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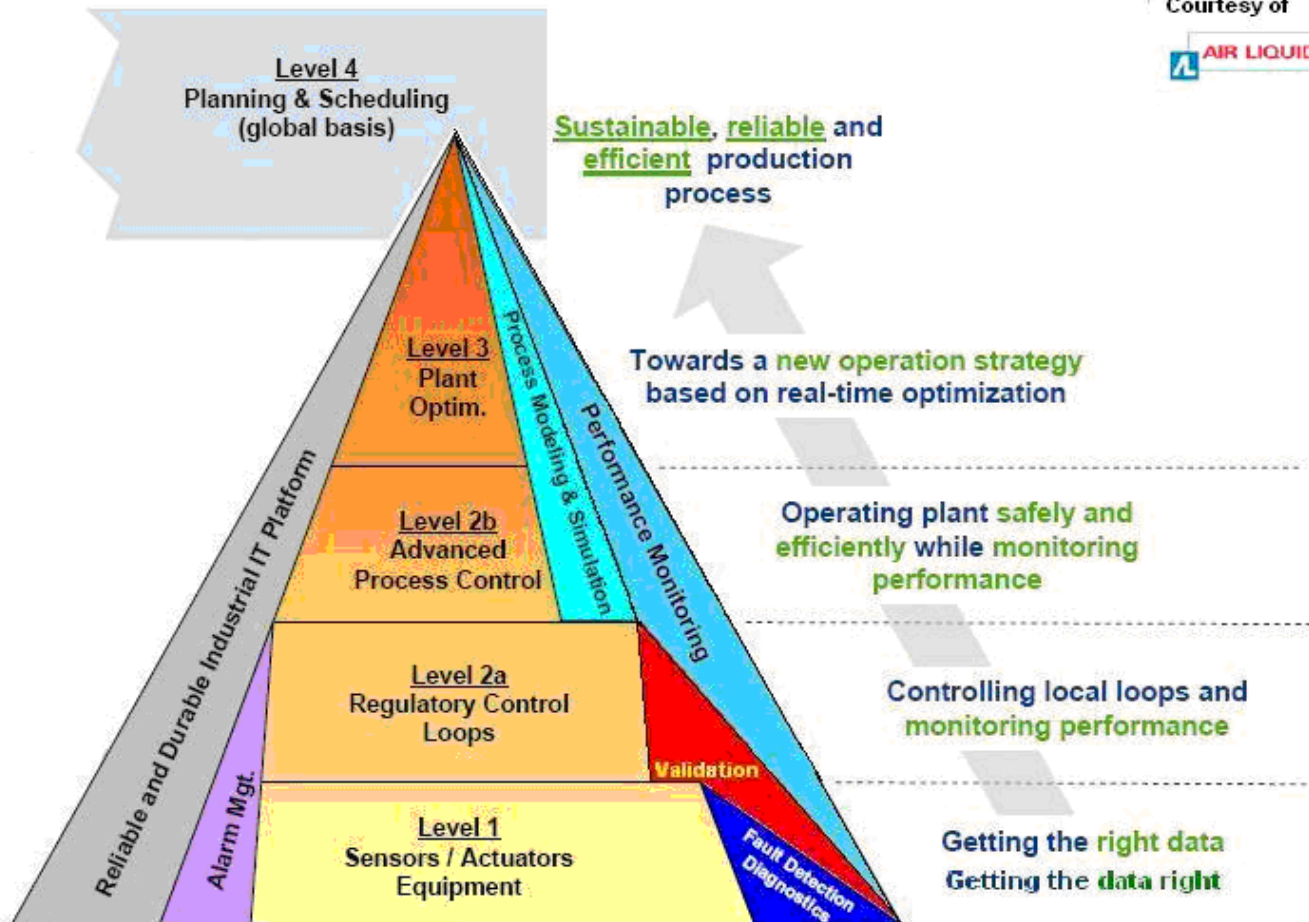
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SMART MANUFACTURING PLANT PYRAMID

Operational Performance - Production Processes

Courtesy of



You've said: "I understand Smart Manufacturing Plant Technology, APC"

We say: "But please understand the significance of this pyramid as the foundation of RELIABLE APC and Smart Manufacturing Plant Technology."

You've said: "I understand green processing, sustainability engineering, capacity assurance, risk management and the importance of my processes."

We say: "But see bottom right cornerstone of the pyramid. That is FALCONEER. You need Sensor/Data Validation, Fault Detection Diagnostics and Performance Monitoring."

You've said: "We are at Level 1, Level 2a and want to get to Level 2b, Level 3"

We Say:

"Getting the right data"

"Getting the data right"

"Operating safely and efficiently while monitoring performance"

**"These prerequisites are necessary to get to Level 2b
Advanced Process Control and Level 3 Plant Optimization."**



This diagram, modified with permissions from Air Liquide (a world class company), describes very well the reason why sensor/data/process validation and fault analysis software such as FALCONEER is a key component for all current and future plants being automated with process control systems.

This issue is a key topic of presentations, discussions, and research, most recently at AIChE 2008 in Philadelphia. It is critical to get ACCURATE, REALTIME DATA and to be able to ANALYZE LARGE VOLUMES OF DATA EFFICIENTLY **FIRST** for any APC or optimization effort to be accepted and successful.

FALCONEER is a key component of all three plant or site levels!

- If they have sensors providing electronic data to control and data historians for use throughout the organization, they need to make sure they are GETTING THE RIGHT DATA AND GETTING THE DATA RIGHT - Validation and Fault Analysis.
- If they have integrated these sensors into SCADA or DCS systems for regulatory closed loop control and are increasingly relying on these automated systems, again they need to make sure they are GETTING THE RIGHT DATA AND GETTING THE DATA RIGHT - Validation and Fault Analysis. This data is now RUNNING THE PLANTS!
- A real-time virtual system providing Performance and Condition Monitoring and Advising becomes important to help the operators and engineers have and use the same knowledge consistently.
- In addition, a real-time virtual system providing Performance and Condition Monitoring and Advising becomes important to help the operators and engineers as their numbers are reduced and their responsibilities increase AND to provide a secure knowledge base ensuring corporation retention of critical information that will be lost when older operators and engineers retire or change jobs/companies (A BIG problem that will only get BIGGER).

Without these two strong foundations, advanced process control objectives (Level 2b) are difficult to achieve or never as reliable as they need to be for operations acceptance.

A key question to ask is "Have you had any problems or failures that you wish you had known about sooner?" "What did the problem(s) cost (downtime, dollars, environmental issues, safety issues)?" Everyone has had a significant problem (cost > \$100,000) over the past year or two or three (if they are honest with you).

A FALCONEER demonstration is available at your convenience. Email your desired date and time to paul.eckert@falconeertech.com and we will register you and send you the details for a 20 minute, web based presentation.