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Airbus Defence & Space accelerates launcher research



Airbus Defence & Space accelerates launcher research by up to 30% in a more and more competitive landscape

Airbus Defence and Space, a division of Airbus Group, is the world's second largest space business. Its state-of-the-art offerings include launch vehicles, manned space activities, satellite systems and a host of related services. Yet, this top-performing enterprise is a global market leader because it never stands still. The company's leadership is constantly exploring new market opportunities and driving development of innovative new solutions to meet its customers' future needs.

In recent years, the aerospace industry has changed significantly, with commercial space activity developing on government space endeavors. Airbus Defence and Space has maintained and extended its leadership position throughout this market evolution. In 2013, the European Space Agency (ESA) awarded Airbus DS €108 million worth of contracts for the development of the Ariane 6 and Ariane 5 ME launchers.¹

In the face of growing global competition, Airbus Defence and Space is strengthening its market presence and performance.² The technology demands that it faces in this new race for space are daunting. "Our challenges center on the nature of our environment," said Denis Clerc, Senior Manager of Innovation at Airbus Defence and Space. "Staying competitive requires our R&T teams to continuously make strides in reducing the weight of the spacecraft to carry larger payloads, with materials that can withstand dramatic temperature shifts – all while keeping costs in check."

Solving these challenges requires Airbus researchers to locate, identify and evaluate research from a wide variety of information sources. And they must fully understand the company's current intellectual assets to avoid duplicate effort and distinguish existing intellectual property (IP) from that of partners when entering joint ventures.

Challenge

- Deliver enhanced competitiveness, market presence and performance
- Balance cost with the demands of reducing spacecraft weight, increasing payloads and building with temperature-resistant materials
- Locate, identify and evaluate a vast amount of information from inside and outside the company - more quickly

Solution

- Enterprise Knowledge Discovery with Engineering Workbench™ from IHS Markit

Results

- Accelerated R&T for launchers by as much as 30%, allowing more time for developing solutions and making critical business decisions
- Increased efficiency of ideation and problem solving by enabling approximately 100 researchers across the company to shift from use of numerous systems to one primary tool
- Distinguished current Airbus intellectual property as the company entered joint ventures with partners – mitigating the risk of lost ownership of IP and potential revenues

Streamlining R&T and enabling decisions

Airbus Defence and Space previously subscribed to numerous information sources to support its research and development program, each requiring separate logins. The company sought to reduce the number of systems required for researchers to find the information they seek in order to streamline and optimize their daily work processes.

The company's senior management expected researchers to use open source information, including outside research journals, patent filings, chemical and engineering information, and for them to critically analyze and correlate information to the existing research within the company. The goals: ensure that Airbus Defence and Space knows what already exists within the company, or outside, and have rich information to support company decision making regarding products and services. Airbus Defence and Space evaluated a number of solutions for search and document management before choosing to centralize with Engineering Workbench from IHS Markit as its primary research tool. Airbus Defence and Space deployed the multi-patented, multi-lingual semantic research technology to connect its researchers to a wide range of structured and unstructured information sources – inside and outside the company.

With Engineering Workbench, Airbus Defence and Space researchers have a unified system to drive multiple functions:

- Data analysis and interpretation
- Design-to-cost processes to build cost efficiency into design
- Development of a sharable internal database of documents
- Innovation idea generation and vetting

Unlocking answers and protecting assets

Airbus Defence and Space rolled out Engineering Workbench to multiple departments across the company and now provides access to approximately 100 users - enabling researchers to go beyond simply locating documents to uncovering answers and solutions that might otherwise have remained undiscovered. To support their global business, the Airbus Defence and Space team used Engineering Workbench's multi-lingual capabilities to search hundreds of document types, across structured and unstructured text. They used it to recover internal knowledge from shared drives, document management and other enterprise systems– as well as knowledge from external sources such as patents, standards, journal articles and other technical literature published on the Web in other languages.

Particularly valuable to Airbus is the team's enhanced ability to index and tag intellectual property that is owned by Airbus Defence and Space – through purchases, mergers/acquisitions or creation. They also value the capability to dig into large and complex data sources such as the world patent index and other areas of published space research. All this means that researchers can quickly find the answers they need to expedite innovation and ensure that the company is fully aware of its existing IP assets when embarking on joint ventures.



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Denis Clerc
Senior Manager of Innovation
Airbus Defence & Space

Freeing more time for innovation

By moving to a centralized solution, the Airbus Defence and Space team estimates that they have reduced research time by as much as 30 percent, while also accelerating idea creation and problem-solving. Researchers can readily access terabytes of internal knowledge indexed in the IHS Markit system, spending less time throughout the work day searching for information and more time developing solutions and making decisions. The ability to identify the company’s current IP has proven critical, particularly as the company forges partnerships with other organizations.

“Airbus works with many outside parties on collaboration projects,” Clerc said. “It’s very important to illustrate, at the outset, the intellectual property of each company. Anything that we don’t declare becomes the property of the joint companies.” By tagging all Airbus IP, they mitigate the risk of lost ownership and revenue.

Distinguishing the unique IP of Airbus recently came into play with the creation of the new joint venture between Airbus Defence and Space and Safran – called Airbus Safran Launchers – that was announced in late 2014. The new venture combines the expertise of the two companies to boost the competitive edge and profitability of European space launchers.³

The resulting Airbus-Safran rocket uses liquid propulsion and solid rocket motors as add-on boosters, can lift heavier payloads and comes in two models — one for smaller satellites of the type built for governments for science and Earth observation, and a larger version for the commercial telecommunications satellite market.⁴

As the premier aerospace innovator in Europe, Airbus Defence and Space is developing the next generation of world-class space vehicles and technologies and plans to continue leveraging Engineering Workbench. Company leaders are beginning to use the solution for market and product analysis and expect to expand that use in the upcoming year.

“Engineering Workbench is a real catalyst for innovation and is playing a key role in advancing the research and development efforts that contribute to our company’s market-leading position in the launcher business,” Clerc said.

1 http://www.space-airbusds.com/en/press_centre/airbus-defence-and-space-wins-contracts-to-design-ariane-6-and-continue-development-of-ariane-5.html

2 <http://applications.airbus-group.com/airbusgroup/investor-relations/int/annual-report2013/index.html#/46>

3 http://www.safran-group.com/media/20141203_airbus-group-and-safran-launch-joint-venture

4 <http://spacenews.com/41093airbus-safran-surprise-esa-with-last-minute-ariane-6-design/>

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