

## **Nord Stream's deploys iTAC Software AG's standard software for its Baltic Sea Pipeline program**

**The iTAC.MES.Suite guarantees improved security and transparency during deployment and operations.**

**Dernbach, September 21 2009 – The iTAC.MES.Suite supports the construction, deployment and operations of the 1.220 kilometer natural gas pipeline that as of 2010 will link Russia and the European Union – via the Baltic Sea. iTAC's solution ensures end to end transparency and hence improved security across the gas network.**

For the deployment and operation of its gas pipeline Nord Stream AG set the most demanding safety standards – enabled by meticulous technical planning and the use of state of the art technology and high-grade components – all deployed and monitored using a comprehensive Quality Control & Assurance program.

- What are the GPS coordinates of each and every length of pipe?
- Which two pipes were joined with which welded seam?
- Which raw materials were used to make each pipe?
- Which suppliers, so-called contractors, were involved in building each pipe, and to what tolerances and specifications did they work?
- Which other pipes share these same characteristics?

Nord Stream selected iTAC's Pipe Tracking System to answer these questions – confidently, upon demand. iTAC's platform-independent standard software suite supports the complete pipeline construction phase. In laying over 100.000 pipe segments in a 1.200 km bed, it is critical to know exactly which components, were deployed when, where and to what specifications. „Through the deployment of the Pipe Tracking System, each and every step in the logistical and production process is not only documented, but also validated in real-time facilitating failure correction and / or prevention “, commented Andreas Rudl, iTAC's Vice President for Technical Account Management.

Through its ability to map and reproduce a comprehensive portfolio of production processes, iTAC's standard solution provides the necessary support for the logistical deployment and operation of the pipeline.

In addition to monitoring the manufacturing processes deployed by numerous contractors for each and every pipe segment, iTAC's solution maintains records for the storage, transport and final deployment completing the documentation and control requirements.

The iTAC.MES.Suite facilitates

- full transparency through the end to end documentation of the manufacturing process, across all construction and logistics steps, deployed for all contractors and components.
- the automated verification of all tolerances (actual vs. plan) for each and every work step.
- the quarantining of un-released or faulty components (e.g. pipe segments) during the production process.

The iTAC.MES.Suite monitors the process parameters for each individual pipe segment, across all contractors delivering a comprehensive automated analysis ensuring the completeness and accuracy of the production process. The deployment of iTAC's solution facilitates in parallel the ongoing monitoring and documentation of the inspection processes – over the entire lifetime of the pipeline's operation.

iTAC's Andreas Rudl confirms „...based on the consolidated information available, in the event of a failure in an individual pipe segment, it is possible to immediately identify which other pipe segments may be similarly at risk. Should a fault be identified, each pipe from the same batch, or built to the same specifications can be identified, replaced or quarantined in production. This ensures the quality of the components delivered and deployed.”

Michael Fischer, iTAC's Marketing & Communications Manager adds „iTAC is proud to have been chosen to ensure the safety and transparency, effectively the quality of Nord Stream's strategic energy project. “

(Abridged version)

### **End-to-end documentation and transparency**

To ensure that each and every production and logistical step across the entire production process is monitored, each valve, buckle arrestor, weld seam, pig trap etc. is assigned a unique serial number. In addition, the iTAC.MES.Suite records all related information (melting batch information, component data, coating, concrete weight coating, stock movements, laying & as built data etc.) – automatically storing the records in the Pipe Book.

As a mature standard solution, the iTAC.MES.Suite integrates to a broad range of commercially available ERP solutions.

The iTAC.MES.Suite records test plans & results as well as additional parameters supplied by manufacturers, coaters, transport companies and warehousing contractors. The ability to quickly and simply amend individual test specifications – reflecting enhancements or changes – was deemed an important feature.

The ability to manage to specified tolerances facilitates the full or conditional release of pipe segments to the deployment process. In parallel, deviations from plan and faulty components are automatically identified facilitating corrective action.

### **Fault identification / automated verification**

The procurement and deployment of high-quality raw materials is mandatory in pipeline construction. To ensure the quality of pipe segments and the laying of the pipes (including the welding processes) the iTAC.MES.Suite delivers a range of analysis tools. These standard functions facilitate real-time evaluation, thus always providing a current overview of relevant quality information. Based on the available measurement results and their statistical analysis a detailed review of the manufacturing and offshore deployment processes is provided.

A fully integrated, flexible **Reporting** suite ensures that all analysis results are available for assessment. Through the deployment of an **Alarm Management System**, automated notification via email for selected faults or tolerance exceptions can be triggered ensuring the relevant contractor or responsible party is alerted.

### **Optimized Materials Management**

To further improve the reliability of the planning process, iTAC developed a Materials Logistics module. The status of all relevant logistics steps (including laying of the individual pipe segments) is monitored. This enables the ongoing monitoring of the location of each pipe segment (from the warehouse through transportation, on the pipe-laying ships all the way to its final bed) as well as providing insight into stock levels and replenishment requirements.

Once laid, the exact location of each pipe segment can be graphically displayed on geographical maps. The visualization of this information is provided by iTAC's partner **p-systems** through the deployment of their GIS System.

(Long version)

### **Nord Stream AG**

Nord Stream is a gas pipeline to link Russia and the European Union via the Baltic Sea. It will carry natural gas to supply both businesses and households. The new pipeline will be an important factor of energy security in Europe. Nord Stream will transport up to 55 billion cubic metres of gas each year. This is enough to supply more than 25 million households. Nord Stream is a joint project of four major companies: OAO Gazprom, BASF/Wintershall Holding AG, E.ON Ruhrgas AG and N.V. Nederlandse Gasunie. Such a powerful consortium guarantees the best technology, security and corporate governance. Nord Stream will be 1,220 kilometres long and will consist of two parallel lines. The first one, with a transmission capacity of around 27.5 billion cubic metres a year is due for completion in 2011. The second line is due to be completed in 2012, doubling annual capacity to around 55 billion cubic metres. This is enough to supply more than 25 million households in Europe. Total investment in the offshore pipeline is projected at 7.4 billion euros. The exact budget will be calculated on the basis of cost estimates for pipe supplies, logistics and installation capacity, as they are the main cost factors for any offshore pipeline project.

### **iTAC Software AG**

iTAC Software AG is a leading provider of intelligent production software in the field of Manufacturing Execution Systems (MES). As system and solution provider, iTAC Software develops, integrates and maintains its modular and platform-independent iTAC.MES.Suite for industrial companies all over the world. The iTAC.MES.Suite is built using leading edge technology and its high level of standardization means it can be deployed in many different industry sectors. The functionality of the MES solution enables substantial improvement in process and product quality – supporting the objective of delivering zero-fault production. Its focus is on Traceability, Production - Quality Management and Material-Logistics. iTAC is headquartered in Germany, Dernbach, with branch offices located in France, the U.S.A., and the People's Republic of China.

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