Airbus selects Veeam to protect satellite operations data

AIRBUS
DEFENCE & SPACE

Company

The Toulouse satellite operations center (TSOC) is part of the Defence and Space division of the Airbus group, a world pioneer in the aeronautics and space sector with revenues of 63.7 billion euros. The TSOC is responsible for the positioning and monitoring operations of a fleet of telecommunications satellites, currently comprising 60 satellites, on behalf of leading international operators in the mobile, internet, television and radio tele-communication services sector.

Solution

Veeam Data Platform

Industry

Manufacturing

Region

Europe

> We now have a robust and reliable data management solution in place that protects, restores and ensures the Availability of all the data our engineers need to support satellites throughout their life cycle.

Pascal Garcia
**Head of Infrastructure Systems Toulouse Satellite Operations Center
Airbus Defence & Space**

Challenge

In order to ensure a high-performance and high-quality service over the entire lifetime of the satellite (15 to 25 years), the TSOC needs to protect critical space telemetry data and ensure its uninterrupted and reliable availability over the years.

Results

- Reliable and recoverable telemetry data ensuring ongoing support for the satellite fleet.
- High-speed VM recovery times reduced from an average of half a day to just 20 minutes.
- The extension of the TSOC's scope of activity.

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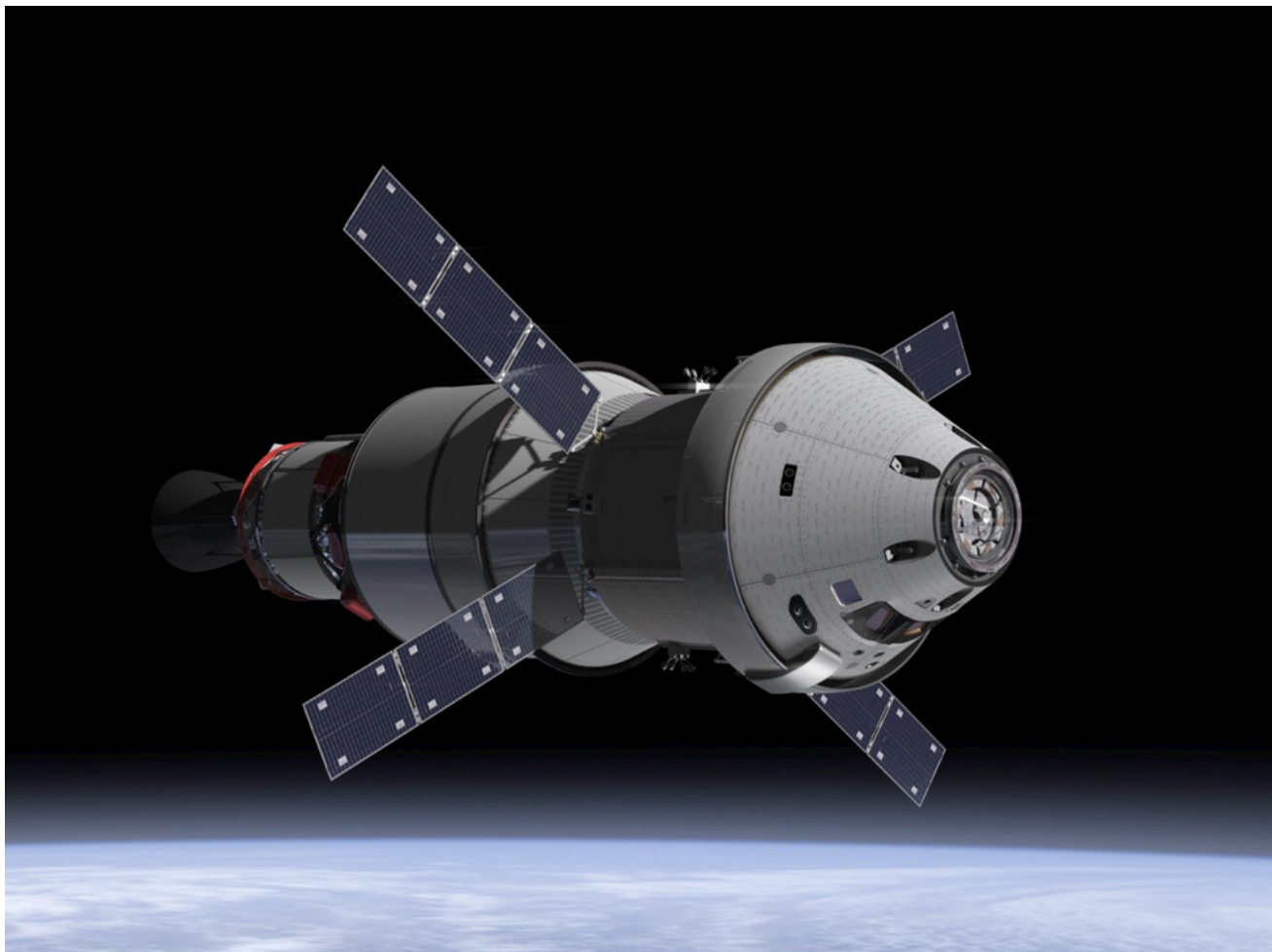
Business Challenges

