GSE provided JPro process simulation software and engineering services for a Doosan Heavy Industries & Construction Co., Ltd. Gasification plant. Doosan plans to use the simulator as an engineering tool prior to plant commissioning to determine how the following parameters affect the coal gasification process and design; membrane wall steam production rate, load setting, O2/coal ratio, and steam/O2 ratio. Following the engineering studies and plant startup, the simulator can serve as a process and design enhancement tool.

The simulator models five Gasification units; coal feeding system, coal gasification system (including burners), slag discharge system, dry solid removal system, and wet scrubbing system. All of the equipment and instrumentation relevant to the gasification unit was modeled and the following operational testing will be carried out: cold startup and shutdown, load changes, normal and abnormal operating conditions, emergency events, and performance tests.

The simulator will help them to improve design parameters, provide continuous research and development, and demonstrate troubleshooting and receive technical feedback.

GSE previously delivered a multi-effect distillation simulator model to Doosan that they used to validate future Doosan plant designs in the market.

“With the GSE engineering tool, we were able to predict efficiently the gasifier behavior in the R&D studies.”

MR. YOU-SEOK KIM
Program Manager
Doosan
About GSE Systems

GSE Systems, Inc. is a world leader in real-time high-fidelity simulation, providing a wide range of simulation, training and engineering solutions to the power and process industries. Its comprehensive and modular solutions help customers achieve performance excellence in design, training and operations. GSE’s products and services are tailored to meet specific client requirements such as scope, budget and timeline. The Company has over four decades of experience, more than 1,100 installations, and hundreds of customers in over 50 countries spanning the globe.

Information about GSE Systems is available at [www.gses.com](http://www.gses.com).

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