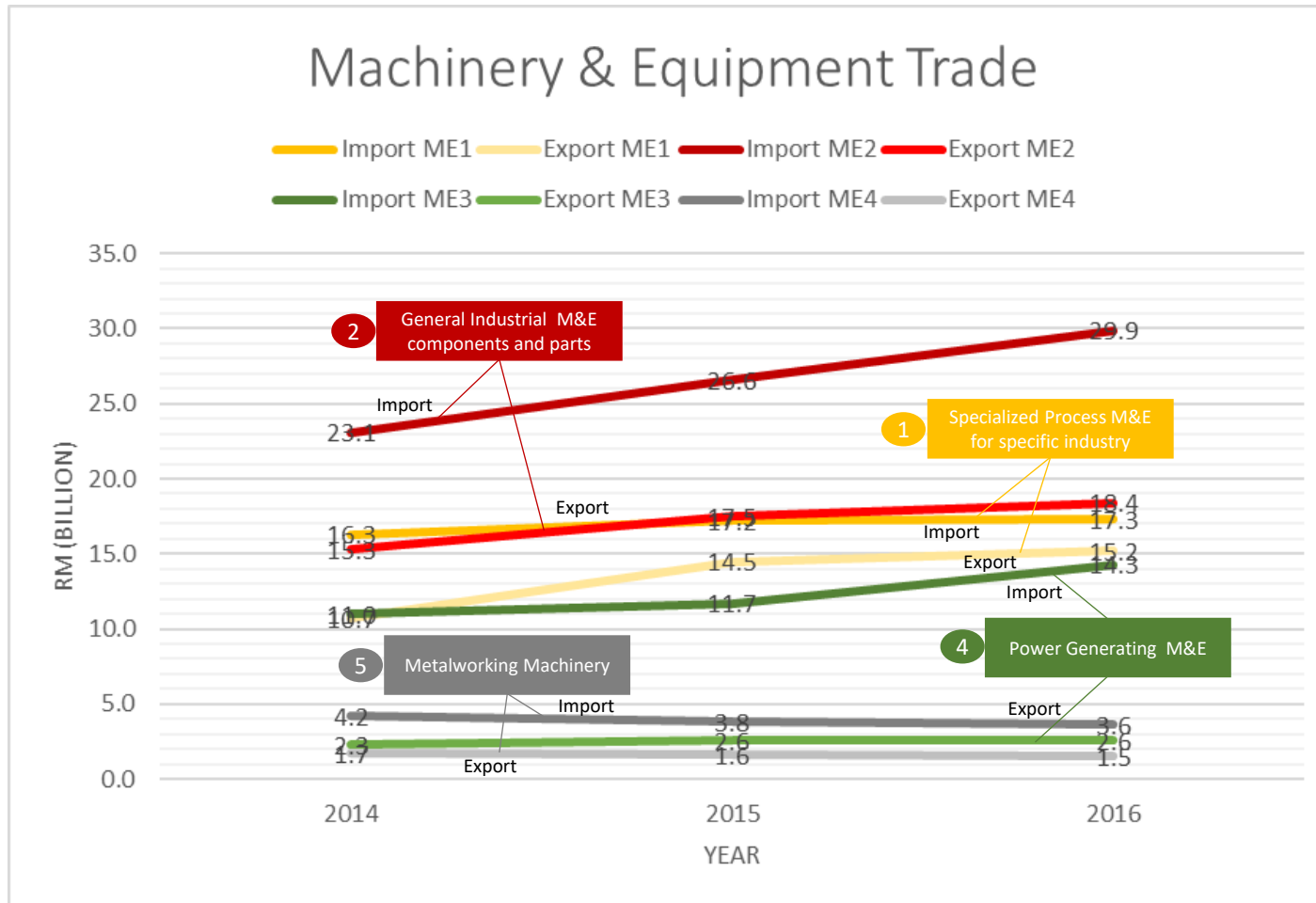
**Which subsector should we
prioritized for productivity
improvement?**

THE MACHINERY & EQUIPMENT INDUSTRY

		2014		2015		2016	
		Import	Export	Import	Export	Import	Export
1	Specialized Process M&E for specific industry	16.3	10.7	17.2	14.5	17.3	15.2
2 + 3	General Industrial M&E components and parts	23.1	15.3	26.6	17.5	29.9	18.4
4	Power Generating M&E	11.0	2.3	11.7	2.6	14.3	2.6
5	Metalworking Machinery	4.2	1.7	3.8	1.6	3.6	1.5
Total :		54.6	30.0	59.3	36.2	65.1	37.7
		(- 24.6)		(- 23.1)		(- 27.4)	

