



## Integrating Planning and Scheduling Capabilities for Improved Decision Support



### Profile

Rompetrol was founded in 1974 as an international operator of the Romanian oil industry. Today, Rompetrol Group has grown to become Romania's largest private company with activities in the following areas: Oil & Gas Operation (Exploration & Production, Refining & Petrochemicals, and Wholesale & Retail) and Services and Supply Companies (Oilfield Equipment & Services, and Joint Services – logistics, environmental remediation, EPC/maintenance).

In 2001, Rompetrol made its largest acquisition, Petromidia S.A., Romania's largest and most sophisticated oil refinery. Petromidia can process a wide variety of crude oils, with different sulfur content and API gravity. Its strategic location on the Black Sea, high level of integration, and high capacity make Petromidia Romania's flagship refinery with a maximum rated capacity of 100,000 barrels per day (bpd).

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**Ovidiu Bradin**  
Director, Risk Management  
Rompetrol

### Business Challenges

At the time of its acquisition, Rompetrol committed itself to a sustained modernization process to make Petromidia a state-of-the-art facility in Central and Eastern Europe. However, when Rompetrol took over the refinery, it was presented with many business challenges. The site, which was poorly managed and maintained, was running at less than 50% capacity. Among the many business issues were:

- Lack of process control
- Lack of information and communication
- Lack of reliable planning information

In order to modernize the refinery, Rompetrol needed to complete unit upgrades, adopt new technologies, and make organizational improvements. In particular, the Petromidia refinery had no previous risk management in place and, in turn, no method for protecting itself from volatility in the market. To take preventative measure to protect itself from market volatility and improve communication internally, a centralized Risk Management division was created which would serve to bridge the gap between the physical trading activities and refinery production. "A major issue was the lack of systems and information being provided to plan and control production. We did not have the resources allowing us to make confident business decisions. This is the reason why we decided to centralize our operations, and seek a solution for both long and short-term planning of production" said Mr. Bradin.

### Solution

After a selection process, Rompetrol chose AspenTech's Planning solution (Aspen PIMS™) for both long- and short-term planning to help keep tighter control of the production area. "Our goal early on in the selection process was to find a solution which would meet not only our technical requirements but would serve primarily in a business support capacity," said Mr. Bradin.

Rompetrol's situation is unique in the petroleum industry in that it is necessary to optimize production based not only upon significant variability in its imported Russian crude oil but also during a time of continuous revamping of all of the units as the Petromidia refinery was being upgraded. In its current business situation, Rompetrol knows the demand; the business dilemma is figuring out how to make its output the most profitable in terms of optimized unit runs, unit capacities, and determining what changes need to be made to the units. These business objectives are all achieved through AspenTech's petroleum supply chain solution. "As opposed to stable operations in another refinery where the processes are going smoothly, we are continually upgrading our plants. This requires changes be made to

the refinery flow, including modifications to unit specifications and unit capacities. Aspen PIMS is very flexible so that we are able to use it under these circumstances to make the most profitable decisions possible,” said Mr. Bradin.

With Aspen PIMS, Rompetrol is able to do both short- and long-term planning over a continuous 3-period time-frame. Rompetrol utilizes the AspenTech solution as a communications platform that combines information from the Refining, Logistics, Trading & Marketing, and Risk Management divisions. “With Aspen PIMS, monthly planning is taking into account all the particularities we like to see by consolidating information from multiple departments and creating a plan for the next one to three months which is in alignment with our business objectives. Being able to plan over multiple periods is a real asset because it allows us to take into account the correlation between periods,” said Mr. Bradin.

In order to further support its decision making capabilities and improve collaboration, Rompetrol decided to integrate its planning and scheduling capabilities with the adoption of AspenTech’s petroleum scheduling solution, Aspen ORION™. Previously, production scheduling was done as standalone activity, based upon inaccurate data using a collection of spreadsheets which were unconnected and difficult to maintain. Aspen ORION allows Rompetrol’s scheduling staff to work collaboratively to do weekly and daily scheduling based upon very specific and accurate data.

## Business Benefits

AspenTech’s integrated Planning and Scheduling solution has allowed Rompetrol to take a corporate-wide business approach to the management of its Petromidia refinery. **“Integrating planning and scheduling has allowed Rompetrol to streamline its business processes thus improving collaboration among the different groups and creating an even sounder basis to support decision making,”** said Mr. Bradin.

Overall benefits include:

- Objective business decisions
- Standardized communication facilitator for refining, logistics, trading and marketing, and risk management
- More profitable operations
- 90% accuracy for planning accomplished in a shorter time-frame
- Ability to do back casting to find best operational results for the refinery
- Optimal and co-ordinated operations
  - Optimized solution instead of operator solution
  - Multiple periods planning instead of single period
  - Operational scheduling in continuous time rather than fixed daily time buckets

“AspenTech’s integrated Planning and Scheduling solution is an ideal platform for objective assessment of the refinery’s technological and operational gaps,” said Mr. Bradin. “Implementing AspenTech’s integrated Planning and Scheduling solution has enabled significant changes in how we conduct business now. It allows us to run our operations profitably in a Central and Eastern European market that is becoming increasingly competitive.”

## Vision

Furthering its relationship with AspenTech, Rompetrol has recently decided to implement Aspen Utilities for the management and optimization of its utilities at the Petromidia refinery. Aspen Utilities™ will be integrated with Aspen PIMS and Aspen ORION during the implementation project, and will further improve refinery profitability.

## About AspenTech

Aspen Technology, Inc. is a leading supplier of enterprise software to the process industries, enabling its customers to increase their margins and optimize their business performance. AspenTech’s engineering solutions, incorporating Hyprotech’s technologies, help companies design and improve their plants and processes, maximizing returns throughout their operational life. AspenTech’s supply chain manufacturing solutions allow companies to run their plants and supply chain more profitably, from customer demand through to the delivery of the finished product. Over 1,200 leading companies rely on AspenTech’s software every day to drive improvements across their most important engineering and operational processes. AspenTech’s customers include Air Liquide, AstraZeneca, Bayer, BASF, BP, ChevronTexaco, Dow Chemical, DuPont, ExxonMobil, GlaxoSmithKline, Lyondell Equistar, Merck, Mitsubishi Chemical, Shell and Unilever. For more information, visit [www.aspentech.com](http://www.aspentech.com).



worldwide headquarters

**Aspen Technology, Inc.**  
Ten Canal Park  
Cambridge, MA 02141-2201 USA

[phone] +1 617 949 1000  
[fax] +1 617 949 1030

[world wide web] [www.aspentech.com](http://www.aspentech.com)  
[e-mail] [info@aspentech.com](mailto:info@aspentech.com)