



## CUSTOMER STORY

# Revolutionary Orthopedics Surgical Robotics Company, Monogram Orthopedics, Selects Jama Connect® For Its Unique Cloud-Based Services and Ease of Use

Monogram Orthopedics switches from Polarion® ALM to Jama Connect for faster time-to-market and an overall streamlined product development process.

- **Headquarters:** Austin, Texas
- **Expertise:** Monogram Orthopedics' surgical robots are the first of their kind. By creating a precise digital map of the patient, surgeons are able to make minimal incisions, creating better surgeon and patient experiences.
- **Awards:** Recipients of National Science Foundation (NSF) SBIR Phase 1 Award for development of a tracking system for computer-assisted surgery.

Monogram Orthopedics offers high-precision, just-in-time patient-matched implants that are press-fit into high-precision cavities prepared by a robotic system. By linking 3D printing and robotics via automated digital image analysis algorithms (machine learning), they are delivering a scalable solution for patient-specific load-bearing joint replacements.



### CHALLENGES

- Overly complex configuration and administration
- Lack of support and resources needed to successfully implement
- Reviews were difficult and confusing, so people resisted using the tool

### WHY JAMA CONNECT® WAS SELECTED

- Intuitive, easy-to-navigate platform
- Cloud-based requirements management software
- Robust onboarding and in-depth customer support
- Prior experience with Jama Connect

### OUTCOMES

- Review cycles are streamlined and more comprehensive
- Efficient import and export capabilities allows team to continue working in their chosen best-of-breed tools
- Time to value was almost immediate

### Overly complex configuration and administration

Monogram's team manages vast and complex requirements to bring their precise and regulated product to market quickly yet efficiently. While the team originally chose other software including Polarion ALM, these platforms' configurations and administrations were overly complex and created frustrations and inefficiencies in their overall product development and management processes.

The design of the document-based system was causing significant challenges for its users. When attempting to make changes or edits to documents, users often found themselves struggling with the ineffective way that platform was designed to handle these tasks.

"In our previous solution, I would sometimes click and think 'why was this designed this way?' And because I couldn't figure it out, it was challenging to move forward because we couldn't get the concept of what they had done," said Muhammad Afnan, Director of Software Engineering at Monogram.

While their former platform had some powerful capabilities, the team found that the two-layered administration system made it difficult to navigate, especially for team members with different experience levels. Depending on the viewing mode, the user had different options and settings, which often led to confusion. Adding requirements, linking them upstream and downstream, and defining their types was time-consuming.

"I felt like our previous solution was like a C++ language where you have all these tools, but you must write the code. And that was a very time-consuming process because now you have to build the structure, get customer input requirements, define the fields, etc.," said Muhammad.

### Lack of support and resources needed to successfully implement

Their solution required an additional implementation cost for the team to build the infrastructure. Since Monogram is a startup, the team didn't have resources for this solution. Therefore, the initial implementation of the software was a challenging and time-consuming process.

Despite receiving training when onboarding their former ALM solution, the learning curve was significant, and the team had to figure out the software's intricacies by themselves after the training ended.

"Because the tool was complex to configure, it takes a huge learning curve to go through this process. Even though you get the training, you still are not up to par. The moment the training is over, we were on our own to figure it out," said Muhammad.



“For example, I had to struggle to get the Monogram logo on a document. It took a month to get this done. This led us to think, ‘what would happen in another instance when we really needed help?’” said Daniel Grunden, Systems Engineer Manager at Monogram.

Not only was the team struggling with their lack of outside assistance, but they were also strained for internal resources for a successful implementation. Without a dedicated admin, they felt the tool could not be successful.

“Having a tool setup without an admin who spends their entire time working on just getting our previous solution implemented was really difficult for us,” said Daniel.

Additionally, their solution required the team to build the infrastructure from scratch, which was a challenging and time-consuming process.

