



Thailand's Country Report: Successful Project for Further Dissemination

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Department of Alternative Energy
Development and Efficiency

Consultation Workshop on Transformative Pathways
towards Low Carbon Development
in the Energy Sector

27th July 2023

Long-term Energy Efficiency Implementation 2022 - 2037

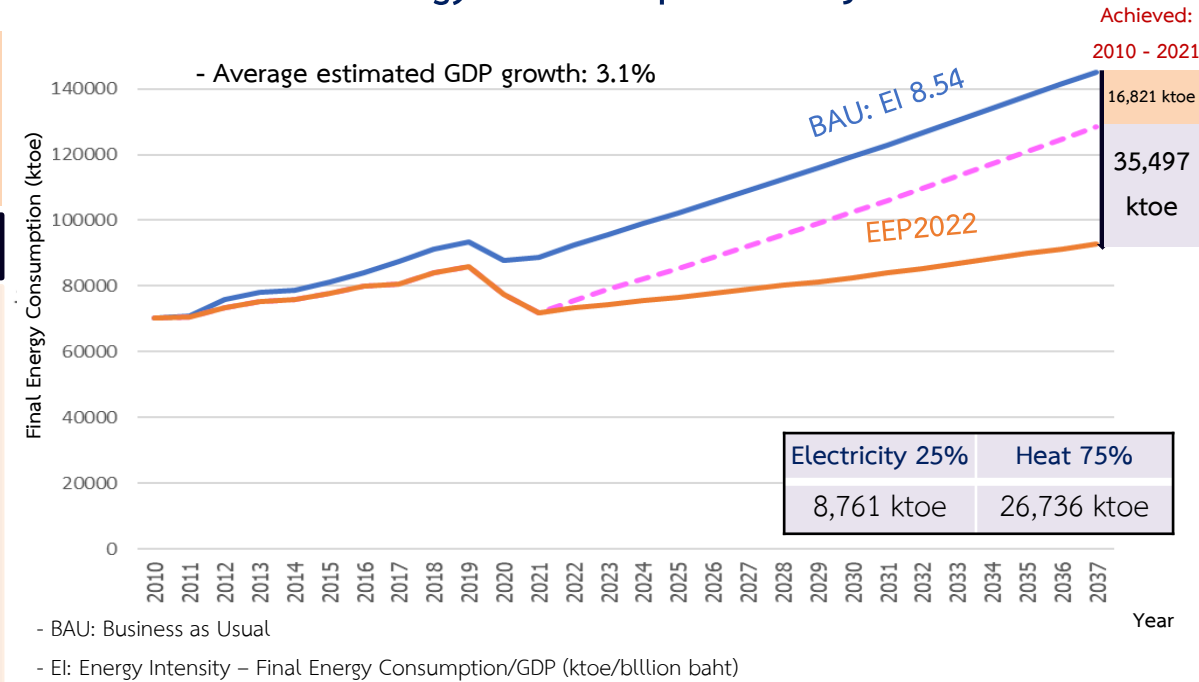
Goal: Energy Intensity reduction by 36%

(approx. 52,318 ktoe) by 2037 – base year 2010

Compulsory	Voluntary	Complement
<ul style="list-style-type: none"> • Energy Management Standards • Energy Codes (Industrial, Buildings, Residential, Farming) • Energy efficiency in land transport 	<ul style="list-style-type: none"> • Equipment Standards and Labeling • Financial incentives • Innovations (IoT, Smart tech., Big Data, AI, etc.) • Energy efficiency in transport sector (EV, mode shifting) • Energy efficiency in residential sector (Efficient/Smart Home) • RE-Integrated Equipment (Biomass boiler/furnace, Solar heat, etc.) • Energy Efficiency Resources Standards (EERS) (Consultation, Fuel switching, etc.) 	<ul style="list-style-type: none"> • Human Resources Development (HRD) <ul style="list-style-type: none"> - Energy Manager - Energy Auditor - Technologies • Public Relation/Awareness • Research and Development