Note: Subsector 3 was part of subsector 2 prior to 2016

THE MACHINERY & EQUIPMENT INDUSTRY

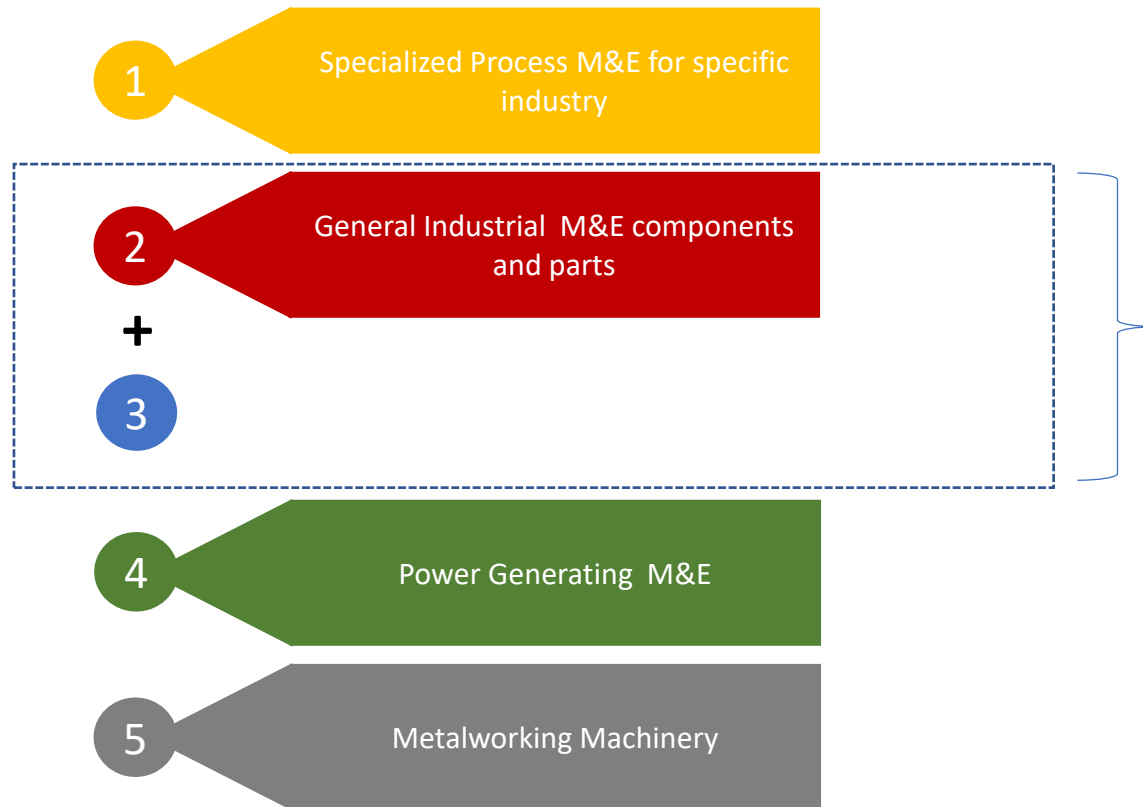


“In general, we Import more than we Export , thus the overall Machinery & Equipment **Trade deficit** has **been growing Y-O-Y.**”

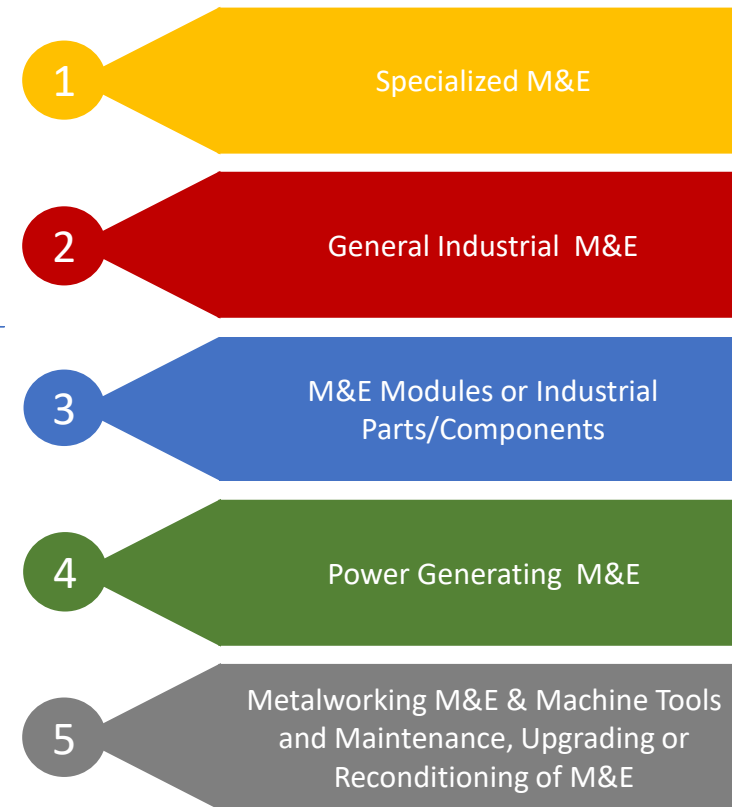
Although, General Industrial M&E has the largest trade, the **Specialized Process M&E** holds best growth potential.

