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CUSTOMER STORY

Industry Leader Telesat Selects Jama Connect® to Evolve Engineering Requirements Management and Product Development

With a 50-year legacy of engineering excellence, Telesat chooses Jama Connect as part of an overall investment in engineering processes and tools for its advanced Low Earth Orbit satellite constellation.

ABOUT | TELESAT™

- Founded in 1969
- Headquartered in Ottawa, Canada with offices around the globe
- Specialty: Global satellite operations

Backed by a legacy of engineering excellence, reliability, and industry-leading customer service, Telesat is one of the largest and most successful global satellite operators. Telesat works collaboratively with its customers to deliver critical connectivity solutions that tackle the world's most complex communications challenges, providing powerful advantages that improve their operations and drive profitable growth.

Continuously innovating to meet the connectivity demands of the future, Telesat Lightspeed, the company's Low Earth Orbit (LEO) satellite network, will be the first and only LEO network optimized to meet the rigorous requirements of telecom, government, maritime, and aeronautical customers. Operating under its global priority Ka-band spectrum rights, Telesat Lightspeed will redefine global satellite connectivity with ubiquitous, affordable, high-capacity links with fibre-like speeds.

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From a state-of-the-art global, geostationary satellite fleet, to their Low Earth Orbit network, Telesat has a long history of building some of the most advanced communication systems in the world.

When the Telesat team embarked on a major new project to deliver its next-generation LEO satellite network, they knew it was time to look holistically at the portfolio of software and tools available to their engineering staff to ensure that they had what they needed to be successful.

Enabling connectivity across the planet is no easy undertaking. And the team views it as a lighthouse investment into the future of Telesat as a business.

> *Starting a program of this complexity and scale, really motivated us to think critically about how we manage our engineering practice and the tools that we use.*
>
> **Nicholas "Donnie" Laughton**
> **Director, Software Architecture and Engineering**

OBJECTIVES

With robust and experienced systems engineering practices already in place, it was crucial to the team that they use a deliberate and considered approach to selecting the right requirements management solution.

Their key objectives were to find a formal requirements management solution that:

1. **Would allow them to pivot from documents-based approach to data-driven requirements**

2. **Had robust capabilities and flexibility**

3. **Was easy to implement and use**

At the beginning of the project, the team was able to use a documents-based approach to requirements gathering. However, as the conceptual phase of the LEO project ended, and technical documentation started, the team knew they needed to pivot to a formal requirements management solution.

The importance of finding the right requirements management solution was not lost on the team, either.

While their requirements management solution needed to have robust capabilities and flexibility, it also needed to be a solution that was easy to implement, and easy to use.

“We knew we needed to find a solution that gave us enough flexibility to manage requirements oriented at both software and hardware, but also not so complex that it required a full-time system admin to manage the platform,” said Laughton.

> *Implementing the right tools and processes for our engineering team is critical to the future of our business. If we don’t manage our requirements well, it may impact our ability to meet our in-service target dates, which could negatively impact start of commercial service. The markets are demanding agility and these tools will help us be responsive to that demand.*

Nicholas “Donnie” Laughton
Director, Software Architecture and Engineering

EVALUATION

As a mature satellite operator with proven performance in spacecraft development and system operations, it's not surprising that the Telesat team had a very stringent evaluation process for implementing new technologies.

When Telesat embarks on selecting new engineering tools, they perform what's called a weighted trade study. A simplified version of this trade study follows the steps listed below:

1. Industry Survey

First the team establishes a list of options they are willing to consider. They compiled a list of all available options on the market – big and small.

2. Weighted Criteria

With their list of available solutions, they create an options package and map them to a set of criteria. The criteria are then weighted to establish a technical scoring matrix.

3. In-Depth Evaluation

The technical team then evaluates each tool on a more granular level. For most solutions, this means the team spends time interacting with the product using a sandbox approach.

4. Quantitative Analysis

Using the technical scoring matrix that was developed using the weighted criteria, the team is now able to assign technical scoring to each solution in order to develop a quantitative analysis of how each solution measures up.

