SynerGEE Gas – software developed from Advantica Group and Stoner Associates and now owned by Germanischer Lloyd

Advantica enables owners and operators of energy and utility assets to more successfully plan, manage and leverage their assets through the provision of advanced technologies and system solutions.

With more than 30 years of experience in the energy sector, including highly relevant expertise in the oil, gas, water and electric industries, Advantica`s heritage is founded jointly upon the former research arm of British Gas in the UK and software utility provider Stoner Associates in the US.

We have a proven track record of providing products, services and consultancy to more than 550 clients in over 60 countries across the globe.

Over 600 personnel worldwide offer skills and experience across a broad technology portfolio including asset performance and integrity, software modelling, risk management and advanced testing.

SynerGEE is the world`s most advanced software for modeling and analyzing distribution networks.

SynerGEE Gas enables you to model and analyze gas distribution systems. Perform steady state, pressure flow simulation of single- or multi-pressure level networks.

Nowadays Advantica is owned by Germanischer Lloyd (GL), with its head office in Hamburg (Germany), employs more than 6,400 engineers, surveyors, experts and administrative staff in 80 countries. The global network consists of more than 200 stations and site offices. GL offers technical competence, uncompromising quality and first-class services around the world.

In the oil & gas business segment Germanischer Lloyd's range of services extends to project consulting for oil and gas production, storage, subsea technology, LNG terminals, pipeline engineering as well as gas, electricity and water distribution networks. This is complemented with the corresponding software solutions and consulting services for installation performance, maintenance and process control.

Intensive consultancy, accompanied by inspection and certification procedures, provides customized support for manufacturers, operators, banks and investors at all stages in the value-added chain of industrial plants, such as planning and development, construction, commissioning, operation as well as dismantling and shutdowns.

The scope of capabilities, presented together with member companies of the GL Group, the British-based Advantica Group, Canadian PV Inspection, Malaysia's Trident Consultants and U.S. Material Consultancy Services comprises design review and verification, risk assessments, quality assurance and control (QA/QC), acceptance tests, asset integrity management and condition monitoring as well as large-scale hazard testing.

Germanischer Lloyd also provides technical expertise to all players in the expanding renewable energy markets around the world including site assessement, type approval and consultancy.

The Advantica Stoner SynerGEE Gas Network Analysis software for network design which is Industry standard software and is probably the widest used set of software for gas transmission and distribution analysis and design world wide.

Advantica provides simulation tools and consulting services along with enterprise-wide advanced technology and systems solutions for energy and water delivery companies. The company, with

origins stemming from British Gas in the UK and Stoner Associates in the US, has more than 30 years of experience delivering solutions for managing and operating assets. Advantica is well known around the world for providing operating performance improvements for the onshore and offshore oil and gas industries, and for providing network modeling and knowledge-based solutions to industries that supply natural gas, electric, water, and petroleum products. To serve it clients in more than 60 countries, Advantica operates out of regional headquarters in Europe, North America, the Middle East and China.

The company focuses its marketing effort on leading transmission and distribution utilities and often uses its branded Stoner Software products to deliver its solutions. Advantica's customers use its solutions for smarter asset management to improve financial performance, operational efficiency, customer service and regulatory compliance while ensuring safe and reliable operations. Using Advantica's Stoner Software, companies can simulate the effects of transporting electricity, natural gas, petroleum, and water through distribution networks, thus enabling them to better operate, maintain, and plan for expansion and emergency situations.

Advantica is well positioned to help its customers succeed in a competitive environment. They offer highly integrated solutions of products and services that help utilities manage their assets and become more competitive, efficient, and profitable. Their products incorporate advanced features that facilitate the integration of geographic information systems and other enterprise systems.

The company offers solutions to help companies improve planning and design, operations, safety, and through-life understanding of the condition of operating assets. The scope of their offerings include applications for the design, forecasting, marketing, operations, planning, and training needs of companies in the energy and utility sectors.

Advantica offers several simulation-based products to the utility industry. The firm organizes its products into several industrial areas including: oil and gas upstream, oil and gas transmission, gas distribution, energy utilization, electric, and water. The simulation and optimization software focuses primarily on pipeline applications in natural gas, water distribution, and the distribution of petroleum products.

Engineering analysis applications include the SynerGEE family of network modeling and management application modules, which are available for gas, water, and electric industries. The main SynerGEE gas is a general purpose modeling tool used for analyzing closed conduit networks of pipes, regulators, valves, compressors, storage fields, and production wells. The main SynerGEE gas application simulates pressures, flows, and equipment operation in large, complex, multi-pressure level, gas distribution networks. Network models can use various equations of state, volumetric and thermal loading, and variations in gas compositions.

SynerGEE Gas models and analyzes closed conduit networks of pipes, regulators, valves, compressors, storage fields and production wells. SynerGEE serves as a general purpose-modeling tool for piping networks including, but not limited to natural gas, propane, steam, oxygen and air.

SynerGEE provides the features of the most advanced pipeline simulation software commercially available along with the ease and familiarity of a windows-based operating system. Licensing add-on modules can extend SynerGEE's functionality.

SynerGEE provides an efficient steady-state solver that enables robust and reliable volumetric, thermal, and compositional balance capabilities.

You can model large, complex, integrated, multipressure-level systems that include regulators and compressors. You have full control over the gas constraints (gravity, heating value and viscosity), friction factor calculations and heat transfer methods.

SynerGEE provides various flow equations (equations of state) and allows for each flow equation to be assigned as a session default or on a pipe-by-pipe basis. SynerGEE's constraint interchange

lets you model compressors and regulators as they operate in the field, allowing for an exchange of unknowns and reformulation of equation if a constraint condition is violated during the simulation.

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