



CUSTOMER STORY

Accelerating the Future of Automotive With Rimac and Jama Connect®

The only thing faster than Rimac Automobili's rise is the high-performance, electric vehicles it builds.

Rimac Automobili

In 2009, at the age of 21, Mate Rimac founded the company in his garage while transforming an old BMW into an electric car. That project, known as the e-M3, helped kick-start the Croatian organization's success as the vehicle itself broke several world speed records in the process.

In addition to designing mind-bending electric cars — including the Concept_One and the C_Two — Rimac also supplies electric components, such as batteries and control units, to top-tier vehicle companies such as Aston Martin, Koenigsegg, and Automobili Pininfarina.

The company's ascension to the vanguard of international vehicle design and development has supercharged its growth. Rimac's staff has been consistently doubling in size year-over-year, and it currently counts around 550 employees with plans to add another 200 by the end of the year.

Given this breakneck acceleration, the company's momentum and expansion, combined with an increasingly complex development process, risked causing misalignment and compliance headaches. And that's exactly why Rimac chose Jama Connect™.



Versioned Documents and Homebrewed Headaches

Any company experiencing such a high degree of scale so quickly will inevitably encounter challenges. Back when Rimac was a small company, with a handful of engineers in a garage, it was fairly easy to keep team members in the loop.

“When Rimac employees could sit down at a table and discuss a project over lunch, everyone was up-to-date all the time, and that’s how features and requirements were devised,” says Marko Šustić, Product Manager at Rimac, who is specifically focused on the C_Two, an electric GT hypercar.

Along with casual development conversations, Rimac was also recording requirements in Microsoft Word and Excel documents. That process was working until Rimac expanded beyond 100 employees, and the need for a more structured approach to design and development became obvious.

At Rimac, every piece of an automobile’s design and component creation — including power-train systems, telemetry, and infotainment systems — is done in-house with small teams. Working with requirements in the relatively closed environments of Microsoft Word and Excel, Rimac’s teams began to operate in silos, not always realizing how their development decisions would impact others.

The requirements review process was a great example of an area where efficiency and collaboration could be improved. Rimac was seeing a small team, say two people, decide something together and move forward on it, but then not loop in others who may be impacted at the right time. And if outside teams were notified, it was through emails, which are always susceptible to getting lost in cluttered inboxes.

Rimac attempted to improve communication and standardize its process by storing requirements as numbered items in Microsoft OneNote. The new strategy had potential, but the issue was when requirements would inevitably change, that would alter the numbering, which, in turn, would make them impossible to reference in emails. For instance, someone in an email might call out a requirement numbered as “1535,” but due to requirements changes since the email was sent out, that requirement would be assigned a different numerical value.

It was at that point that the Rimac product team realized it needed another requirements management solution. In response, the team created a homemade requirements management tool, which seemed to work better than OneNote, but it had limited functionality when it came to proving compliance.

Ramping Up Compliance

As an automaker, Rimac must adhere to international homologation — a vehicle approval process in which companies receive a government-issued certificate demonstrating a product is ready to enter the market. The homologation process includes assessments, tests according to standards and directives, and runs up to the preparation of substantiated technical reports to forward to authorities in order to obtain the final approval.

When Rimac began work on the C_Two, its functional-safety experts began asking the team for documents related to homologation. Rimac was not used to producing such documentation covering so many aspects of the decision-making process during development.

Around this time, Šustić had a meeting with Rimac’s functional-safety experts.

“I basically asked them, ‘Don’t tell me the name of the company, don’t tell me the name of the product, just tell me how others are doing it,’” Šustić says. “In that meeting, they actually suggested Jama Connect.”



Changing the Process

Initially, Rimac contacted Jama Software for a workshop focusing on what the automaker needed from the solution, and how to get started with it. Rimac's team told Jama's Professional Services team about all the issues it had encountered with its previous methods for managing requirements, including using Microsoft Excel, Microsoft OneNote, and a homebrewed solution.

"When we were describing the problems we were having, the Jama team members were smiling with every new problem put on the table," Šustić says. "Because they knew Jama Connect would basically solve all of them."

As Rimac rolled out Jama Connect in 2018, the team quickly became believers. As the communication problems between teams improved, confusion around collaboration and requirements all but evaporated.

In an unexpected twist, Rimac has found that Jama Connect has helped its team write better requirements. For instance, the team used to write long paragraphs for requirements, with vague sentences that could be interpreted in multiple ways. By using Jama, Rimac has learned to break each requirement into different components with individual IDs, so information is more visible and can be referenced in greater detail.