THE MACHINERY & EQUIPMENT INDUSTRY

Subsector in 2016

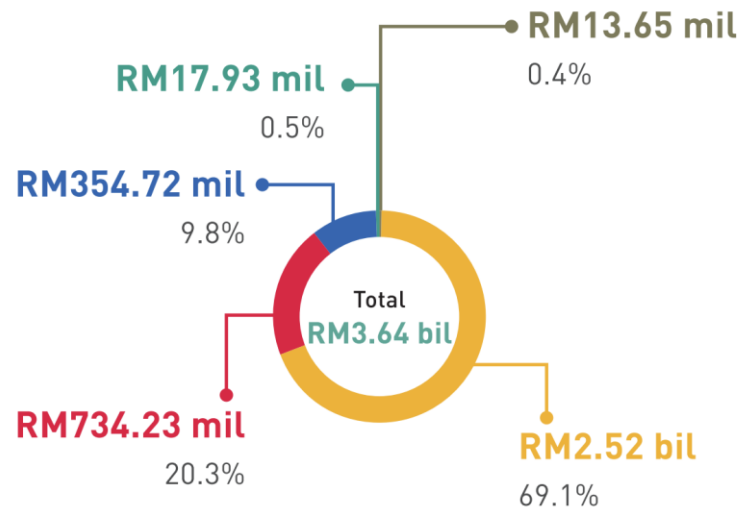


Further refinement of Subsectors in 2019



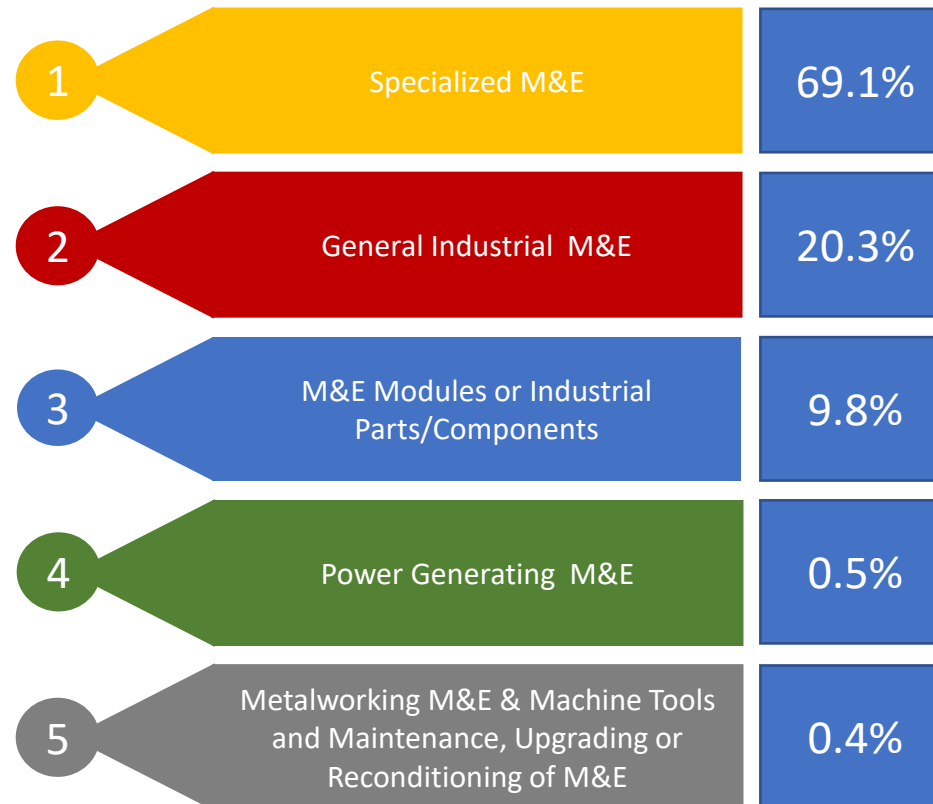
THE MACHINERY & EQUIPMENT INDUSTRY

Approved Investments by Subsector



- Specialised M&E
- General Industrial M&E
- M&E Modules or Industrial Parts/Components
- Power Generating M&E
- Metalworking M&E & Machine Tools and Maintenance, Upgrading or Reconditioning of M&E

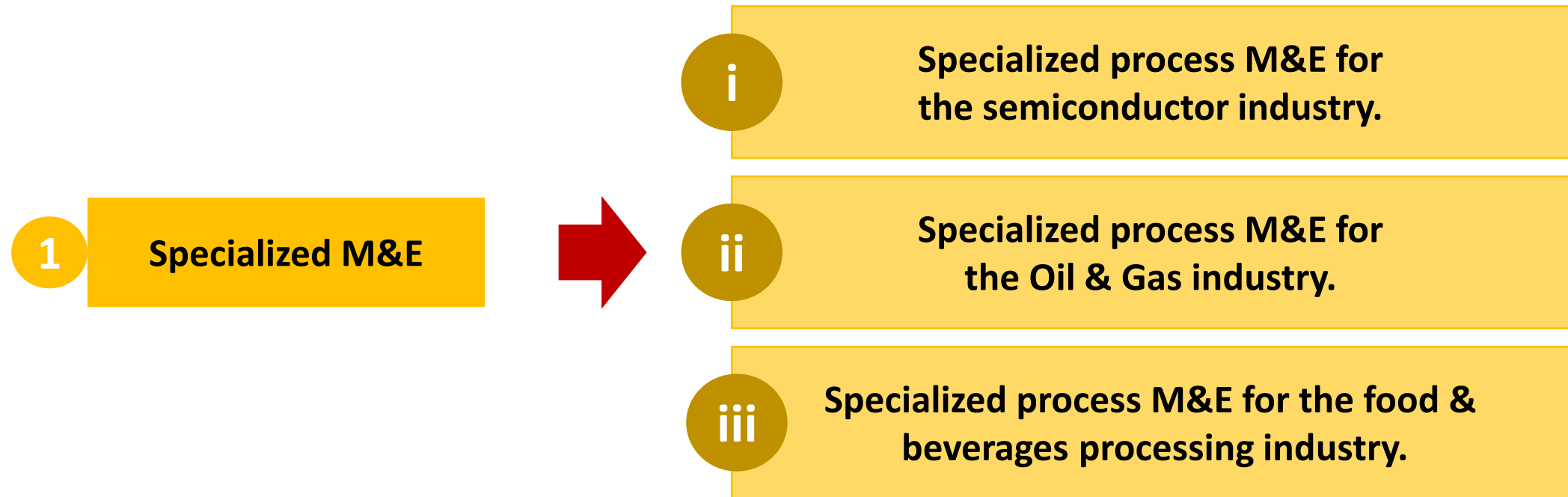
Approved Investment by Subsector in 2019



Specialized M&E shows largest investment segment

THE MACHINERY & EQUIPMENT INDUSTRY

The Specialized M&E Subsector can be further divided into three (3) main categories:



