SCADA AND DCS (Blurred Boundaries)

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TASNEE التصنيع

Overview

- TASNEE Core Businesses
- Key differences between SCADA and DCS
- Strengths and opportunities of using SCADA over DCS
- Combining the benefits of SCADA along with DCS in multi DCS plants

TASNEE Core Businesses

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The National Industrialization Company (TASNEE) was established in 1405H, corresponding to 1985, as the first joint-stock industrial company fully owned by the private sector. The company pursued the path of industrialization as one of the best options for diversification of the economic base and boosting of the overall growth in Saudi Arabia. It endeavored to translate its clear vision to be a leading industrial company which is committed towards its shareholders and related parties worldwide. The secret of the Company's strength is its wide experience and skilled-labor, state–of-the art technologies and products and innovative solutions which add value to its products and services locally and offshore.

The Company has grown to become the second largest industrial Saudi Company and the second largest producer of titanium dioxide in the world.

TASNEE Core Businesses

Petrochemicals

SPC - Saudi Polyolefins Company

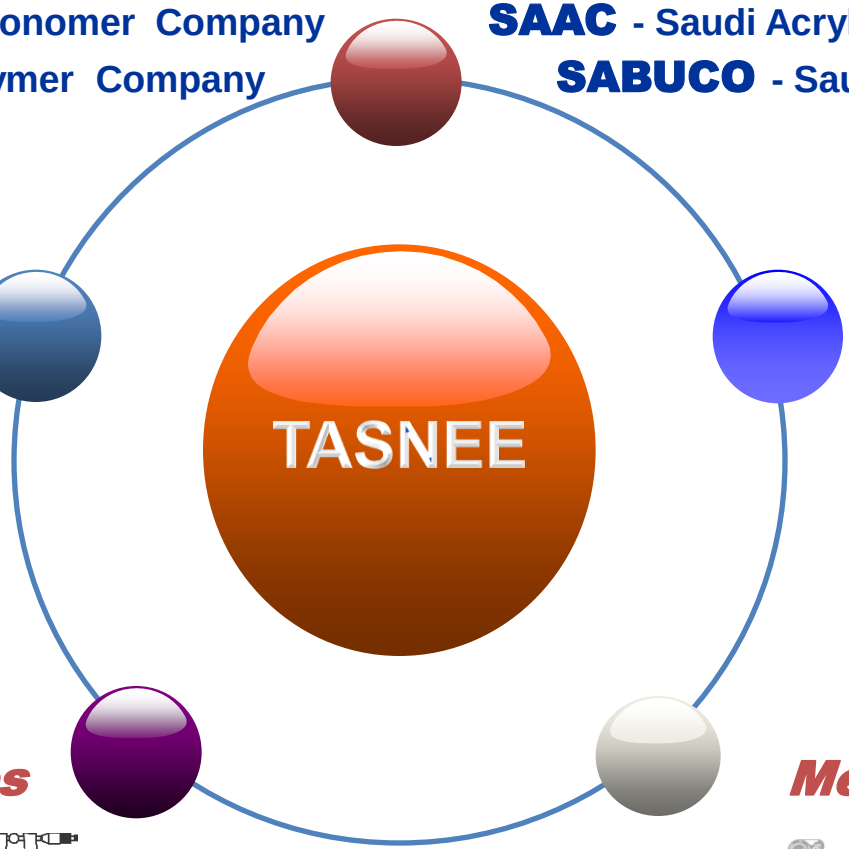
SEPC – Saudi Ethylene & Polyethylene Company

SAMCO - Saudi Acrylic Monomer Company

SAAC - Saudi Acrylic Acid Company

SAPCO - Saudi Acrylic Polymer Company

SABUCO - Saudi Butanol Company



Diversified

Rowad

BATTARIAT بطاريات

Chemicals

CRISTAL Global

Services

Metals

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Key differences between SCADA and DCS

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- DCS is process oriented, while SCADA is data acquisition oriented
- DCS is process state driven, while SCADA is event driven
- DCS is commonly used to handle operations on a single locale, while SCADA is preferred for applications that are spread over a wide geographic location
- DCS is limited in compatibility with third parties while SCADA have flexibility to integrate with wide range of third parties