5. Final Scoring

Each key decision maker generates a score independently, and the numbers are averaged together to produce the final score for each solution.

6. Techno Scoring and Approval

Once top-ranking solutions have been identified, they secure price quotes. The solutions that ranked the highest and fit within their budget targets are presented to the management team, along with the team's rationale and final recommendation.

SELECTION

While we don't have access to Telesat's in-depth, weighted criteria matrix, they shared that the following things stood out about the capabilities in Jama Connect:

1. End-to-end traceability

2. Integrations for connected engineering

3. Single source of truth for collaboration and communication

4. Cost effective

5. Easy-to-use platform that required little training

A Robust Platform with Full Flexibility

Jama Connect's robust platform allowed Telesat to smartly design a requirement schema that handled the scope and complexity of their development processes, which involves satellite engineering, software engineering, network engineering, systems engineering, and more.

In many platforms Telesat evaluated, they found that they were either suited for software development or hardware development, but most often, not both. Jama Connect, on the other hand, is well-suited for managing the complexity of interconnected software and hardware systems engineering.

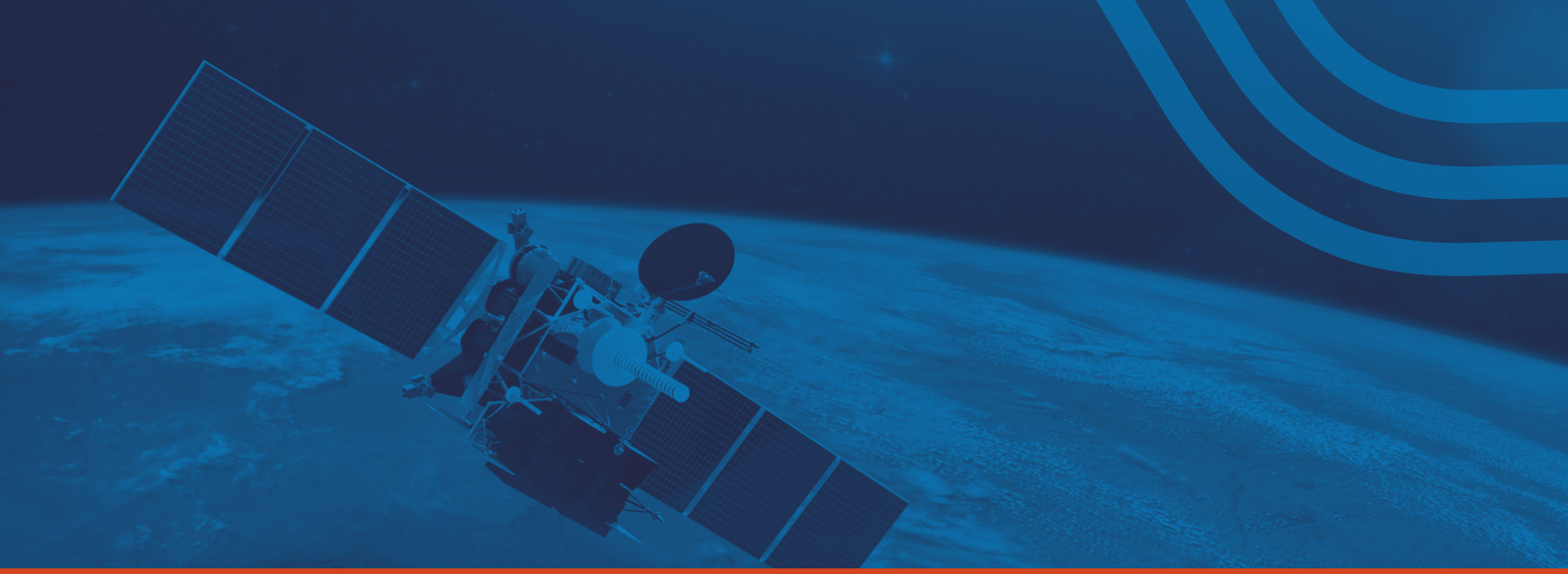
End-to-End Traceability

As Telesat moved out of the conceptual stage of development into the more advanced and challenging stages, they knew that traceability would be critical to the success of the project.