THE MACHINERY & EQUIPMENT INDUSTRY



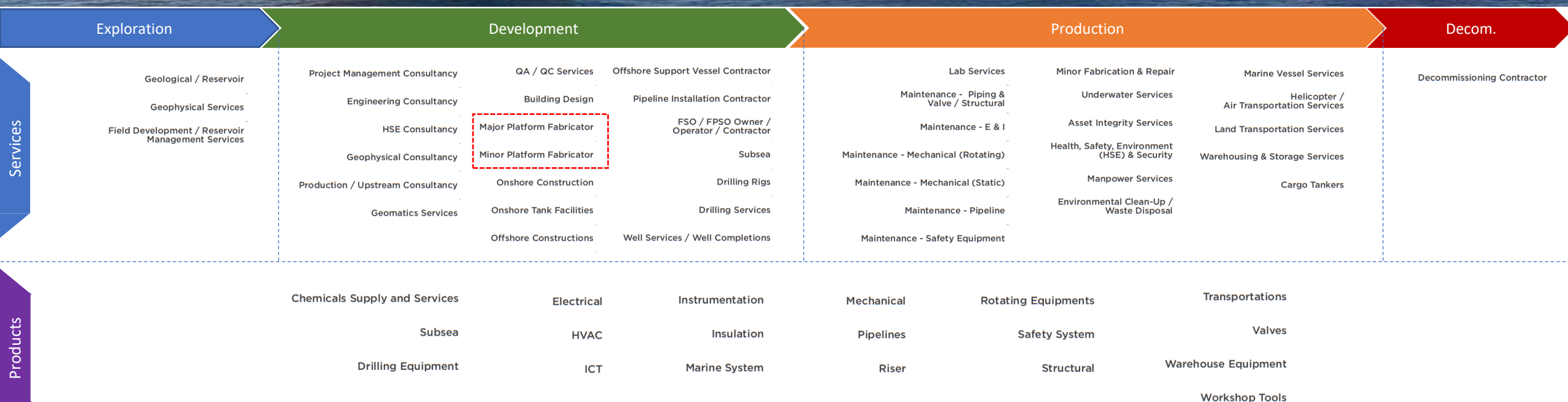
**improve productivity in
any of these sectors?**

Let's consider subsector ii

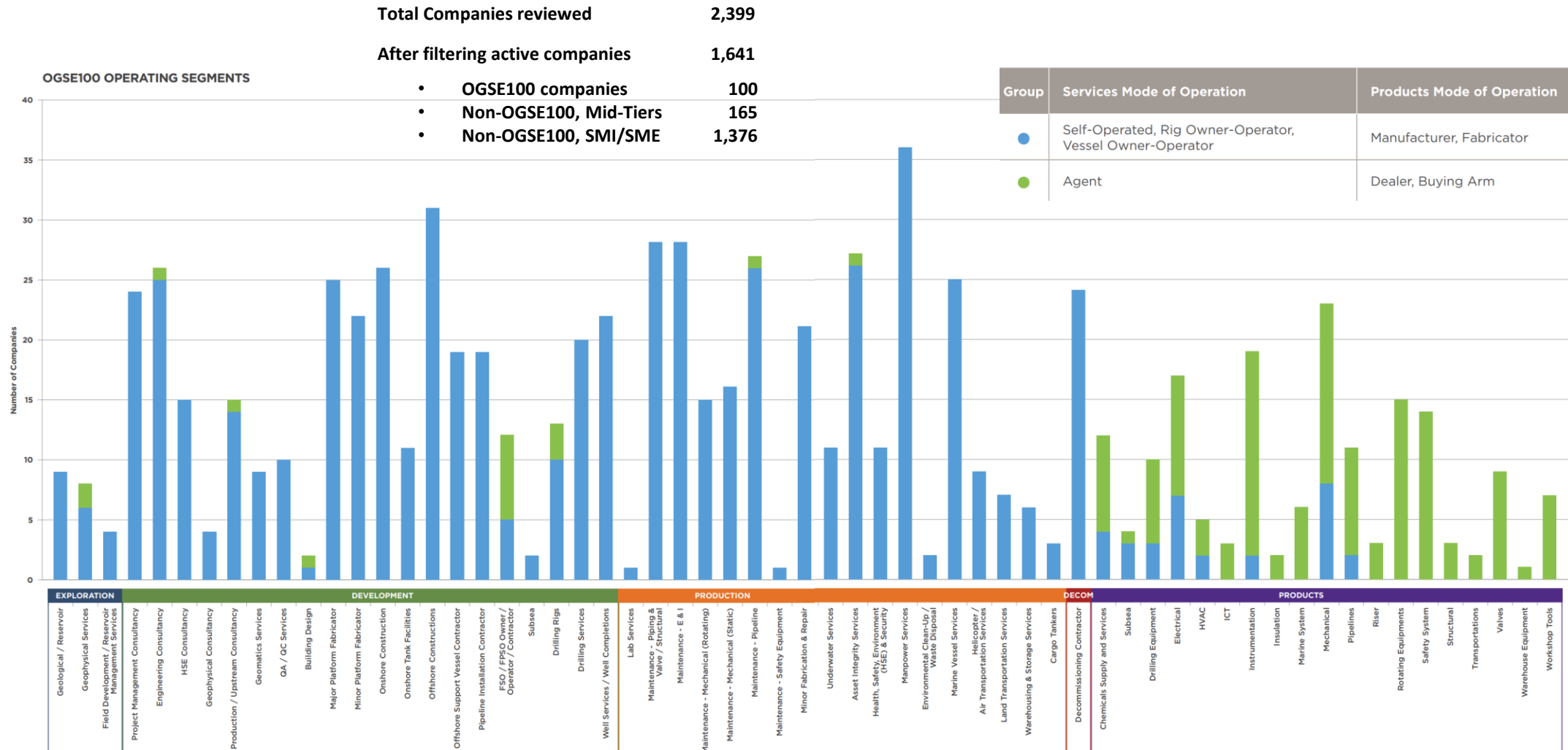
ii

SPECIALIZED PROCESS M&E FOR THE OIL & GAS INDUSTRY.

Upstream Oil & Gas Value Chain



SPECIALIZED PROCESS M&E FOR THE OIL & GAS INDUSTRY.