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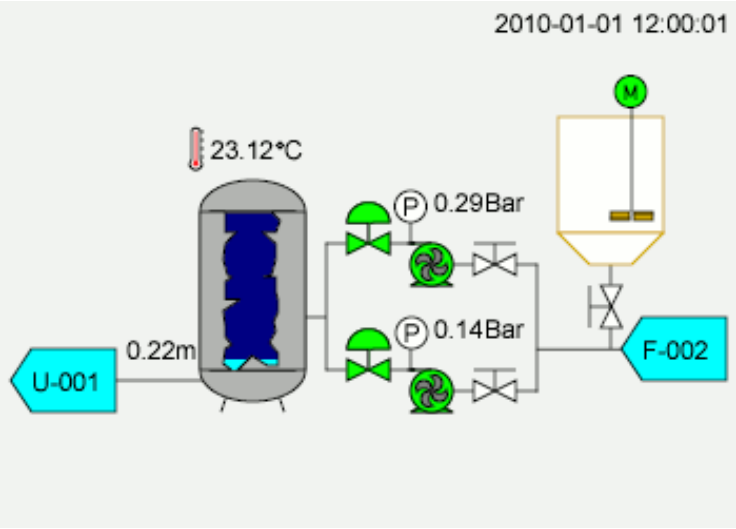
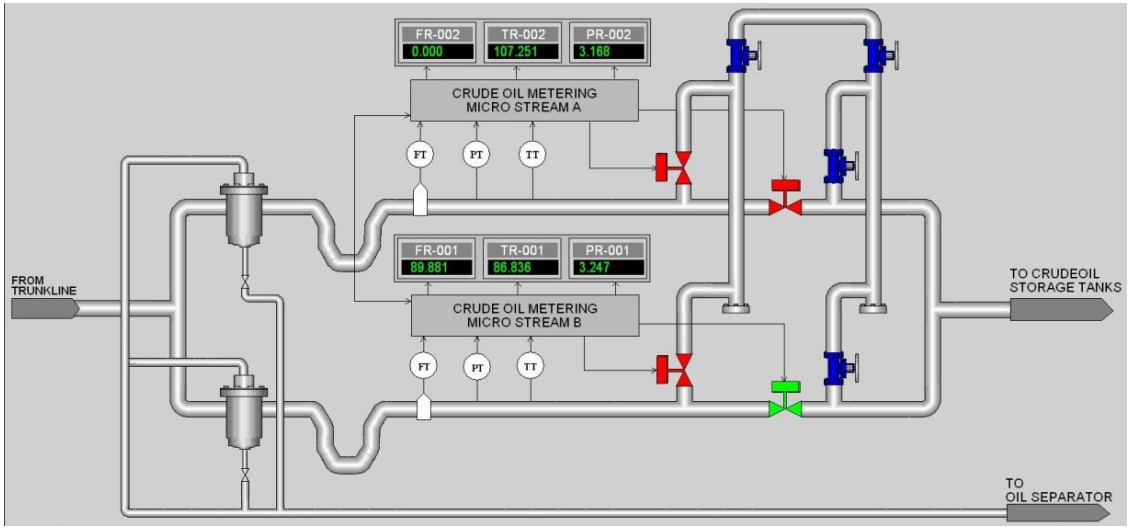
DCS is process oriented, as it focuses more on the processes in each step of the operation. SCADA, or Supervisory Control and Data Acquisition, focuses more on the acquisition and collation of data for reference of the personnel who are charged with keeping track of the operation.





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DCS does all its tasks in a sequential manner, and events are not recorded until it is scanned by the station. In contrast, SCADA does not call scans on a regular basis, but waits for an event or for a change in value in one component to trigger certain actions. SCADA is a bit more advantageous in this aspect, as it lightens the load of the host. Changes are also recorded much earlier, as an event is logged as soon as a value changes state.