“Requirements management and traceability tools are essential to our product development cycle. If these tools are not functioning properly, we’re losing time and we’re delaying our time to market. These were factors that really made us stop and think, ‘we need to find an alternative solution.’ We’re in the business of developing medical robotics, not in the business of developing software to write requirements. We need to have a good set of tools to enable us to move fast,” said Muhammad.

### **Reviews were difficult and confusing, so people resisted using the tool**

Furthermore, the frustrations with the useability of the platform, especially around reviews, led team members to struggle with understanding changes or even resist working within the tool itself. Because of this, they found that their review cycles were convoluted, and they were experiencing version control issues and confusion.

“In our other solution, the review process was difficult and confusing. It was hard to determine when the review was made and updated. It was unclear who made what comment at what time. There was no chronological record,” said Muhammad.

“It was so easy to accidentally delete a requirement if you’re working in a Word version of the document, so you had to be really careful. When you went into a table-driven version, you would see some columns and wouldn’t see others. My view would be completely different than my coworker’s view because his configuration is different. Not everyone was looking at the same thing,” said Muhammad.

“This was creating a cascade of issues because then the documents are not being released, the review process is failing and delayed, etc. We had comments from coworkers and employees saying ‘why do you have this application running? And we can’t do this and this,’” he continued.

Traceability was also a sticking point when it came to their previous solution.

“Traceability was difficult to interact with in the tool, customization and speed were an issue,” said Daniel.

It quickly became clear that the tool they were using had limitations that would prohibit them from scaling to achieve their projected growth. What they needed was a more efficient requirements management tool that would enable them to move faster and more effectively while also supporting the trajectory of their company.

### Intuitive, easy-to-navigate platform

Throughout the evaluation process, it was important for the Monogram team to find a platform that was easy to use, allowing all team members to easily get started without spending significant time learning a complex platform.

Muhammad had previous positive experience using Jama Connect, so, when his team's frustrations with their former solution led to the search for a new tool, he suggested Jama Connect.

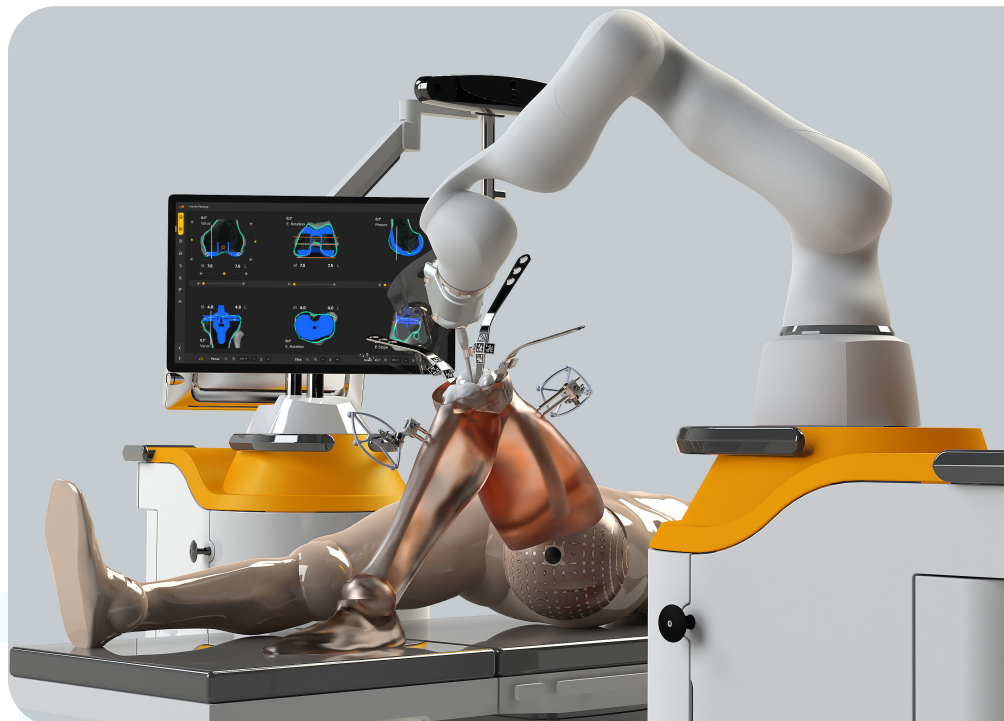
While researching further, Monogram learned that many other industry-leading medical device companies were also using Jama Connect. The confidence in this knowledge, plus Muhammad's extensive experience in the tool and their determination to jump into a pre-built solution led them to try Jama Connect with their team.