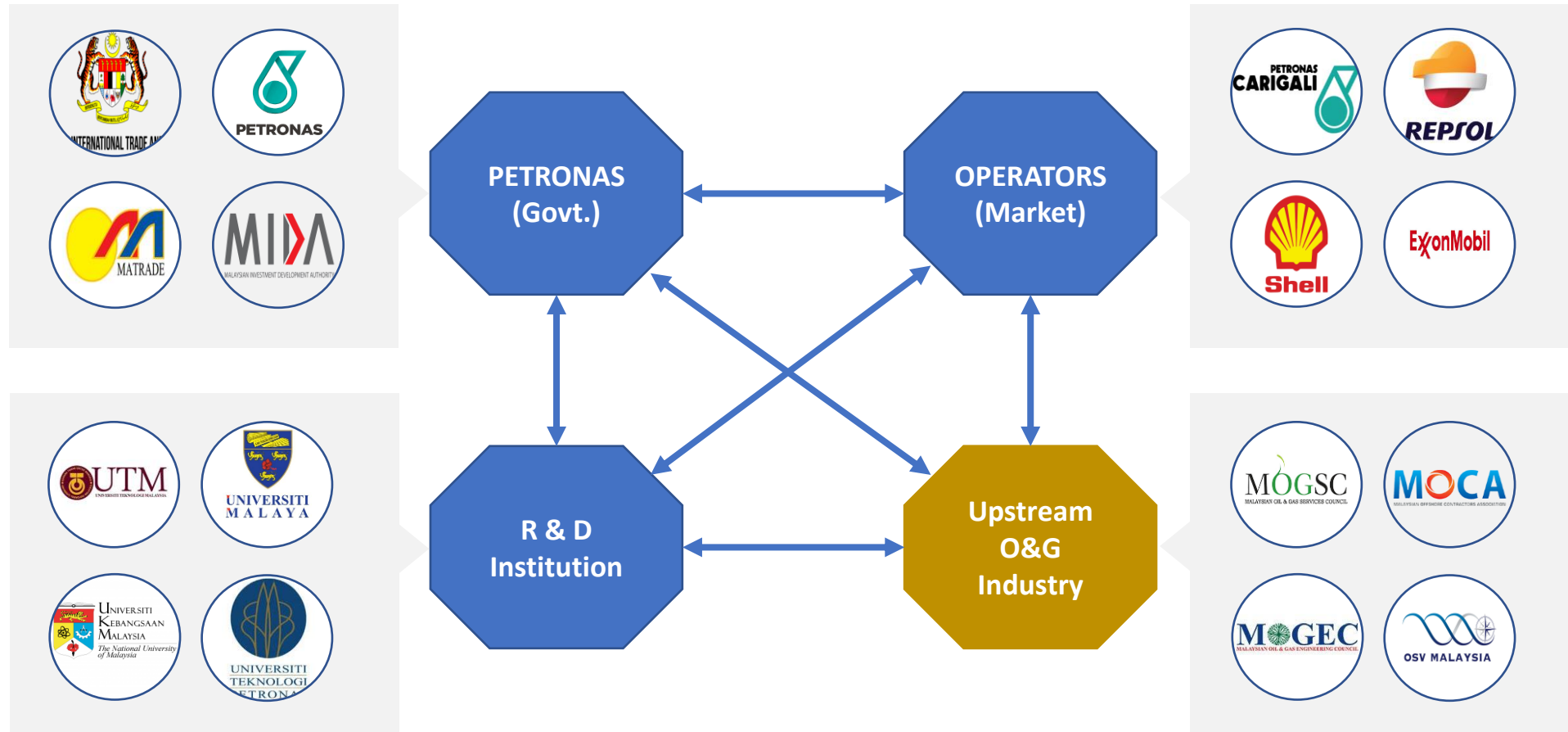


Source PETRONAS 2018 (From MPRC100 doc.)

ii

SPECIALIZED PROCESS M&E FOR THE OIL & GAS INDUSTRY.

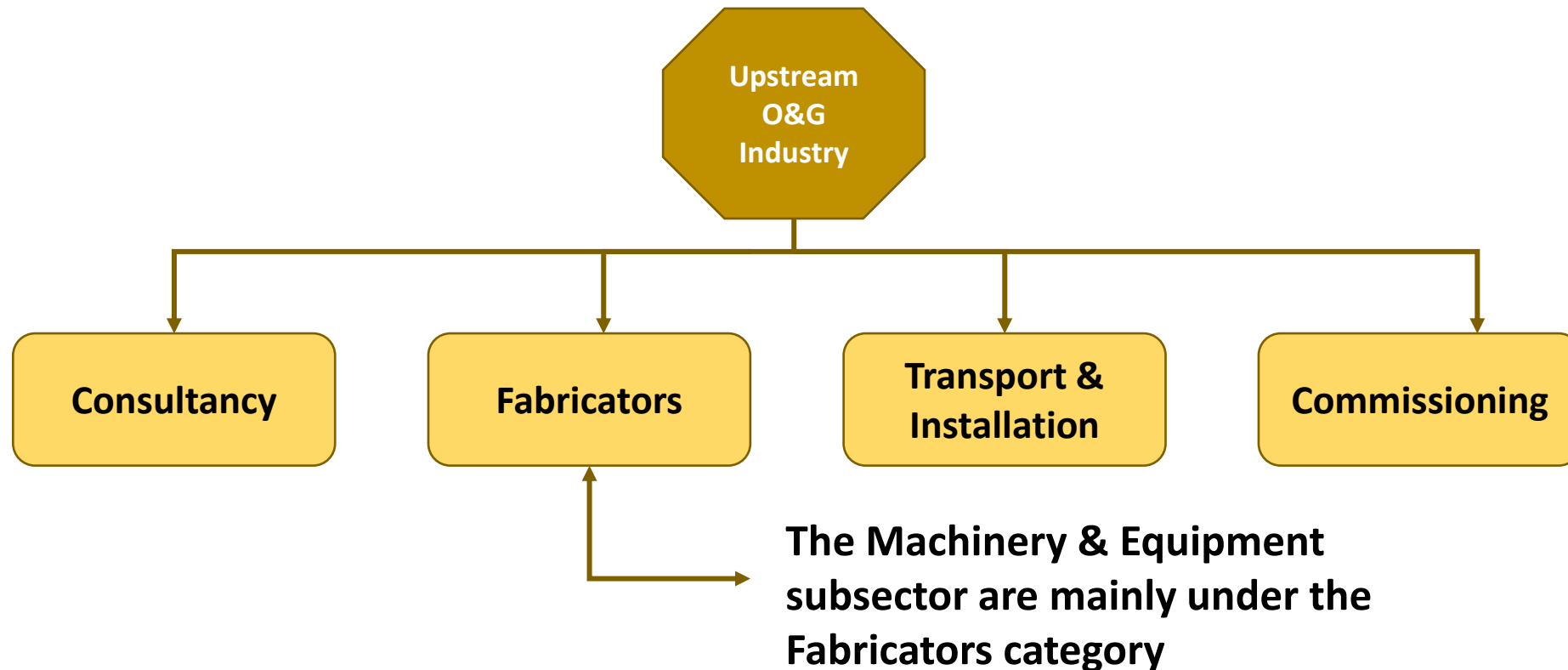
Quadruple-Helix Model for the Upstream Oil & Gas Industry :