Source: DEDE

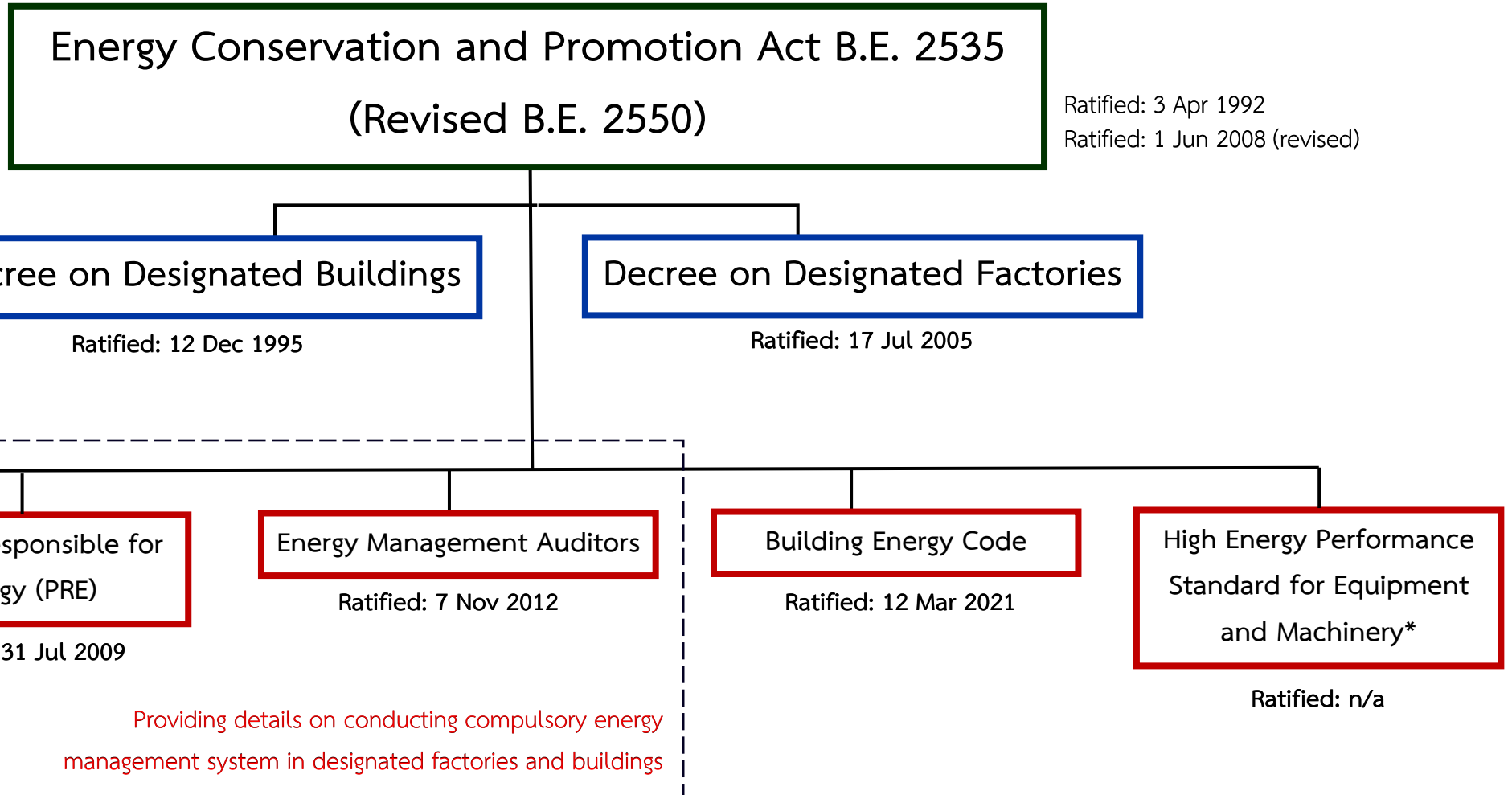
Final Energy Consumption Projection



Energy Saving by Sector

Sector	Total	Percentage
1. Industrial	12,432	35
2. Commercial	3,542	10
3. Residential	1,774	5
4. Agricultural	710	2
5. Transportation	17,039	48
รวม	35,497	100

