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Digital Twin for Steam Systems

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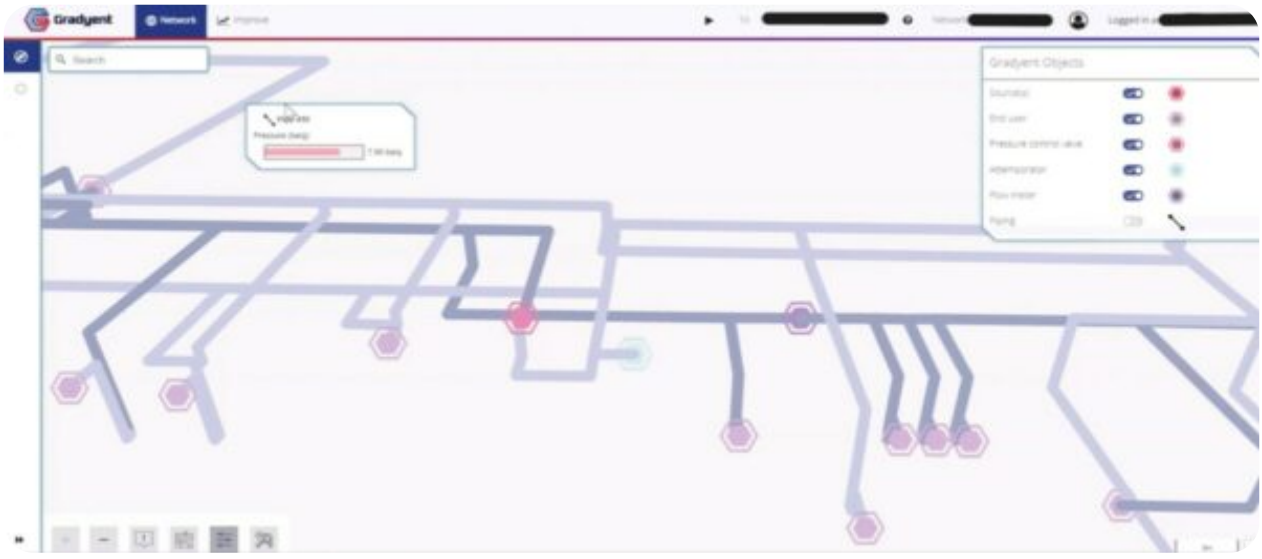
De Challenge

To reduce energy consumption and CO2 emissions, industries are transitioning to sustainable practices. Industrial Steam Grids, which will continue to serve as the main energy backbone of any industrial operation, provide an opportunity for increased energy efficiency.

The modernization of these networks involves integrating decentralized secondary steam producers on top of central sources, which increases complexity as steam flows through intricate networks spanning large distances within plants. Ongoing challenges encompass balancing steam production with consumption, addressing bottlenecks, and minimizing heat loss.

De Solution

Gradyent has developed a unique, comprehensive software solution with the right tools to improve even the most complex steam networks: the real-time Digital Twin Platform. When applied to your Industrial Steam Grid, it lets you achieve operational excellence and supports transformational changes safely and predictably, including heat integration, sustainable energy sources like mechanical compressors, heat pumps and e-boilers. In short, our real-time Digital Twin Platform provides intelligence to the entire steam system, from sources to final point of usage.



De Businesscase

Working with this real-time Digital Twin Platform brings immediate benefits, even without a fully modernized data system. Gradyent's world-class team of experts will build and implement a Digital Twin for your entire steam network. And thanks to its seamless integration with the data sources and software tools most used in Industrial Plants, they can get it up and running with limited effort from your team.

– Reduce fuel consumption & CO2 emissions by 5-10%
– 10-20% higher CapEx efficiency
– <2 years payback
– Accurate steam balance
– Faster issue detection