Smart P&IDs in the Field

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In the rapidly developing industry 4.0 revolution and digitisation of process industry, Owner Operators globally face similar challenges when it comes to operations, maintenance and safety.

These challenges include but may not be limited to:

1. How to increase the effectiveness of plant floor workers and reduce operational expenditure whilst improving safe working practices;
2. How to eliminate cross-organisational barriers to collaboration between front-line plant floor workers and “back-office” planners, engineers, and others;
3. How to replace retiring plant floor workers and their inherent “siloed knowledge” with IT tools that will guide the new generation of tech-savvy plant workers; and
4. How to make available and transport data across disciplines and between different software of a plant’s asset life cycle.

These challenges mean that “business as usual” is no longer a viable option and that a step change is required in working practices and supporting technologies.

The solution to this challenge is standardisation through collaboration, thus ensuring consistent data retention.

The often globally operating stakeholders are all expected to benefit from one standard, as data is easily kept up to date, accessible and shared across disciplines, assets, and tools.

eVision’s interactive Piping and Instrumentation Diagrams solution integrates P&IDs digitally into its One Vision platform, which combines Control of Work; Process Safety Management; and Environment, Health & Safety processes.

Accurate and easily accessible data are key for safe and efficient operations. Having one standard (DEXPI) for P&ID data allows much better interoperability between different disciplines and tools by making sure *all data is correct and up to date in all systems, at all times.*

Task Oriented Design puts the P&ID in the hands of the user within the context of the task to completed. This eliminates the need to look for information, as information is provided to the user, and increases the Hands-on-Tool-Time (HoTT).

The main benefits of the DEXPI standard are:

1. Increase of plant floor efficiency by providing intuitive access to accurate, trustworthy information and documentation in the context of plant floor work processes such as Permit to Work, Shift Management, and Lock-out/Tag-Out (LOTO);
2. Improve oversight of ongoing work through visualisation based on interactive models that shows detected conflicts and multiple work/jobs on same equipment, increasing visibility for the field engineer;
3. Minimise risk and maximise safety by decreasing errors and incidents from misidentification of incorrect equipment; and
4. Reduce cycle times and provide a smooth hand-off of work processes between plant floor workers and supporting organisations such as planning and engineering through interoperability between Control of Work and Asset Life Cycle Information Management systems.

In this presentation, eVision will give an overview on how applying the DEXPI standard in the field work process can increase safety and efficiency for the field engineer and help companies in the hazardous industries be one step closer to Industry 4.0 compliance.