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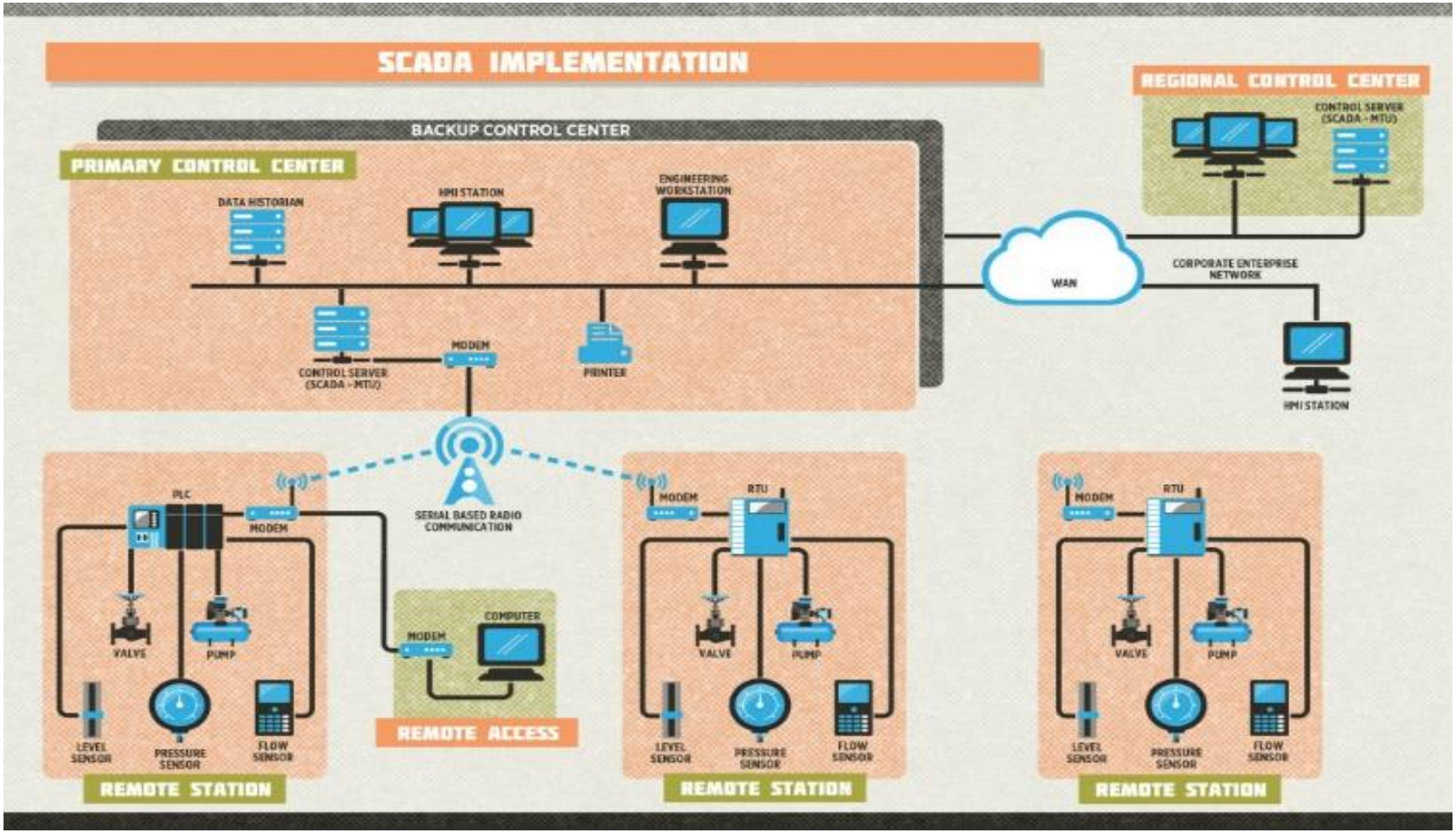