- Act
- Decree
- Ministerial Regulation



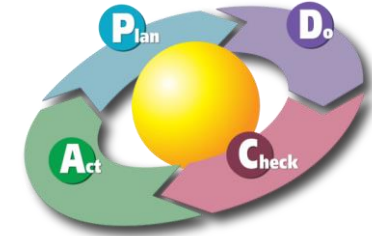
*Dedicated ministerial regulation for each equipment/machinery

Classification of designated factories/buildings

Criteria	Designated Factories/Buildings	
	Group 1	Group 2
Installed electric meter (total)	Between 1000 – 3000 kW	More than 3000 kW
Installed transformers (total)	Between 1,175 – 3,530 kVA	More than 3,530 kVA
Total annual energy consumption	Between 20 – 60 TJ/year	More than 60 TJ/year

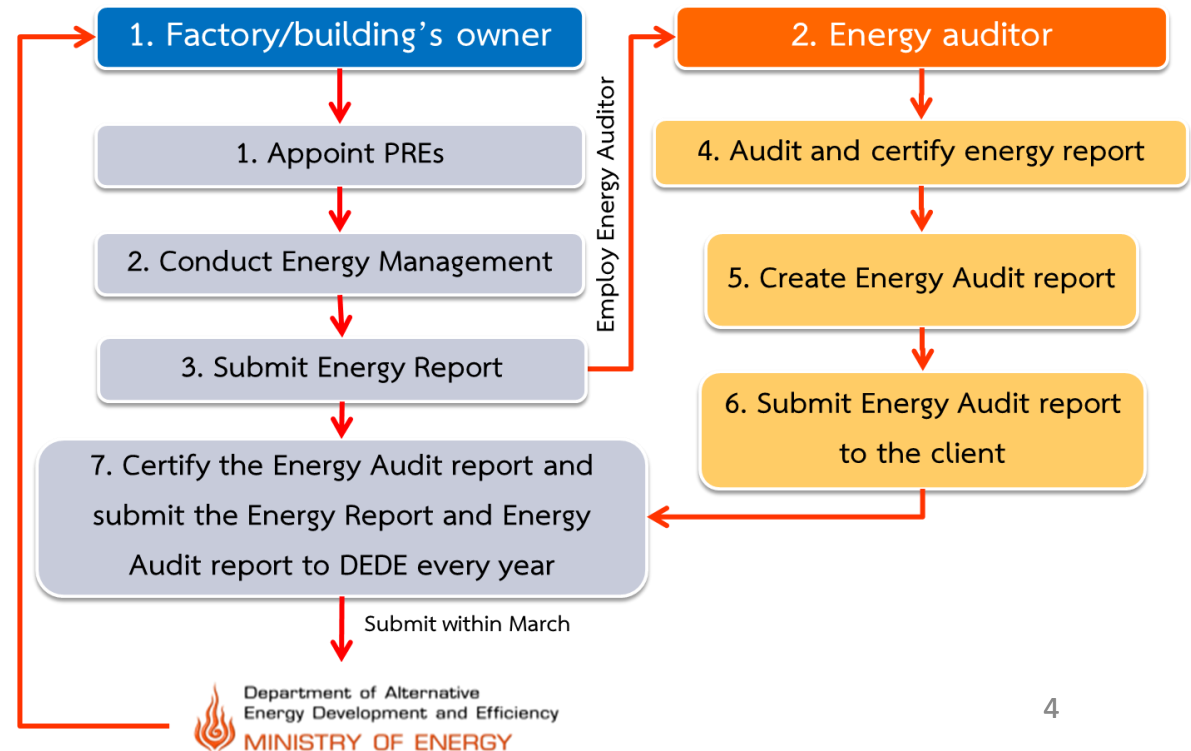
Current status (as of March 2023):

