CUSTOMER STORY

See How Innovator Arteris IP is Leveraging Jama Connect® for Autonomous Vehicle Development

Jama Software® helps this leading semiconductor intellectual property (IP) company efficiently manage the development of Network-on-Chip (NoC) interconnect IP for system-on-chip (SoC) assembly in autonomous vehicle development.

- 100+ employees
- Founded in 2003
- Specialty: Enabling the world's largest and best SoC design teams with faster, more efficient on-chip communications

Arteris IP is a Network-on-Chip semiconductor IP company based in the United States. They have over 100 employees and are spread across six locations worldwide, including California, Texas, France, China, Korea and Japan.

ARTERIS CUSTOMER STORY OVERVIEW

Jama Connect Helps Industry Innovator Arteris IP Develop Connected Semiconductor IP for Autonomous Vehicle Development

Developing autonomous vehicles requires an incredible number of moving pieces to communicate with one another. From sensors, to computers, to the automatic braking system, vehicles today require a complex system that leaves no room for error in communication.

In this customer story, we'll discuss how Jama Software helped Arteris IP manage the complexity of developing highly sophisticated semiconductor IP by simplifying their requirements management and review processes and improving communication and visibility across distributed teams.

CHALLENGES

- Adapting to increasing complexities in semiconductor development
- Collaborating across distributed teams
- Managing documents and tracking disparities lacking in traceability
- Proving compliance and providing an audit trail
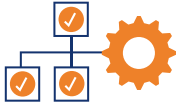
SOLUTIONS

- Jama Connect enables structured collaboration and seamless information access for globally dispersed, remote teams
- Jama Connect is now Arteris IP's single source of truth
- Jama Connect eases the path to regulatory compliance

RESULTS

- Improved communication and clarification of expectations, resulting in a 30% reduction in review cycles
- Decreased misunderstanding, miscommunication, and ambiguity, leading to a 50% reduction in rework
- Structured collaboration using a single source of information is creating new efficiencies across remote teams worldwide
- Significant reduction in time and effort required for audit preparation

Managing Complexities Across Remote Semiconductor IP Development

In a world of increasing automotive complexity and connectivity, developing the world's most innovative semiconductor IP comes with a set of challenges. Arteris IP turned to Jama Software to help address these critical business challenges:

1 Adapting to increasing complexities in semiconductor development

2 Collaborating across distributed teams

3 Managing document and tracking disparities lacking in traceability

4 Proving compliance and providing an audit trail

1. Adapting to Increasing Complexities in Semiconductor Development

As semiconductors get larger with more processing power and more functionality, they also become more complex and more connected. In addition to the standard complexity of semiconductor IP, Arteris IP was the first to add state-of-the-art functional safety mechanisms directly into the on-chip interconnect semiconductor IP, compounding their product development complexity.

In conjunction with their response to increasing complexity in semiconductor development, Arteris IP was also expanding their product lines from one to four, and therefore greatly increasing the number of requirements they'd need to manage.

> *I find it really interesting that as the automotive industry becomes more complex, it's becoming much riskier to base a product development process on **static requirements** trapped in documents. You need a **living requirements thread** through the end-to-end process to minimize the risk of negative outcomes and maximize productivity. Jama Connect is our single source of truth. If it's not in Jama Connect, it's not happening. If it's not in Jama Connect, it didn't happen. When I tell people in the automotive industry we use Jama Software, they all know what it is. If you're using anything other than Jama Software in the automotive industry, you're going to get more questions.*

Kurt Shuler
Vice President of Marketing
Arteris IP

2. Collaborating Across Distributed Teams

With teams spread across the United States, Europe, and Asia, having clear communication and collaboration is crucial to Arteris IP's success. The team found that sending documents and spreadsheets over email made it nearly impossible to maintain version control, and spending hours in a room reviewing requirements was not only ineffective, it was inefficient.

And while developing semiconductor IP was never an easy task, the global COVID-19 pandemic of 2020 added new challenges to Arteris IP as engineering teams shifted to be fully remote.

The challenge of engineering teams working remotely across multiple time zones made communication and collaboration even more vital, emphasizing the need for a solution that enabled everybody to collaborate seamlessly on a project virtually, regardless of physical location.

3. Managing Document and Tracking Disparities Lacking in Traceability

With just Word Documents, email, and Excel spreadsheets, the Arteris IP team found themselves struggling to keep track of things due to the lack of traceability and a central source of information.

Macro-level traceability is key to the Arteris IP development process, and their current system did not provide end-to-end traceability — all the way from requirements to verification and validation. Atlassian Jira also played an important role in their development process, and the team needed a way to seamlessly link requirements to Jira and keep those in sync as things shifted.

As an innovative leader in the automotive industry, other organizations were looking to Arteris IP for guidance on development processes, quality management, and adherence to ISO 26262. They knew there must be a better way than spreadsheets and documents.

4. Proving Compliance and Providing an Audit Trail

With many of the most important Arteris IP clients being in the automotive industry, and some also in aerospace and industrial machinery, meeting regulatory standards is a critical challenge for the organization. ISO 26262 is the most important functional safety standard for Arteris IP, and proving compliance is critical. And as previously mentioned, their current solution did not provide the level of traceability necessary to prove compliance with ISO 26262.

The team needed a solution that both enables traceability and helps demonstrate that functional safety standards and industry regulations like ISO 26262 have been met during the development process.