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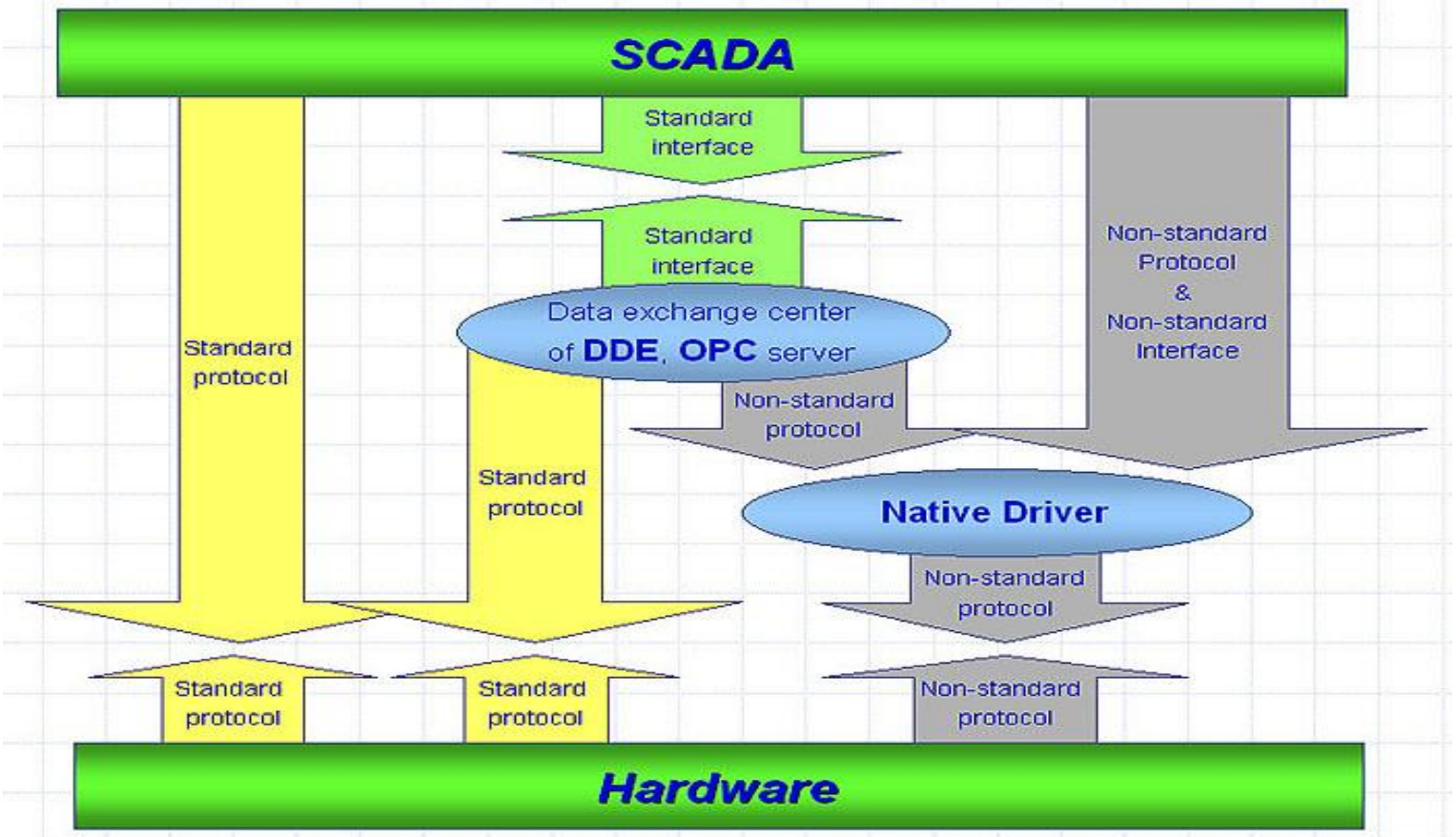

Key differences between SCADA and DCS

DCS is an "inside-the-fence" solution best suited to those continuous, PID control-intensive applications. In contrast, SCADA can be seen as an "outside-the-fence" solution, better suited to geographically dispersed environments using commercial off-the-shelf hardware.

Strengths and opportunities of using SCADA over DCS

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- SCADA is traditionally suited to batch and discrete production. Batch production includes food and beverage, pharmaceutical and general processing, whereas discrete production normally describes packaging and automotive applications.