6,418 designated factories
 3,311 designated buildings
 9,729 in total



Legal responsibilities of designated factories/buildings

1. Appoint Person Responsible for Energy (PRE)
 - At least 1 PRE for Group 1
 - At least 2 PREs for group 2, in which one must be senior PREs.
2. Conduct energy management system as described in regulation and submit an annual report to DEDE every March.



Duration: 21 Jul 2020 – 20 Jul 2022

IDA Platform aggregates data from various sensors, connected to machinery and equipment, in the factory. The platform will provide data analysis on energy efficiency, enable seamless monitoring, and facilitate higher level of management on energy efficiency.

Key Objectives	1	Promote Thai Industries toward Industry 4.0 by innovating IDA Platform to aggregate and analyze energy consumption data in factories
	2	Facilitate adoption of Thai research (URCONNECT, NETPIE, Data Analytics Platform) to the industrial sector
	3	Provide affordable access to high-level technologies for the industrial sector
	4	Improve Industrial Big Data as part of policy-planning for national energy policy



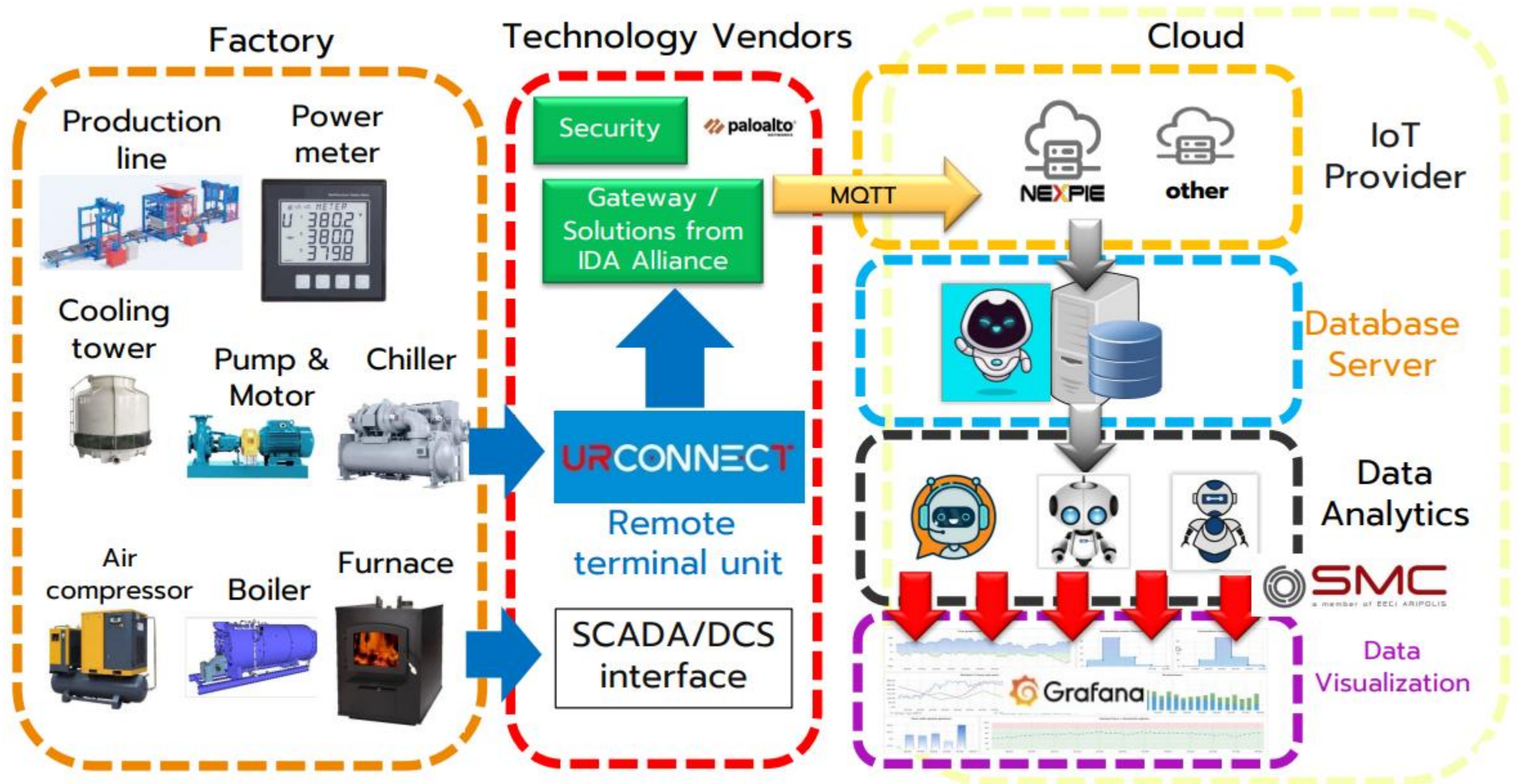
6 Technology Providers

13 Pilot Factories

7 System Integrators

Regulator/Supporting Agencies





Sample dashboard on energy consumption for pilot factory



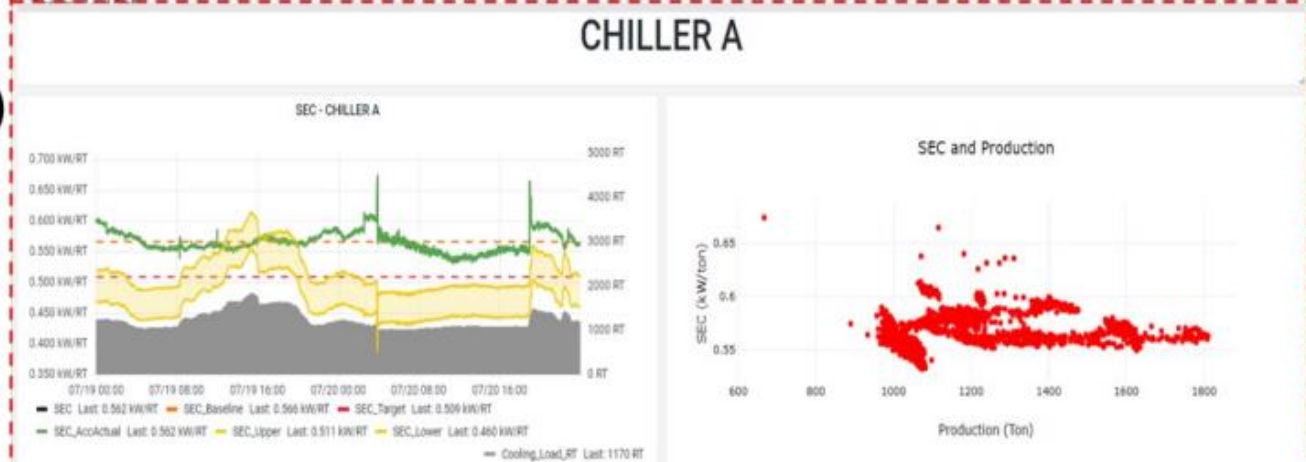
Sample dashboard on Specific Energy Consumption for multiple factories