"Jama Connect is very intuitive to use. This was really the decision-making factor when it came time to choose a requirements management platform. Outside of team members asking how to log in, they haven't come back with any questions about how to use the platform," said Muhammad.

"For our software development team, the group who does test protocols and writes the requirements and so on, they find Jama Connect to be very intuitive. Once we created the templates, I taught the team the process flow, and things have flown very easily," said Muhammad.

"Jama Connect is very intuitive to use. This was really the decision-making factor when it came time to choose a requirements management platform. Outside of team members asking how to log in, they haven't come back with any questions about how to use the platform."

**MUHAMMAD AFNAN**  
DIRECTOR OF SOFTWARE  
ENGINEERING, MONOGRAM



## Cloud-based requirements management software

While the team had on-premises servers with their previous solution, they knew that a cloud-based solution would better suit their needs. They were surprised to find out that **Jama Connect offered a unique, multi-tenant, cloud-based solution** that would free them from running their own servers and spending time getting set up.

“Jama Connect is cloud-based and Polarion was not for our scenario. So, with Jama Connect, we could get started immediately following best practices with their medical device template and not waste time setting up servers,” said Muhammad.

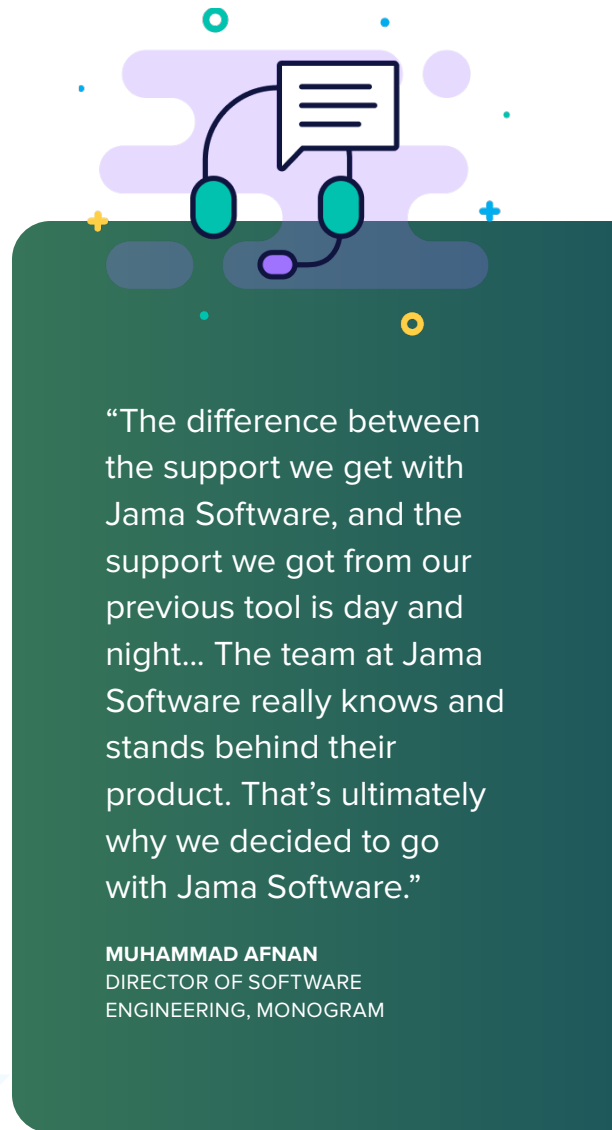
“Having cloud-based software that is straightforward, easy to set up, and works with Jira is what we knew we needed, and Jama Connect fulfilled that need,” said Daniel.