- SCADA systems are typically used for monitoring and control of small or large-scale processes which can span multiple sites across large distances. Common applications include oil & gas production fields, pipelines, water and wastewater

- SCADA Systems provide strong data acquisition capabilities, which make its software platforms more suitable to be used for plant information management systems PIMS

Combining the benefits of SCADA along with DCS in multi DCS plants

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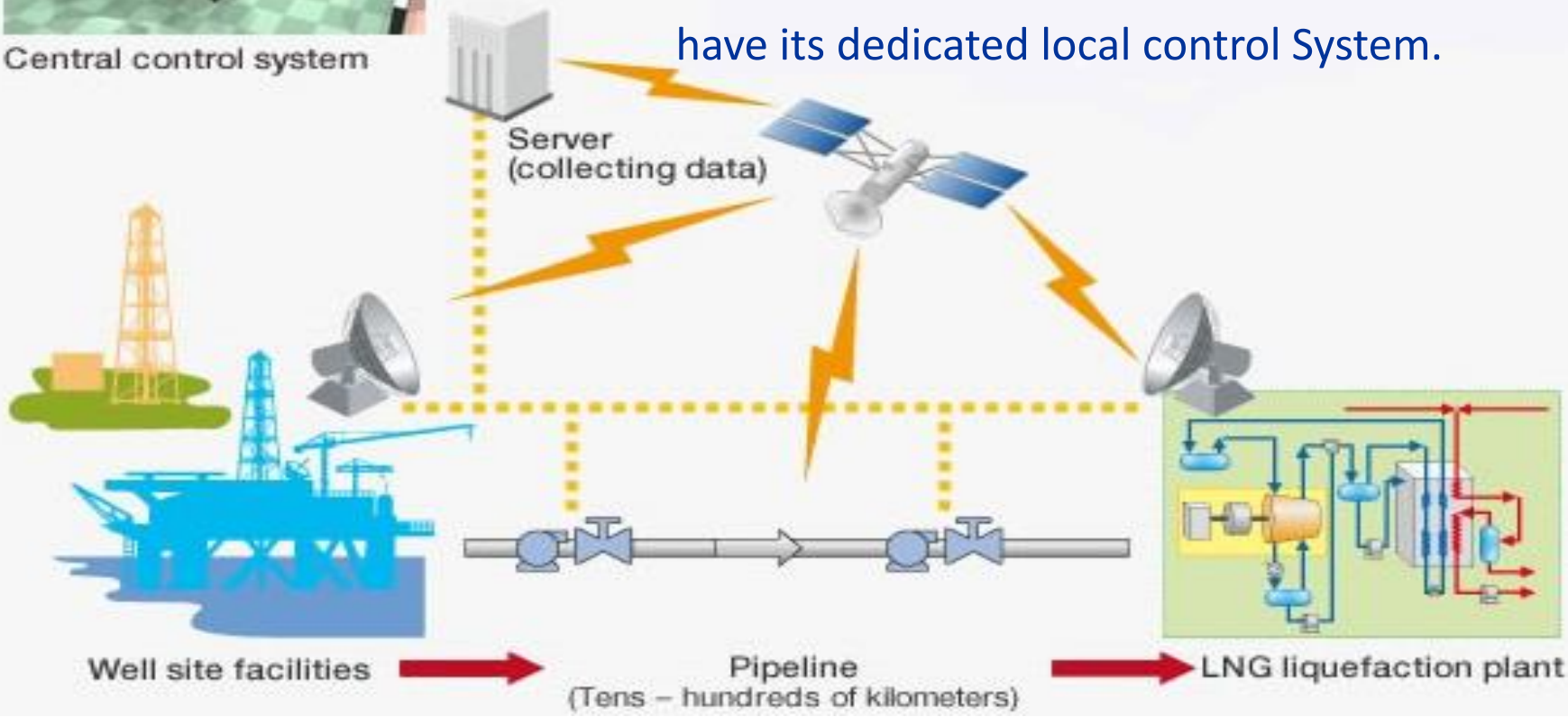
Central control system

In Central control Building ERP and MES management systems along with SCADA, used to monitor remote plants, while each plant my have its dedicated local control System.