1



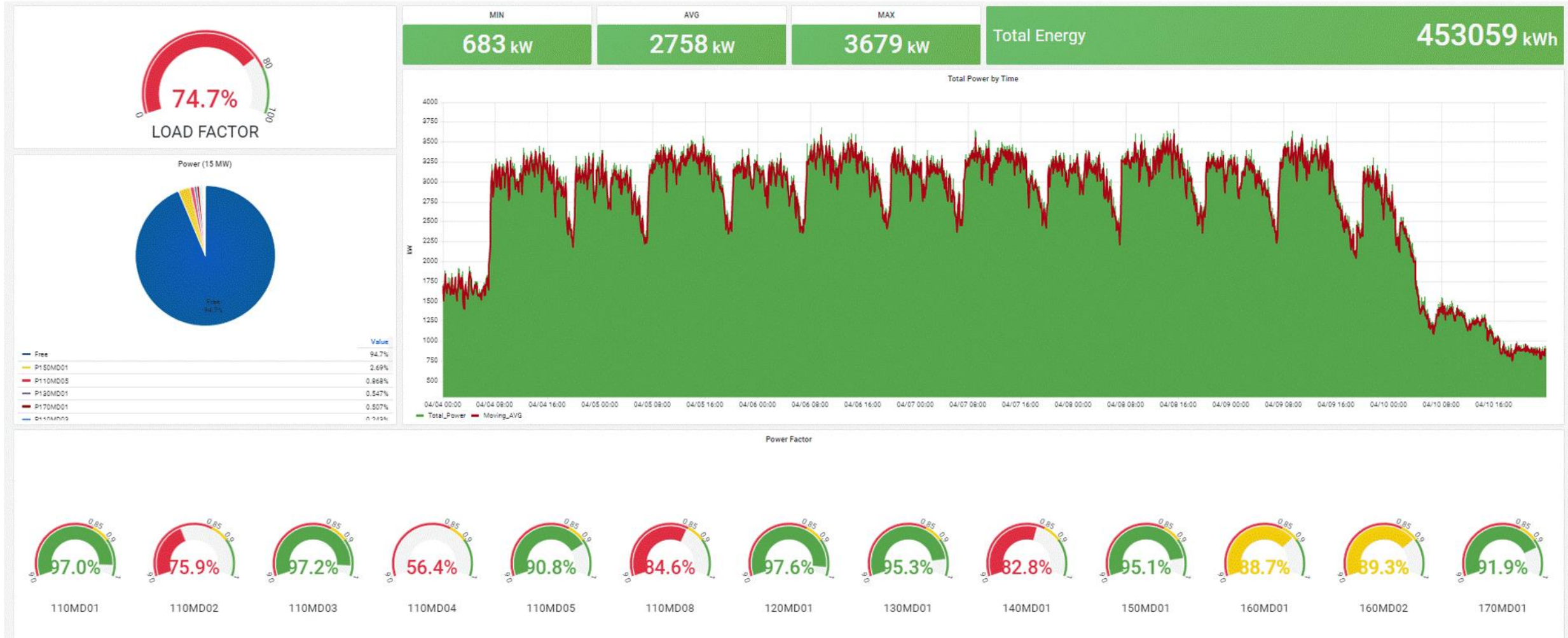
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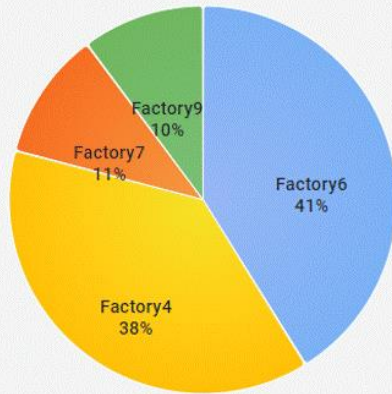
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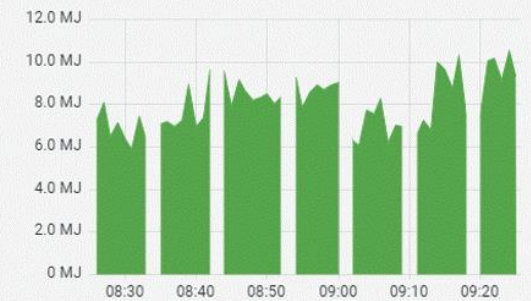
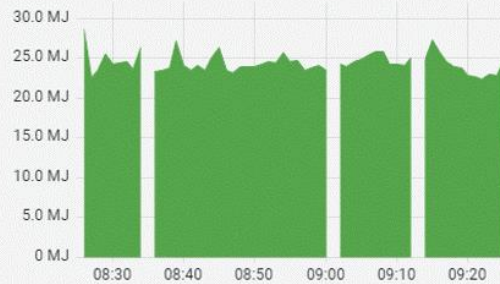
Total Energy Consumption

