



# SHANGHAI NUCLEAR ENGINEERING INSTITUTE, CHINA

## Key Facts

**Company:** Shanghai Nuclear Engineering Research and Design Institute

**Website:** [www.snerdi.com.cn](http://www.snerdi.com.cn)

**Employees:** More than 1,200

**Industry:** Nuclear

**Country:** China

### Products Used:

- Intergraph Smart® Instrumentation
- Intergraph Smart Electrical
- Intergraph Smart P&ID
- PDS®

### Key Benefits:

- Global, concurrent engineering to support multiple nuclear power plant projects
- Integrated engineering environment across all disciplines for complete nuclear power design
- Improved quality and efficiency of engineering design and project management

## SNERDI INTEGRATES ENGINEERING DISCIPLINES WITH 3D DESIGN FOR NUCLEAR POWER PROJECTS

Chinese nuclear research and design institute implements Hexagon solutions in global workshare environment

Established in 1970, SNERDI is a high-tech enterprise subsidiary of the State Nuclear Power Technology Corporation. It is a key research and design institute with expertise in nuclear electric power technology, and leads the industry in China. The business scope of SNERDI is plant design, EPC contracting, project consulting, equipment research and design, project management, equipment procurement, technology development and engineering services.

### IDENTIFYING GOALS

Shanghai Nuclear Engineering Research and Design Institute (SNERDI) is the leading technology research and design institute for nuclear electric power in China. SNERDI is responsible for the engineering and design of several nuclear power plant projects in China and overseas. This includes Westinghouse AP1000® nuclear projects, such as the Sanmen and Haiyang nuclear power plants in China and Chasma Unit 2 in Pakistan.

SNERDI has a long association with Westinghouse, having produced 3D plant models to support Westinghouse's AP1000 plant design, which is recognized as among the safest and most advanced nuclear power plants on the market today. It is based on standard Westinghouse pressurized water reactor (PWR) technology that has achieved more than 2,500 reactor years of highly successful operation. Modular in design, the AP1000 promotes ready standardization and high construction quality. It is also designed to be economical to construct and maintain, while promoting simplicity and ease of operation.

To continue driving its expertise in nuclear power plant design and support an increasing number of global projects, SNERDI decided that it needed to move away from traditional design methods and leverage intelligent, advanced technology to support an integrated design platform.



## OVERCOMING CHALLENGES

- Establish integrated engineering design platform with 2D engineering and schematics and 3D design
- Support multiple nuclear power projects concurrently in a global workshare environment
- Improve quality of engineering design and overall project productivity

## REALIZING RESULTS

SNERDI has leveraged Hexagon solutions to improve its design processes for its global nuclear power projects. This includes offering true engineering integration, enabling SNERDI to establish and develop an integrated design platform to enhance global collaboration and meet project requirements.

By offering a powerful portfolio of industry-leading, best-in-class design and data management solutions, Hexagon has enabled SNERDI to capture integrated engineering knowledge at the enterprise level for the competitive advantage needed in today's and tomorrow's market. The company's integrated suite of solutions enables proven productivity gains, improving engineering efficiency by up to 30 percent. This is why the majority of plants built worldwide are designed using Hexagon solutions.

By integrating Hexagon's Engineering & Schematics applications (such as Smart Instrumentation, Smart Electrical, and Smart P&ID) with 3D design, SNERDI is able to complete engineering design for its nuclear power plants across all disciplines. The integrated engineering environment enables SNERDI's engineers to perform global, concurrent engineering for multiple projects, improving the quality and efficiency of the design work involved.

For example, the integration of Smart P&ID with the 3D design platform enables SNERDI's engineers to quickly view the relevant P&ID data and generate the associated reports,

without having to refer to a large number of documents separately. The integration also improves the consistency and accuracy of the data, which can be reused with other engineering applications to minimize errors.

Gu Guoxing, vice president at SNERDI, said, "The strong growth of our business requires reliable design and engineering solutions that improve our productivity significantly so that we can achieve a competitive advantage on the international market. The Hexagon solutions satisfy this demand because it provides leading technology coupled with strong local and international support to achieve optimized benefits from our investment."

## MOVING FORWARD

SNERDI has been a longtime customer and will continue expanding its use of Hexagon solutions for further productivity and interoperability benefits. The Chinese research and design institute remains committed to using Hexagon technology and will leverage its full range of integrated design and engineering solutions to meet the needs of nuclear power plant projects in China and around the world.



## ABOUT HEXAGON

Hexagon is a global leader in sensor, software and autonomous solutions. We are putting data to work to boost efficiency, productivity, and quality across industrial, manufacturing, infrastructure, safety, and mobility applications.

Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous — ensuring a scalable, sustainable future.

Hexagon's PPM division empowers its clients to transform unstructured information into a smart digital asset to visualize, build and manage structures and facilities of all complexities, ensuring safe and efficient operation throughout the entire lifecycle.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 20,000 employees in 50 countries and net sales of approximately 3.8bn EUR. Learn more at [hexagon.com](https://www.hexagon.com) and follow us @HexagonAB.