



NEFTEKHIMPROEKT, RUSSIA

Key Facts

Company: SJSC NEFTEKHIMPROEKT

Description: Established in 1992, NEFTEKHIMPROEKT is ranked as the leading petrochemical design institute in Russia. The company develops pre-design, design, and operational documentation for oil process and refining units, and excels in construction, petrochemical units construction, technical support during equipment order, and assembling operations. More than 50 plants are operated based on the design provided by NEFTEKHIMPROEKT.

Industry: Petrochemical

Country: Russia

Products Used:

- Intergraph Smart® 3D
- PDS®
- SmartPlant® P&ID

NEFTEKHIMPROEKT DEPLOYS HEXAGON PPM SOLUTIONS TO INCREASE SAFETY AND QUALITY OF INDUSTRIAL UNITS

Intergraph Smart® 3D and schematic solutions help the leading Russian petrochemical company to improve competitiveness

IDENTIFYING GOALS

Since the 1990s, NEFTEKHIMPROEKT has had partnerships with non-Russian companies that widely use Hexagon PPM technology. These partnerships were crucial when deciding to make Hexagon PPM its main technology provider.

NEFTEKHIMPROEKT has been using 3D technologies since 1998. Starting with PDS®, the company continued with Intergraph Smart 3D.

NEFTEKHIMPROEKT also employs SmartPlant® P&ID technology to create piping and instrumentation diagrams for its plants. P&ID was chosen to develop and manage the P&IDs focusing on the plant asset. The software exercises rules and connectivity checks to speed the entire engineering process, helping the company to save money without compromising design quality or integrity. NEFTEKHIMPROEKT was looking for a 3D design software for industrial units with the capabilities for:

- Viscosity breaking
- Coking
- Catalytic cracking
- Catalytic reforming
- Isomerisation



REALIZING RESULTS

The 3D models as well as the piping and instrumentation were created with Hexagon PPM solutions. This made it possible to create plant scheme for the following industrial units:

- JSC Slavneft – YANOS - viscosity breaking, hydrocracking units, catalytic reforming complex, atmospheric residue vacuum distillation section, crude oil tanks complex.
- Mozyr Oil Refinery - catalytic cracking complex; benzene concentrate recovery unit, extractive distillation.
- JSC RussNeft – crude oil loading terminal.
- JSC LUKOIL – Nizhegorodnefteorgsintez, viscosity breaking unit within oil deep conversion complex.

The benefits provided by Smart 3D include:

- Browsing of 3D models of units at the design stage, reducing the risk of errors before the construction stage started.
- Increased consistency and accuracy of piping and instrumentation diagrams (P&IDs).
- Improved communication between project teams due to easy access to structured data.
- Enhanced operational safety due to better accessible and more integrated data.
- Reduced risk of errors during construction.
- Better quality of produced goods due to enhanced plant unit design according to industrial requirements.

NEFTEKHIMPROEKT became the first company, delivering design for petrochemical industry in Russia, that had used next generation methods of 3D design. The cooperation with Hexagon PPM enabled NEFTEKHIMPROEKT to produce higher-quality deliverables and demonstrated the benefits of using a modern technology platform.

KEY BENEFITS

Hexagon technologies enabled NEFTEKHIMPROEKT to generate isometric pipe drawings out of 3D models, improving efficiency and profitability.

MOVING FORWARD

NEFTEKHIMPROEKT is planning to continue working with Hexagon PPM in order to utilize the modern software to increase their competitiveness on the market. This will include further investment in Hexagon PPM solutions, such as Intergraph Smart Instrumentation and Intergraph Smart Electrical.

Victor Smirnov, the CEO of NEFTEKHIMPROEKT said:

“We have been working with Hexagon PPM for almost 20 years. The ease of documentation generation, lowered error risk before the construction stage, and high reliability are the key reasons why we have chosen Hexagon PPM as our main solutions provider, and why we intend to keep using Hexagon PPM solutions in the future.”

He continued: “Of course we have also evaluated the quality of project execution in general - the risk is very high, so there is no room for mistakes in petrochemical industry. Hexagon PPM technologies have improved our operational safety.”

Smirnov concluded: “Also, after we started using Hexagon PPM solutions, the quantity of customer claims reduced. Hexagon PPM technologies help us to overcome challenges and to gain new opportunities.”

ABOUT HEXAGON

Hexagon is a global leader in digital solutions that create Autonomous Connected Ecosystems (ACE). Our industry-specific solutions create smart digital realities that improve productivity and quality across manufacturing, infrastructure, safety and mobility applications.

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 and follow us @HexagonAB.