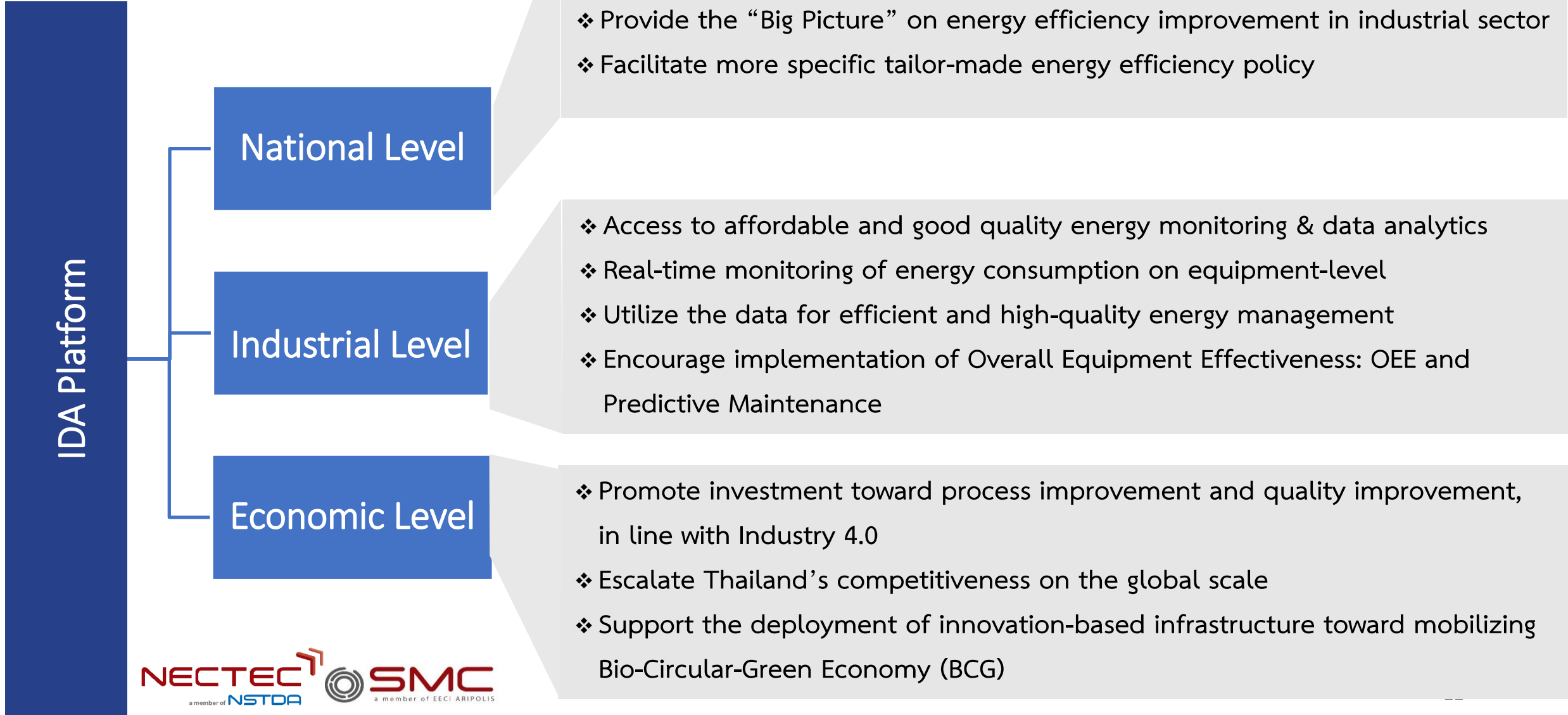


Energy Consumption Ratio



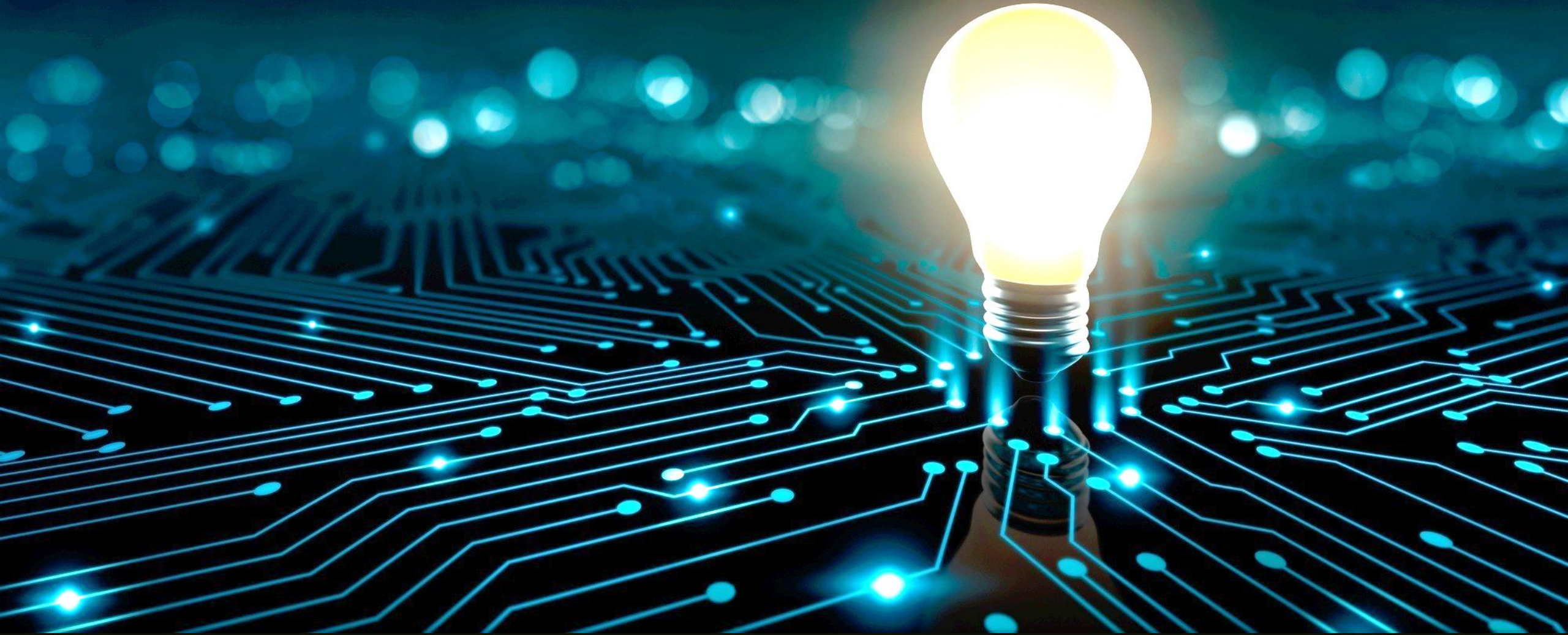
Factory6	41%
Factory4	38%
Factory7	11%
Factory9	10%





- Supports to further disseminate the program to wider audience e.g. financing schemes for related infrastructure
- Supports to facilitate partnerships with stakeholders e.g. equipment manufacturers, prospective factories, related institutes domestically/internationally
- Capacity building to add functionalities to the platform
- Etc.

Thank You



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