ii

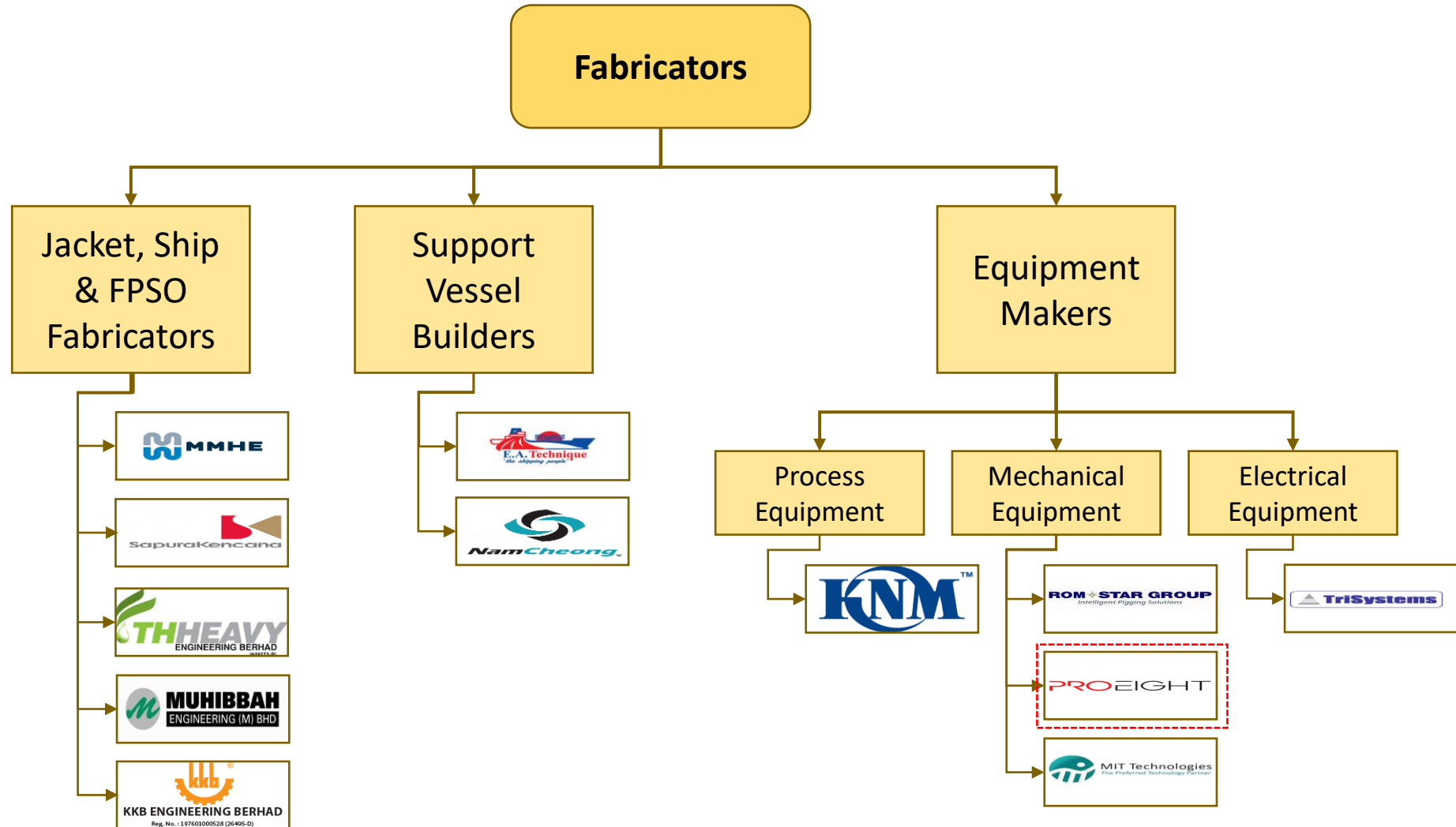
SPECIALIZED PROCESS M&E FOR THE OIL & GAS INDUSTRY.

The Upstream Oil & Gas Industry can be categorized broadly into these main subsectors :



