



## CUSTOMER CASE STUDY

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AREVA, a world leader in nuclear power, streamlines its business processes by integrating data and managing concurrent working with AVEVA Engineering.

AREVA - [www.aveva.com](http://www.aveva.com)  
Industry - Energy

### Goals

- To further invest in its IMS to streamline business processes.
- To facilitate concurrent engineering processes by achieving Integrated Engineering and Design (IE&D).
- To improve data management.

### Challenges

- Previous systems-based databases were difficult to manage efficiently.
- Engineers working in different offices created a fragmented workflow from site to site.

### AVEVA Solution

- Engineering

### Results

- AREVA dramatically reduced its number of databases, making administration much easier.
- Empowered multi-discipline engineers to share and collaborate on design changes, in real time, from anywhere in the world.
- AREVA selected AVEVA Engineering as its standard solution for all new projects moving forward.

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## Future-Proofing the Nuclear Business with AVEVA

**Paris, France** – AREVA, the multinational nuclear and renewable energy company, has been a committed long-term user of AVEVA products. To maintain their status as world leaders in their sector, they decided to further invest in their Information Management systems by adding AVEVA Engineering™ to their existing AVEVA portfolio. The aim was to achieve Integrated Engineering & Design (IE&D).

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“This was part of our long-term commitment to constantly improving our business processes. AVEVA gave us the opportunity to work together with them on the specification of advanced data configuration management features in the software.”

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**Lutzian Widuch,**  
Senior Advisor IMS Systems, AREVA

AREVA wanted a tool that would manage the entire data life cycle; revisioning data, configuring it for specialised disciplines, and capable of dividing the data among different disciplines. They also wanted better management of change, to facilitate concurrent engineering processes, to improve overall data quality, and to have integrated quality checks.

“We particularly wanted to have data validated on entry,” Lutzian added. “Not simply checking it afterwards but actually preventing the entry of incorrect data in the first place. In general, we wanted fewer interfaces between our tools, and a system that was scalable with project size.”

AREVA’s technology suite is centred on AVEVA tools for system design and P&IDs. They were already using AVEVA PDMS™ for 3D design and AVEVA software to manage materials, but now they wanted to improve the engineering database. This receives information from the flow diagrams, enriched with a lot of additional information about all tagged items, provided by different disciplines.

These disciplines must each supply, and work with, data held in this engineering design database.

AREVA’s concurrent working methods require the different disciplines to work independently, while supplying each other with mature and validated data. The deployment of AVEVA’s IE&D solution helps AREVA to control the iterative process of design and engineering, allowing multi-discipline engineers to share and collaborate on design changes, in real time, from anywhere in the world. When such data is made available, each of the other teams should be able to decide when to work with updated data from the other disciplines, so as not to disrupt their own workflows by having to continually react to incessant changes in data. These information changes also need to be recorded and controlled. The answer to all of these needs is AVEVA Engineering.

### The Selection Process

AREVA put out a Request for Information and six software companies responded. AREVA whittled the options down to three and, after that, each shortlisted vendor was asked to put together a presentation based on a specific assigned scenario, and a one-day workshop.

The teams each received example P&IDs, part of the data model, and AREVA’s coding system. AREVA asked each vendor to transmit the data through different applications, including schematic, engineering and 3D data. They analysed how each candidate solution supported their workflows, how it would store the data, how it would retrieve it, and the different engineering steps it supported. By the end of this benchmarking process, AVEVA Engineering was the leading solution. An additional advantage was that one entity in AREVA was already using AVEVA Engineering and AVEVA Diagrams™.

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Together, these form the core of AVEVA's IE&D solution, which gives AREVA access to a highly productive P&ID drafting application that fully integrates with AVEVA PDMS and AVEVA Everything 3D™ (AVEVA E3D™). The solution is fully intelligent and with a complete set of advanced features to make P&ID production as effective as possible.

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**“An important advantage for us was that AVEVA Engineering is compatible with the old VPE P&ID, as well as the new P&ID solution, AVEVA Diagrams. This means that we did not have to change the drawing application at the same time as the database, enabling us to minimise disruption.”**

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**Lutzian Widuch,**  
Senior Advisor IMS Systems, AREVA

Excellent integration between the different AVEVA products was a strong selling point. And because AREVA was already familiar with AVEVA systems they were able to rapidly learn how to use AVEVA Engineering, and benefit from its low implementation and operating costs.

## Global Sharing

AREVA has various locations in France, Germany and the USA, with additional customer sites across the world including Finland and China. Each would need access to the engineering database. With AVEVA Engineering, ownership of data can change between locations and teams in a way that would not be possible with other software solutions. But engineering data is not kept on local machines; instead, the engineering database provides AREVA's new centralised repository for data, maintaining data consistency across offices and disciplines. Achieving this was AREVA's first critical gate review to assess the progress of the AVEVA Engineering deployment.

## Data Management & Administration

Another key point for AREVA was the increased integration and improved management of data. Their set-up at the time was system based and overlaid with different responsibilities by various disciplines. There were too many different databases to manage efficiently.

AVEVA worked with AREVA to develop and implement controlled object revisioning capability within AVEVA Engineering to solve this problem. With added intelligence and automation, AVEVA Engineering allows for revision control at the level of an individual tagged object, and for each discipline to release information to the rest of the project team only when it is sufficiently mature to be used by others. As a result, AREVA dramatically reduced its number of databases, making administration much easier. This enabled AVEVA Engineering to also pass the second gate review, which centred on the improvement of AREVA's data management and administration processes.

## Results

By the end of 2013, AREVA considered all of its gate reviews to be either passed or on track to being solved, and decided that they were ready to go into production with AVEVA Engineering. First, they needed to define their objects and to define how they wanted them to be stored. AREVA decided on discipline-specific workflow management and status control management. To achieve this, they use a feature called 'Distributed Attributes', which enables the data to be split along lines of responsibility. In addition to this, AREVA wanted to define a number of other characteristics, including status and the definition of workflows.

“Let me give you the simple example of a valve,” explained Lutzian. “The valve is planned in the P&ID and then enriched with data from different disciplines. For each object type, we identified who would be responsible for defining the data. A check valve is created by the process engineer, so he is the owner of the data. But other disciplines also contribute to the definition of this data: the valve engineer, the safety engineer, the radiology expert, the layout people and commissioning, among others.”

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“We need to follow the same process for all of the object types that we design. AVEVA Engineering enables us to have a data model that covers our need for different responsibilities even when we are all describing the same object.”

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Lutzian Widuch,  
Senior Advisor IMS Systems, AREVA

## A Look to the Future

Now that AREVA has successfully completed its implementation and familiarisation phase, the company will begin using AVEVA Engineering as its standard solution for all new projects. The extension of their usage of AVEVA products means that they will now enjoy even tighter integration and all the associated

benefits, especially in the light of their use of AVEVA PDMS and AVEVA Global™ across multiple locations.

## About AREVA

AREVA supplies high added-value products and services to support the operation of the global nuclear fleet. The company is present throughout the entire nuclear cycle, from uranium mining to used fuel recycling, including nuclear reactor design and operating services.

AREVA is recognised by utilities around the world for its expertise, its skills in cutting-edge technologies and its dedication to the highest level of safety. Through partnerships, the company is active in the renewable energy sector.

AREVA's 44,000 employees are helping build tomorrow's energy model: supplying ever safer, cleaner and more economical energy to the greatest number of people.



**AVEVA**

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