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Video transcript

Powering a Digital Plant

What are the characteristics of a digital plant?
The characteristics of digital plants in the refining industry involve a number of factors. They’re all asset intensive, and energy is a crucial element of their focus. They are highly regulated, data often needs to be confidential and certainly needs to be secure, as these are critical assets. Customer service is also crucial, matching demand and supply, and finally safety – probably the most important is making sure there’s a safe environment.

What are the technology enablers refiners need to consider for a digital plant?
I see 3 technology enablers for the digital plant of the future – and an extra one.
Firstly, IT/OT conversions. A lot of people are confused about what this means, but simply put, it’s taking the business information from IT and combining it with the operational information from operational technology – recognizing they’re very different data, but bringing those together in such a way that they add value, working in collaboration.

Thirdly, engineering data. Combining that with business information and operational information and bringing it all together as an overall ecosystem of data. Historically we’ve seen 2D and 3D data, we’re moving now to 4D engineering information and 5D where it’s linked to the operational status of the plant in real time.

The extra one is a consequence of the world I’m describing that is much more accessible and dynamic. When you think about it, accessibility is great but also a threat. Cybersecurity is crucial. If you’re going to be reliant on dynamic data, then data resilience is going to be key.