ii

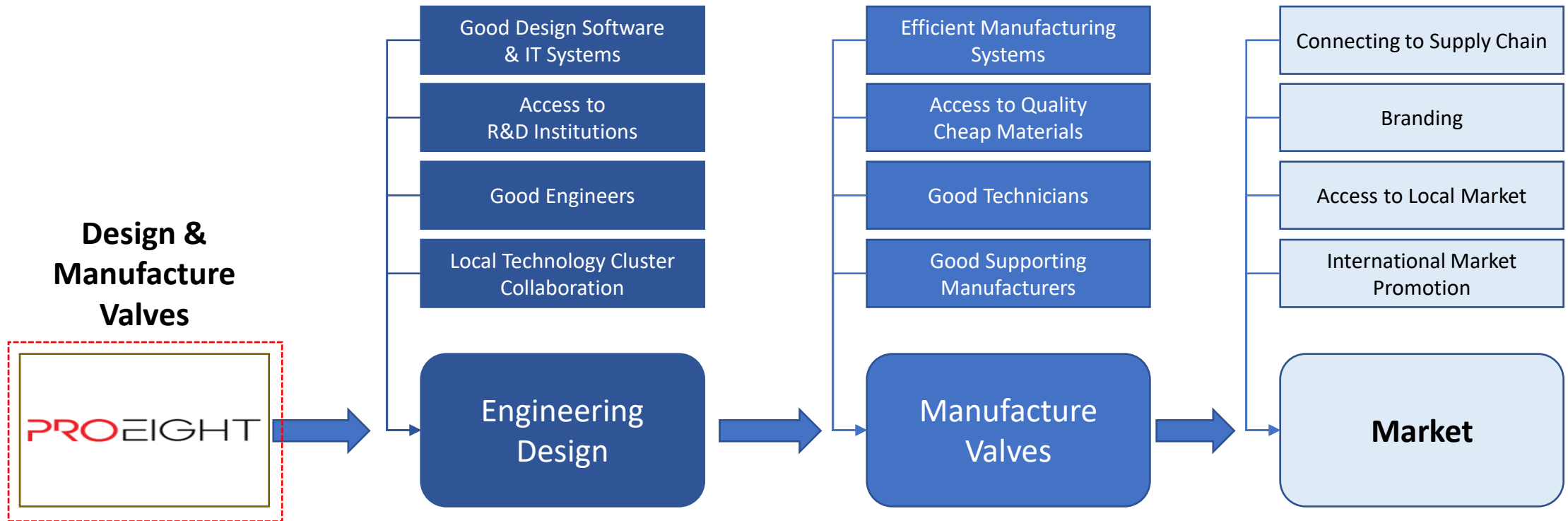
SPECIALIZED PROCESS M&E FOR THE OIL & GAS INDUSTRY.



ii

SPECIALIZED PROCESS M&E FOR THE OIL & GAS INDUSTRY.

Case Study 1 : How do you improve productivity of PROEIGHT ?



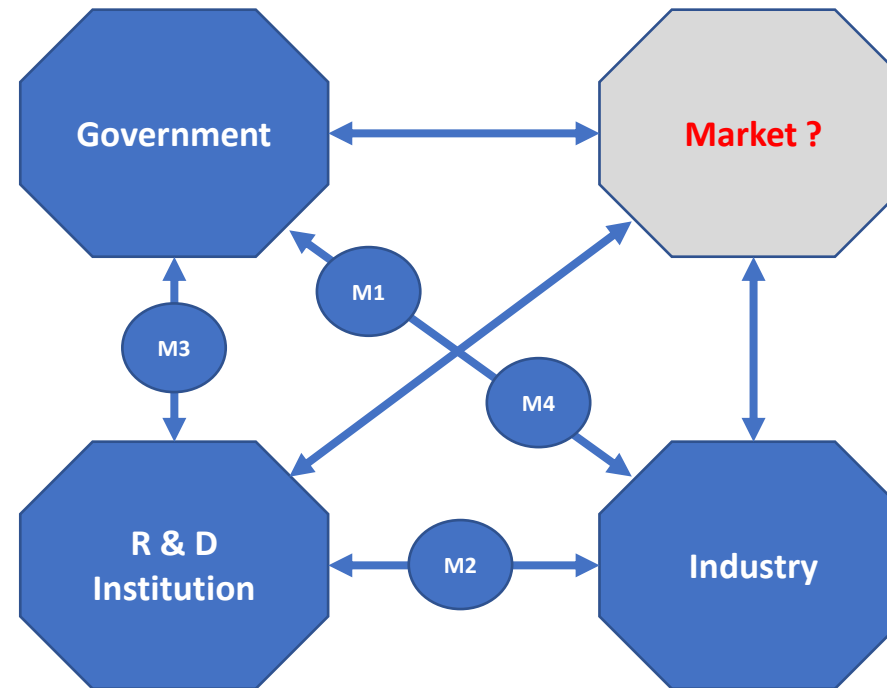
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SPECIALIZED PROCESS M&E FOR THE OIL & GAS INDUSTRY.