The Toulouse Satellite Operations Center (TSOC) is part of the Defence and Space division of the Airbus group, a world pioneer in the design, manufacture and delivery of aerospace solutions and products with a turnover of 63.7 billion euros. In line with the group's mission to make the world a better connected, safer and smarter place, TSOC is responsible for ensuring the positioning and monitoring of a fleet of telecommunications satellites, currently comprising 60 satellites, on behalf of leading international operators in the mobile, internet, television and radio telecommunications services sector.

TSOC is responsible for all operations related to the piloting of satellites, whose lifespan ranges from 15 to 25 years, from the launch and early orbit phase (LEOP) to their supervision once in position. They also serve as a secondary control center for customers with only one control center. Every day, the center's engineers collect and analyze data about the satellite's life, from assembly to de-orbit. This data, transmitted 24 hours a day, provides the center with ongoing information about the health of satellites, helping it anticipate possible component failures. This data also provides a unique knowledge base for data analysis purposes as it allows Airbus Defence and Space to identify trends in satellite performance and thus contributes to the continuous improvement of their design and manufacturing.

The critical and irreplaceable nature of the telemetry data collected by the TSOC makes business continuity an absolute priority for the center.

"Data Availability is a key dimension of what we do. TSOC stores the equivalent of over 600 years of telemetry data history. Crucially and above all, we must guarantee the safekeeping of this data as well as continuous access to it, the use of this data being critical to event analysis on board the satellites as well the support given to clients", explains Pascal Garcia, Head of Infrastructure Systems at TSOC, Airbus Defence & Space.

Throughout the year, Airbus Defence and Space's employees are on standby to monitor satellite operations using resources made available by the TSOC. The TSOC also provides infrastructure and ground resources to dedicated teams working around-the-clock during the satellite positioning phase, in which any loss of control of the satellite could have catastrophic repercussions. "Satellite positioning is a sensitive operation that potentially requires a very high level of reactivity. An interruption of service during this critical phase can lead to changes in the operating plan and result in a significant loss of time and therefore money for our customer", states Garcia.