SOLUTION

After considering all market options, including IBM® DOORS® Next Generation, Arteris IP selected Jama Connect as their requirements, risk, and test management solution. The decision, Kurt Shuler, VP of Marketing, said, ultimately came down to the semiconductor and automotive industry's trust in Jama Software as an industry-leading solution. He explained that after speaking with many of his semiconductor company and automotive Tier-1 customers, the majority of whom were replacing their outdated, legacy systems and adopting Jama Connect, he knew this was the right path for Arteris IP.

After implementing Jama Connect, Arteris IP has been able to improve remote collaboration and communication, provide real-time cross-team visibility and engagement, and more easily prove compliance with regulatory and functional safety standards. Jama Connect is helping Arteris IP make an impact in these significant areas:

1 Jama Connect enables structured collaboration and seamless information access for globally dispersed, remote teams

2 Jama Connect is now Arteris IP's single source of truth

3 Jama Connect eases the path to regulatory compliance

1. Structured Collaboration and Seamless Information Access for Globally Dispersed, Remote Teams

Jama Connect has helped Arteris IP improve collaboration and communication by delivering a structured collaboration platform that allows stakeholders to access information seamlessly and remotely. The Jama Connect platform helped reduce miscommunication and erase ambiguities in the development process, ultimately speeding up development, shortening review cycles, and greatly reducing rework.

The integration between Jama Connect and Jira also provide a way to ensure requirements, test plans, and test cases are clearly defined, signed-off, tracked, and integrated with Jira throughout the development process.

> *The review process is a lot quicker than it was before, it's very efficient in Jama Connect. If we compare it to reviewing the spreadsheets and Word documents versus doing a review in Jama Connect Review Center, it's about an 80% reduction in time, for sure.*

> *Jama Connect gives our team extreme visibility into everything. It speeds up our product development process because people can just jump in and review things because everyone's looking at the same thing. It democratizes the requirements elicitation, documentation, and decision-making process because anyone can get on and use it. It's an easy-to-use interface and all the information is right there.*

Kurt Shuler
Vice President of Marketing
Arteris IP

2. Single Source of Truth

For Arteris IP, a single source of truth is critical to their success due to multiple product offerings and engineers who are working on different parts of each product simultaneously. Before Jama Connect, things got very confusing over email and documents.

With Jama Connect, the Arteris IP team has been able to consolidate all reviews, revisions, and issues into one place, making it easy for everyone to immediately see when problems arise and address them quickly. This capability has decreased misunderstandings, rework, and ambiguity and provided critical end-to-end visibility between remote teams and across their product offerings.

3. A Simplified Path to Regulatory Compliance

Jama Connect is the first SaaS and Agile vendor to be ISO 26262 fit-for-purpose certified by TÜV SÜD. In fact, Jama Connect supports ISO 26262 compliance standards right out-of-the-box, allowing their automotive group to complete functionally safety analysis more efficiently.

Arteris IP estimates that with Jama Connect, they've **reduced the time it takes to prepare for an audit by 75%**. They specifically attribute this increased efficiency to Jama Software's Professional Services Team's knowledge and expertise, helping their team support adherence to functional safety standards and regulations.

As Arteris IP increases its product offerings from one to four, reuse is key, especially when it comes to functional safety requirements. The Arteris IP team has a set of safety goals, assumptions of use, technical safety requirements, and hardware safety requirements that are similar throughout the four different product lines. Jama Connect gives the team an easy way to reuse these requirements without losing traceability.

> *Jama Connect is our single source of truth. If it's not in Jama Connect, it's not happening. If it's not in Jama Connect, it didn't happen. That's how it works.*

> *Having Jama Software's Professional Services was critical for helping us set up Jama Connect in a way that made most sense for the automotive industry. They helped us get up and running quickly, but they also knew which knobs and levers of Jama Connect to pull to customize it perfectly for our team. They helped us build processes around Jama Connect that are specific to our industry vertical and they continue to help us as industry and customer best practices change.*

> *Jama Connect gives us 100% reuse. For each of our different product releases we're able to reuse the functional safety requirements and customize them slightly. It makes my life and our functional safety manager's life a whole lot easier.*

Kurt Shuler
Vice President of Marketing
Arteris IP

Improved Collaboration, Reductions in Rework and Ambiguity, and a Simplified Path to Regulatory Compliance

The results of Jama Software's partnership with Arteris IP can not only be seen in their process improvements and reduction in development headaches – they are also tangible and measurable.

The Arteris IP team estimates that the improved communication and clarification of expectations resulted in a **30% reduction in time it took to get through review cycles**. They noted that the digital reviews happening in Jama Connect Review Center were more efficient than reviews that took place in-person, before the pandemic forced all work to be remote.

Thanks to Jama Connect, the team also noted a significant decrease in misunderstandings, miscommunications, and ambiguity in the development process. They estimated that this improvement in communication could be attributed to a **50% reduction in rework**.

And knowing that adherence to ISO 26262 is critical to the success of Arteris IP's business, the team noted that after implementing Jama Connect, they experienced a significant reduction in time and effort required for audit preparation. One team member described audit preparation as just "a push of a button."

> *We have achieved a significant ROI with Jama Connect in risk reduction and productivity gains: reuse is up 100%, rework is down 50%, requirements review cycle time is cut by 30% and audit preparation time is down 75%.*

Kurt Shuler
Vice President of Marketing
Arteris IP

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.