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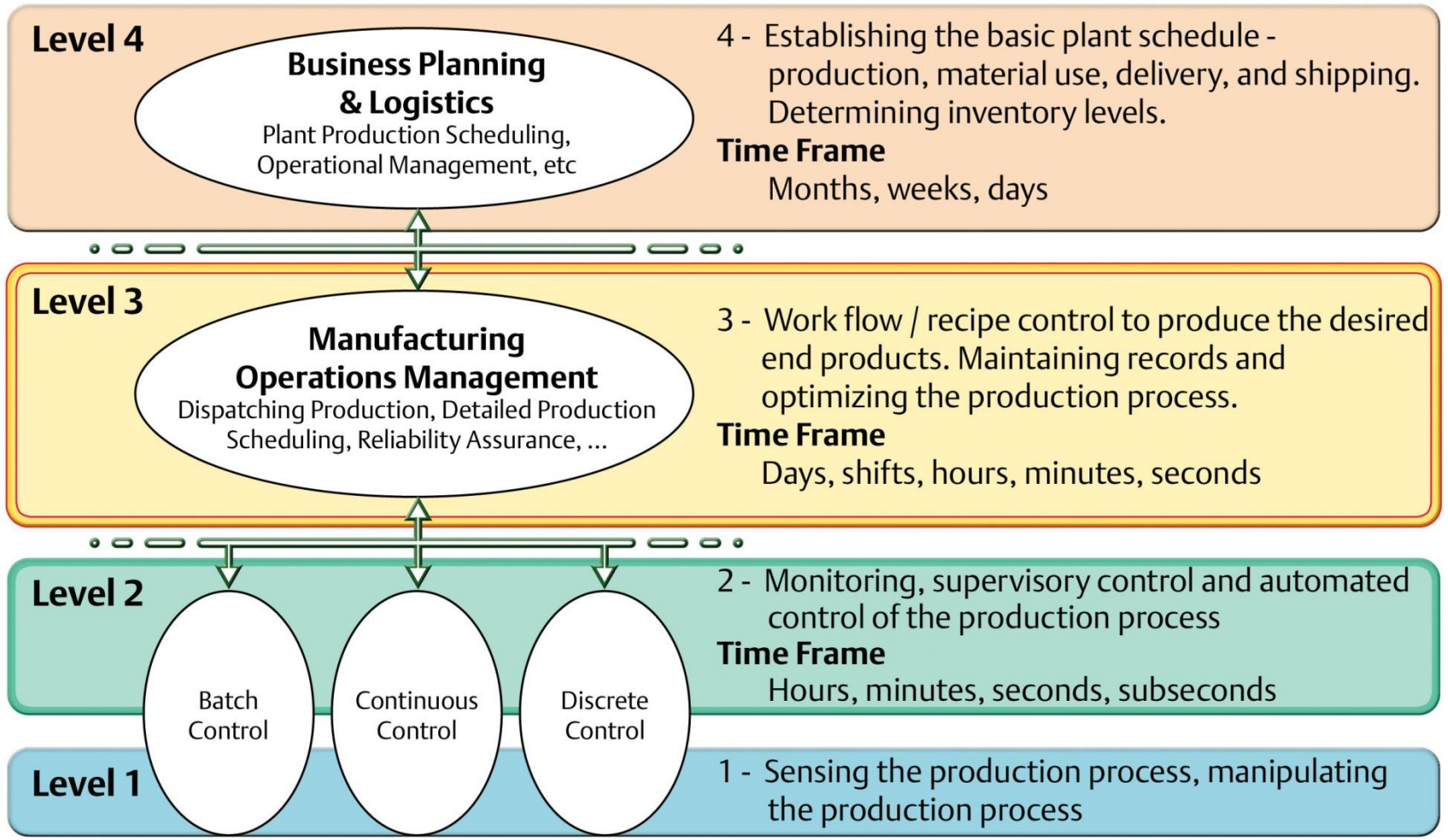