JAMA CONNECT RESULTS:

- Clarity and alignment among development teams
- Stronger requirements management
- Greater visibility into development process and change management

For instance, beforehand, the Rimac team would write out a big paragraph for a requirement, describing the functionality of lights. That information would then be handed over to the team lead for lights, who would take a while to describe what the problem was with the requirement because it was so muddled in the paragraph's language. Now when such an exchange occurs, because every detail and requirement is broken out and separate thanks to Jama Connect, it's easier to identify exactly what the issues are, and communicate feedback to the appropriate parties accordingly.

Another area where Jama Connect continues to impress Rimac is with its traceability, which lets teams map out requirements interdependencies at each phase of development, ensure all compliance regulations are continually met, and conform changes accordingly.

“

The traceability is the wow factor. It's awesome, because I can open up a comment that our CEO made, that I then recreated as a requirement, and from there, I can trace it all the way down to, say, a specific lightbulb.”

Marko Šustić, Product Manager, Rimac

Other features, such as Review Center, are also helping Rimac improve its efficiency and ensure everyone is updated on the status of projects.



Embedding Compliance Into the Development Process

Now, when it comes time to prove functional safety, it's a much more simplified process. By embedding compliance directly into the development process, Jama Connect takes care of most of the heavy lifting and avoids sending teams scrambling to satisfy audits after the fact.

Beforehand, Rimac's functional-safety experts were coming to Šustić and his teams for compliance documentation, and it was a major hassle.

“

Now, when I have to deal with our functional-safety partners, I just give them the log in credentials to Jama Connect. They can log in and type their verification and validation plans in the project. Since they're already familiar with the software, everything works great and it's much more streamlined.”

Marko Šustić, Product Manager, Rimac

JAMA CONNECT RESULTS:

- Simplified compliance process
- Seamless external partner collaboration
- Improved confidence in compliance

Since Rimac also works with a variety of original equipment manufacturers (OEMs), it was experiencing miscommunication issues when sending out requirements written in Word documents.

These days, when Rimac is collaborating with a partner, they hold on-site workshops and edit the requirements in Jama. And when the two teams aren't in the same room, it's easy to export the requirements and quickly send them to a partner with full confidence in their accuracy.

“Now, when I export everything from Jama for an OEM, it's prepared,” Šustić says.

“The unique IDs for each requirement are there. It's just not a problem.”

The Road Ahead

Looking further into the horizon, Rimac will continue to expand its use of Jama across the company. Rimac is especially interested in the reuse capabilities of the C_Two that Jama Connect could facilitate for future iterations of the vehicle.

Today, Rimac develops and manufactures key electrification systems for many global automotive companies. The next challenge ahead is to grow from a low-volume manufacturer of complex high-end electrification components, to an established, high-volume Tier-1 supplier for the industry.

Rimac is also looking to begin developing more autonomous driving features, which are already in use for the C_Two.

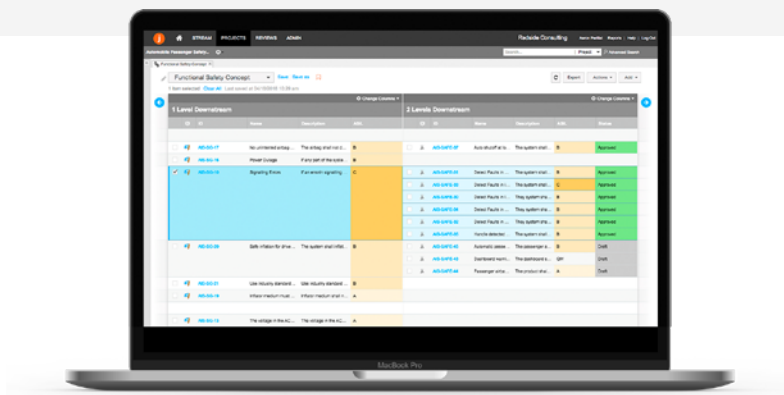
Whether it's questions of meeting increased volume, conquering mounting complexity, or easing the path to compliance, Jama Connect will continue helping Rimac operate as a single, efficient development unit as it rethinks the possibilities of ground transportation on this planet.

“

Before we used Jama and I rounded up people and collected everything in one place, it felt like everybody was pulling in their own direction, basically holding us in place. After we managed to collect everything in Jama, it felt like everyone is suddenly pulling in the same direction.”

Marko Šustić, Product Manager, Rimac

Learn more about how Jama Connect can help improve your automotive development.



ABOUT 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.