With Jama Connect, the Telesat team can maintain a formal change management process; perform impact analysis; and reveal interdependencies within the process — making it easier to bring in the right teams in at the right time.

> *Jama Connect is a robust solution for requirements management. It allows us to respond in a quicker, more agile and auditable way as the program scales.*

Nicholas "Donnie" Laughton
Director, Software Architecture and Engineering



Integrations for Connected Engineering

Jama Connect's open architecture allows for integrations with a range of premium, outside tools across the full ALM-PLM tool ecosystem. This was critical for Telesat, as their investment in their engineering stack was not limited to requirements management.

Jama Connect's full suite of integrations allows the Telesat team to choose best-in-breed solution across all engineering and development disciplines.

"Jama Software built their requirements management platform with an integration mindset. Many integrations exist for Jama Connect, allowing teams to choose the tools they want to work in," said Laughton.

A Single Source of Truth that Allows for Collaboration and Communication

> *"A document-centric approach often requires a gatekeeper and really limits collaboration – that creates a bottleneck. With Jama Connect, all our development teams can work together from anywhere with a shared collaboration hub."*
>
> **David Cubbage**
> Director, LEO Satellite Engineering and Production

With a single source of truth, Jama Connect offers Telesat secure, cross-functional collaboration across teams, customers, and complex supply chains to remove friction throughout the development process.

"By consolidating our view of requirements, we can better manage our growth as a company. We can ensure that existing and new employees can access to the materials they need, in a location they can trust," said Laughton.

Cost-Effective

As a mature company, the Telesat team knows that in order to maintain healthy growth they must always spend money cost-effectively, and avoid overinvesting upfront in tools and services.

"Jama Software presented a compelling licensing model that allows us to simultaneously manage our user growth and our expenditures. In addition, Jama Software empowers customers to right size the solution to their needs and makes it painless to scale it out as required," said Laughton.

An Easy-to-Use Platform with Minimal Training Required

While functionality was an important factor in Telesat's decision, so too was usability. The team knew they needed a platform that was modern, intuitive and easy to use.

> *"The learning curve for onboarding new technology is very important, especially considering our engineering team will grow significantly over the next few years. Jama Connect has a rich ecosystem of self-directed learning material that allowed our team to get up and running quickly without a lot of training. The user interface is intuitive, easy to understand, and modern."*
>
> **Nicholas "Donnie" Laughton**
> Director, Software Architecture and Engineering

LOOKING FORWARD

While Telesat is still new to Jama Connect, they are already looking for ways to leverage the platform to optimize their product development process, and are considering the verification and validation modules within Jama Connect for that purpose.

With more than 50 years of success in building advanced communications solutions, we know that the future is bright for Telesat, and we're looking forward to supporting them in their innovative endeavors.

As part of an overall investment in our engineering tools and processes, Jama Connect is one of the tools that will enable us to take all of the requirements of our enterprise customers and convert them into robust solutions that fosters their profitable growth.

David Cubbage
Director, LEO Satellite Engineering and Production

Jama Software®

Jama Software® is focused on maximizing innovation success in multidisciplinary engineering organizations. Numerous firsts for humanity in fields such as fuel cells, electrification, space, software-defined vehicles, surgical robotics, and more all rely on Jama Connect® requirements management software to minimize the risk of defects, rework, cost overruns, and recalls. Using Jama Connect, engineering organizations can now intelligently manage the development process by leveraging Live Traceability™ across best-of-breed tools to measurably improve outcomes. Our rapidly growing customer base spans the automotive, medical device, life sciences, semiconductor, aerospace & defense, industrial manufacturing, consumer electronics, financial services, and insurance industries. To learn more, visit us at: jamasoftware.com.