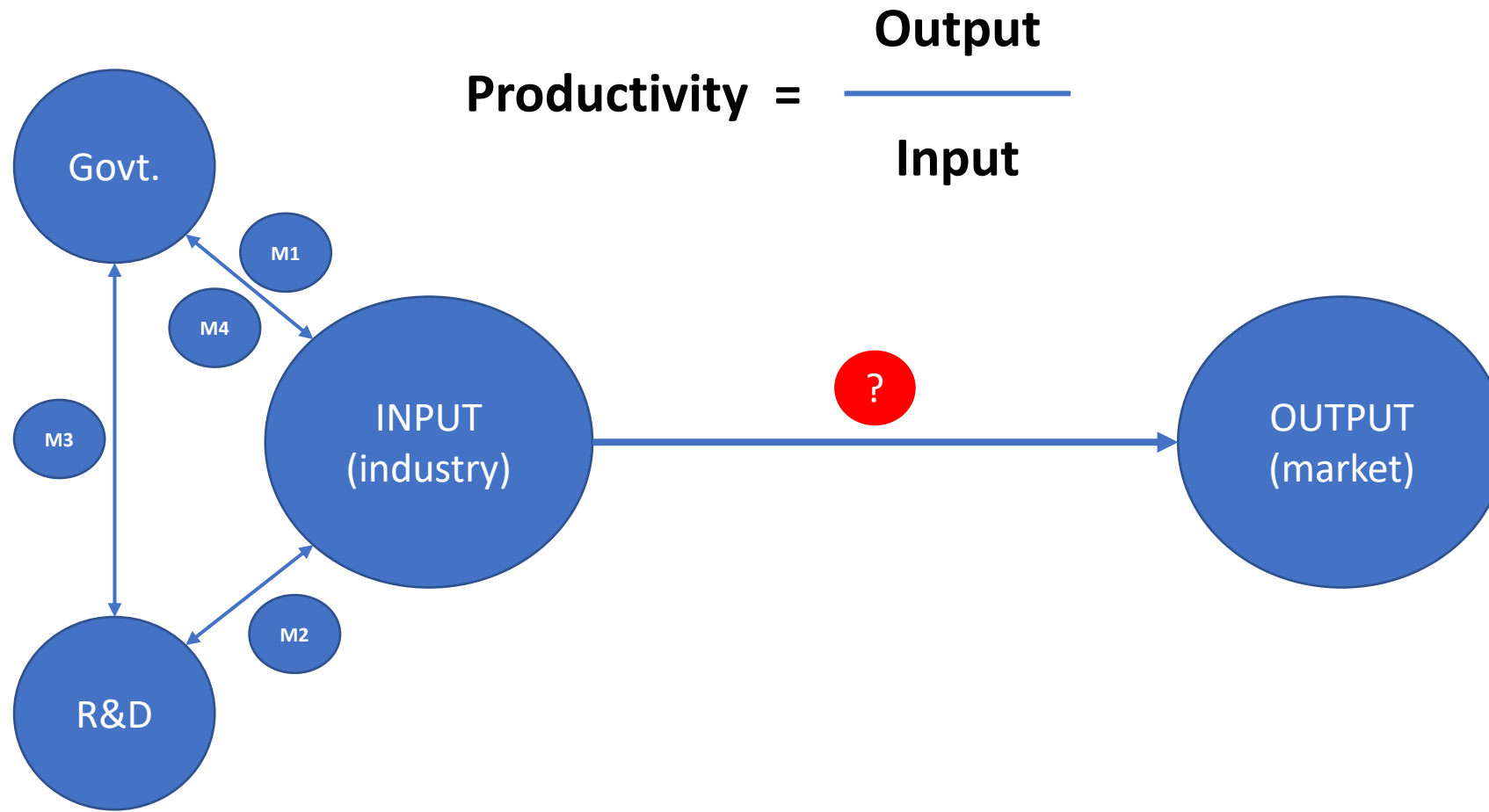
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**Some ideas to
move forward**

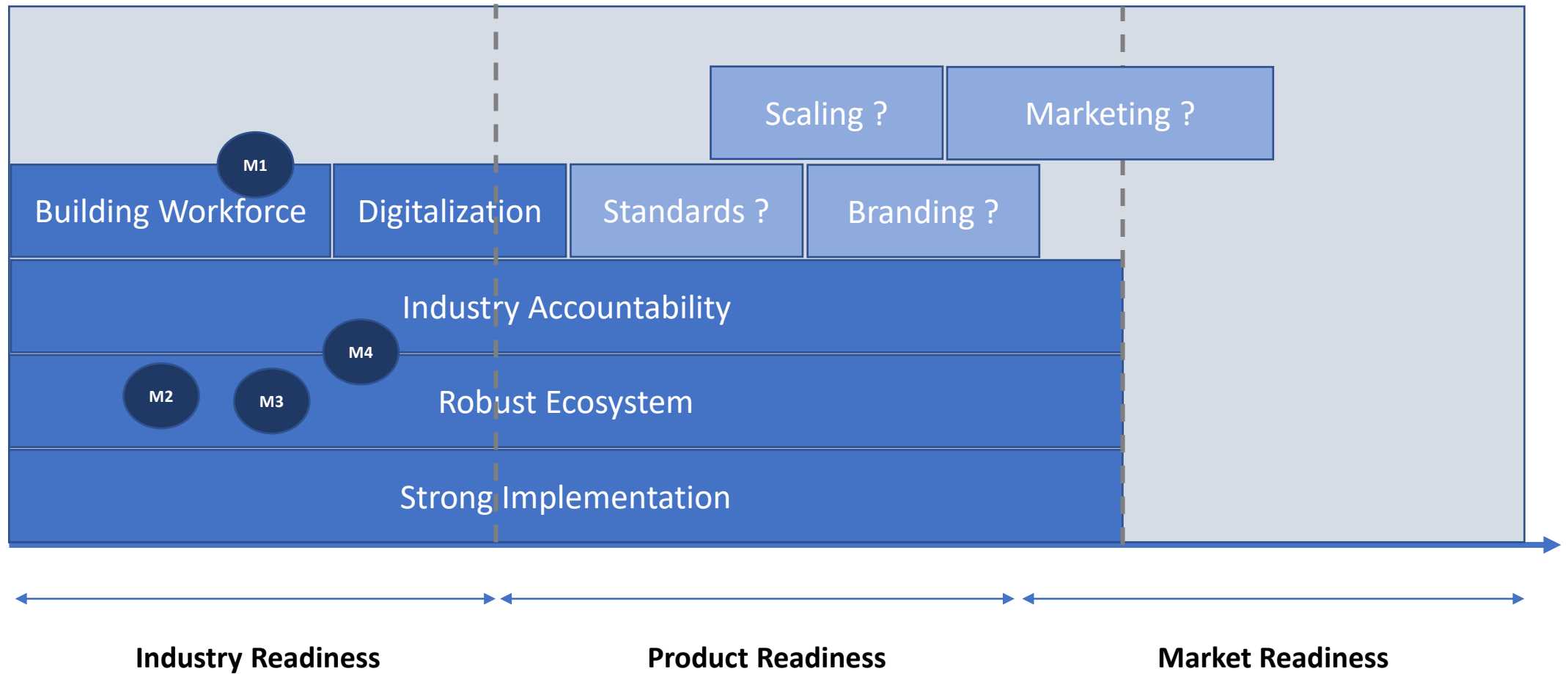
M&E INITIATIVES SIGNIFICANCE



M&E INITIATIVES SIGNIFICANCE



M&E INITIATIVES SIGNIFICANCE



M&E INITIATIVES SIGNIFICANCE

What else ?



Thank You

Until the
Next Session

THE MACHINERY & EQUIPMENT INDUSTRY

i

Specialized process M&E for the semiconductor industry.