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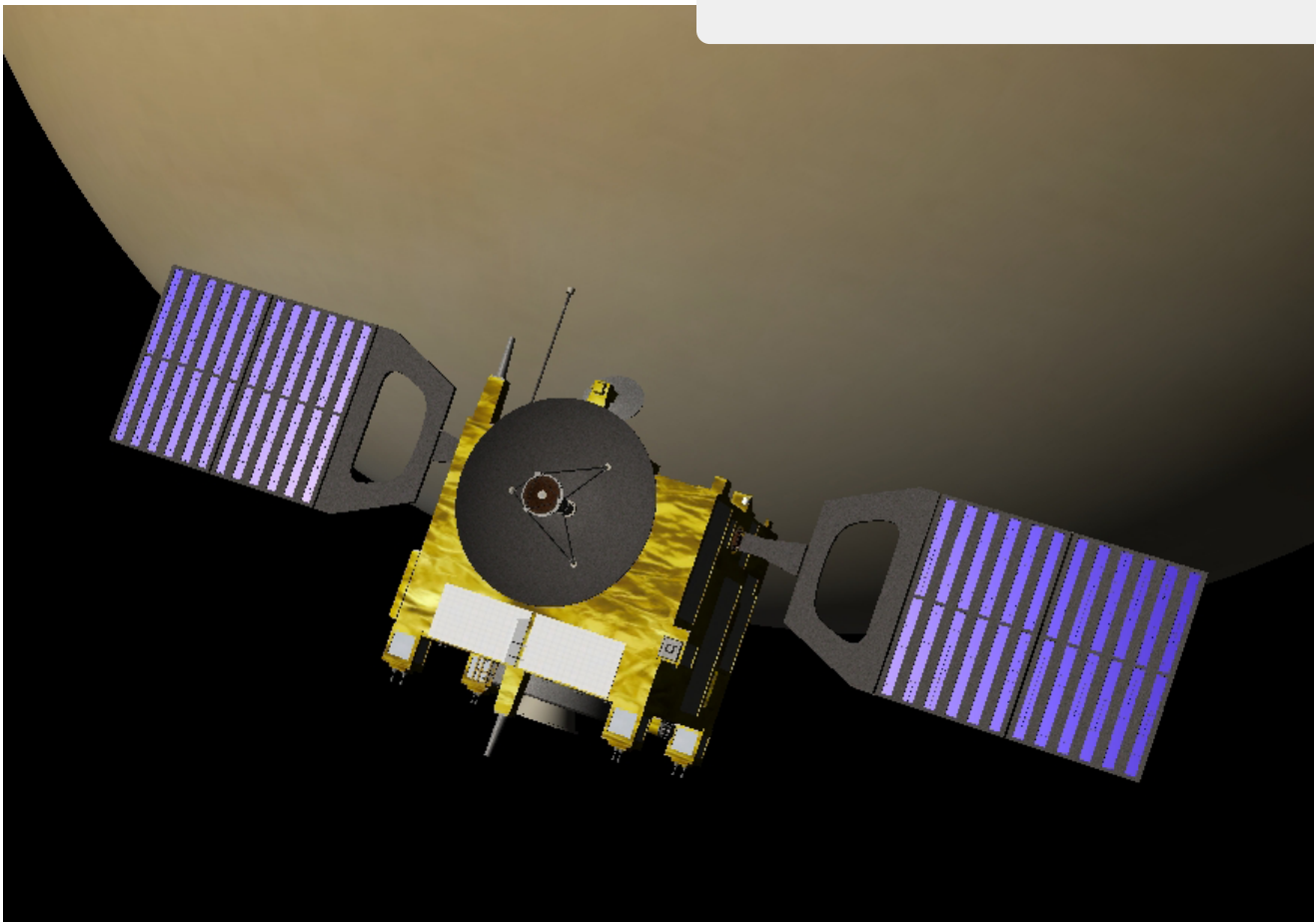
The Veeam Solution

> **❝ The tool allows our users to have real-time access to important information and alerts, which relieves IT. We were very interested in the integration between Veeam ONE and Veeam Backup & Replication™.❞**

Pascal Garcia
Head of Infrastructure Systems Toulouse Satellite Operations Center Airbus Defence & Space

TSOC's IT department was facing constraints in protecting their data as both production data and backup data were hosted on a single storage space, while the center's backup capability didn't make it possible to protect all virtual machines (VMs). In the event of a problem on an unprotected VM, the team had to reconstruct the VM with the same level of accuracy, which was time-consuming and requiring very specific skills. TSOC had already decided to deploy a new core infrastructure based on Nutanix's hyperconverged infrastructure (HCI) technology. At the same time, they required a robust backup and recovery solution to protect all of their data in a transparent, reliable and efficient manner.