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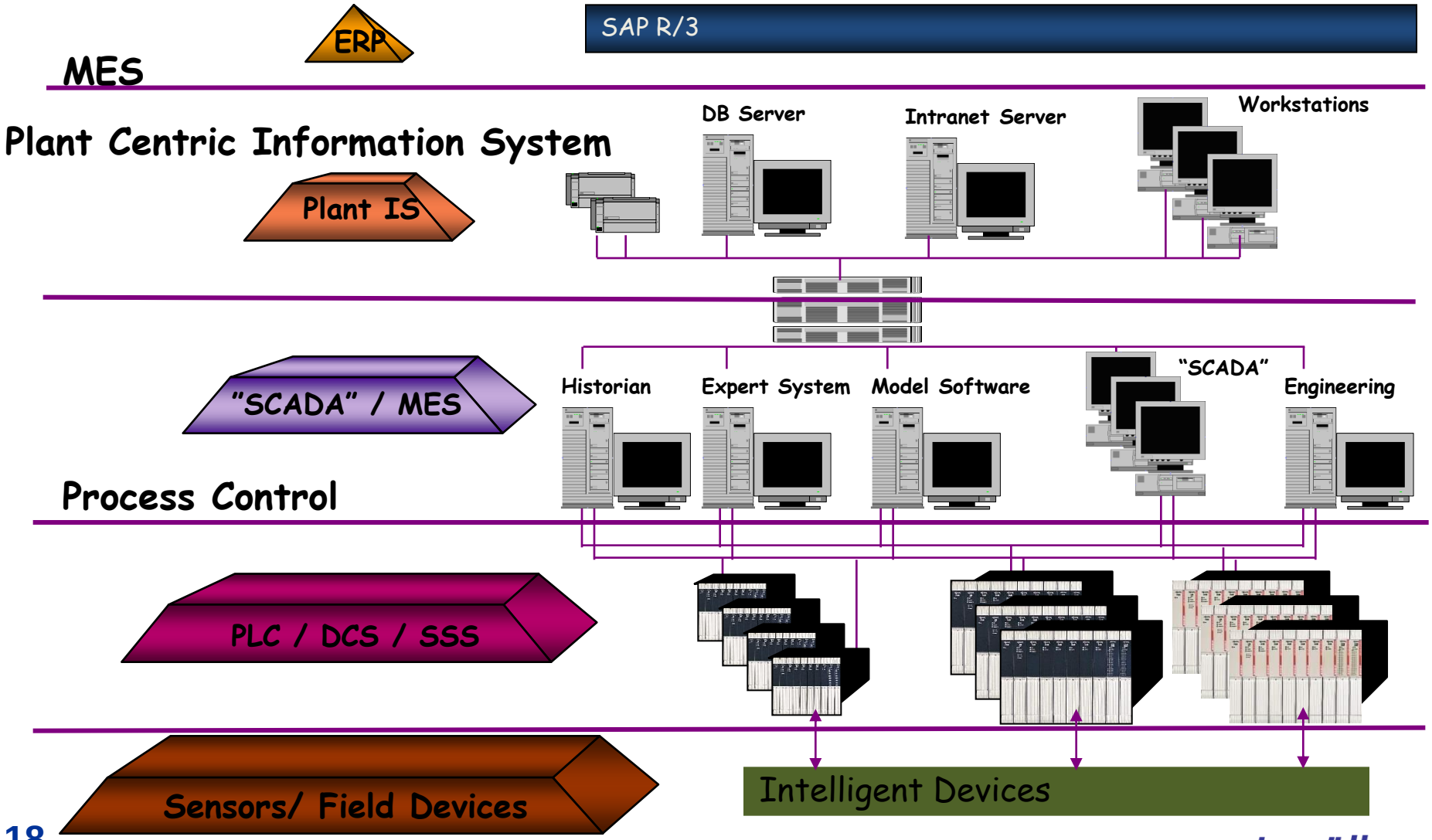

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SCADA is outgrowing its traditional role of coordinating plant floor processes, now offering capabilities once the reserve of or integrate with those linking plant floor processes into business management tools. A particular overlap is in the space currently occupied by MES that document, manage and report production processes in real time and link these activities to business processes such as work orders, receipt of goods, shipping, quality control, maintenance and scheduling.

We can say that SCADA are going to play in most of ISA – 95 Model levels.

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Thank you