The team quickly decided to move towards a proposal from Veeam®, which was convincing

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in terms of performance, technical feasibility and was cost-effective for TSOC. There were also several other factors that worked in Veeam's favour. "We were already using Veeam ONE™ to monitor our legacy infrastructure and were very satisfied with it. The tool allows our users to have real-time access to important information and alerts, which relieves IT. We were very interested in the integration between Veeam ONE and Veeam Backup & Replication™. In addition, other departments within Airbus' defence and space division already used Veeam for backup and recovery of their data, meaning we were able to find out more and have convincing demonstrations of the solution," explains Garcia.

The TSOC now has a hyperconverged infrastructure with a backup repository separate from production data. Veeam protects all its VMs in a reliable environment with no impact to production and Veeam's integration with the TSOC's storage appliance means the center is able to perform an incremental backup of all telemetry data in just 16 minutes.

TSOC can also count on a much more efficient and smoother process which ensures the team can restore VMs quickly to their original state thanks to Veeam's Instant VM Recovery® capability. "Restoring a classic VM now takes 20 minutes, where we previously needed an average of four days to recreate one from scratch," says Garcia.

The TSOC also takes advantage of Veeam Explorers™ for granular recovery that provides the ability to restore application components such as Microsoft Active Directory objects or Microsoft SQL Server databases in minutes.

"Our backup strategy is undoubtedly more robust and reliable. In addition to no longer limiting our backup operations to critical VMs, we were able to accelerate their frequency. We are now confident in our ability to restore all our data, especially since we know that any problem will be easily and quickly identified," continues Garcia.

Looking to the future, Veeam's ability to provide uninterrupted data Availability is part of an approach to build a solid infrastructure to support the TSOC's evolution. In addition to its current command and control activities for satellites, the infrastructure will soon serve as a global platform for initiatives extending to the Earth observation market. These new initiatives mean TSOC's customers will benefit from increased monitoring capability and operational efficiency, ensuring they receive high-level service continuity for the next 15 years.

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Over time, Veeam's ability to provide continuous data availability is part of an approach to build a solid infrastructure to support the evolution of the TSOC. In addition to its current satellite command & control activities, the infrastructure will soon serve as a global foundation for initiatives extending in particular to the earth observation market. Through these new initiatives, TSOC customers will benefit from increased monitoring capacity and operational efficiency, ensuring a high level of service continuity for the next 15 years.

![veeam logo]

The Results

Reliable and recoverable telemetry data ensuring ongoing support for the satellite fleet.

Veeam protects more than 550 VMs and 25TB of telemetry data, guaranteeing Availability for satellite performance monitoring around the clock.

High-speed recovery times reduced from an average of half a day to 20 minutes.

The Veeam platform allows the TSOC to be much more responsive to incidents. Backup monitoring makes it quick and easy to identify potential problems and restoring a VM with Veeam's Instant VM Recovery takes only 20 minutes, freeing IT from the task of recreating VMs from scratch, which originally took four days.

The extension of the TSOC's scope of activity.

The IT infrastructure protected by Veeam provides a solid foundation to support the TSOC's future development. TSOC can confidently expand its operations with the IaaS hosting of more and more projects, as well as offer optimized and efficient storage solutions among shared services.

About Veeam Software

Veeam®, the #1 global market leader in data protection and ransomware recovery, is on a mission to help every organization not just bounce back from a data outage or loss but bounce forward. With Veeam, organizations achieve radical resilience through data security, data recovery, and data freedom for their hybrid cloud. The Veeam Data Platform delivers a single solution for cloud, virtual, physical, SaaS, and Kubernetes environments that gives IT and security leaders peace of mind that their apps and data are protected and always available. Headquartered in Seattle with offices in more than 30 countries, Veeam protects over 450,000 customers worldwide, including 74% of the Global 2000, who trust Veeam to keep their businesses running. Radical Resilience starts with Veeam. Learn more at www.veeam.com or follow Veeam on LinkedIn @veeam-software and X @veeam.

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