Moving their team to cloud-based software would ensure everyone would be working on the same version of the tool and eliminate the need for maintenance and upgrading by a system administrator.

## Robust onboarding and in-depth customer support

Because the team struggled with receiving support from their previous solution, they knew that their new requirements management solution needed to come with a team that would support them along the way, not just while they're onboarding.

“The difference between the support we get with Jama Software, and the support we got from our previous tool is day and night. Jama Software's support is excellent – especially Romer. He knows the system really well, so when you ask a question, within 24 hours, you get your response,” said Muhammad. “The team at Jama Software really knows and stands behind their product. That's ultimately why we decided to go with Jama Software,” he continued.



“The difference between the support we get with Jama Software, and the support we got from our previous tool is day and night... The team at Jama Software really knows and stands behind their product. That's ultimately why we decided to go with Jama Software.”

**MUHAMMAD AFNAN**  
DIRECTOR OF SOFTWARE  
ENGINEERING, MONOGRAM

### Review cycles are streamlined and more comprehensive

With Jama Connect, Monogram's new review cycle processes allow them to quickly and easily review and approve requirements. Now they have a comprehensive compliance documentation tool that they can share with their compliance partners, ensuring that all requirements are being met.

The team has also simplified their review process by having a single place for reviewers, approvers, and moderators to collect and manage all requirements and feedback for a project – in real-time.

“Jama Connect is our source of truth. When you look at the features that are within Jama Connect, you can see all the work that has happened. You captured the users' input and turned that into a reality. It shows the requirements, the reviewers, and the approvers. So, when we go to submit our documents to quality management, we can just say ‘here, all of our requirements are approved,’” said Muhammad.

While the Monogram team ran into roadblocks in their review cycles with the other software because they were constantly hitting their user license limits, they can now loop in all necessary stakeholders with Jama Connect thanks to a flexible license structure.

Additionally, they have saved a significant amount of time by using Jama Connect's powerful filtering capabilities and creating review-based reports based on the results.

“I use filtering in Jama Connect to generate reviews, which saves a lot of time. The workflow is really important to me because I can decide who goes from review to approved, who can take it out of approved. So, that's a big plus. It really gives you control over the admin side of this stuff. It's so smooth that I don't get involved. I assign the roles and say, 'Go review it.' And if there is an issue, I jump in, otherwise I stay out of it,” said Muhammad.

### Efficient import and export capabilities allows team to continue working in their chosen best-of-breed tools

With Jama Connect, teams are empowered with a single source of truth, so they can access the information needed to stay aligned and make informed decisions — and view open decisions, issues, and questions (in real-time) that require a timely response and stakeholder alignment. Plus, thanks to Jama Software's proprietary **Live Traceability™** model, teams can manage the V-model and continue working in their chosen solutions using native integrations.

Having the flexibility to use Jama Connect with Monogram's choice of best-of-breed tools has enabled the team to fly through their requirements management processes with its importing and exporting capabilities.





“Over the course of seven months, we had just step one of five completed with our previous solution implementation and within a month, we were up and running with Jama Connect. What took us seven months in our previous requirements management tool we redid in Jama Connect in one month.”

**MUHAMMAD AFNAN**  
DIRECTOR OF SOFTWARE ENGINEERING, MONOGRAM

The Monogram team uses Jama Connect to seamlessly import and export data while also keeping their project structure organized.

“Another nice part about Jama Connect is the importing process where you can create the folders based on the color selections and it automatically brings it in. So, if somebody is Excel driven, then this is very easy to use. That was another big plus. That’s a time-saver, because when we are switching from one product line to the other line, people say, ‘Okay, hold on, do I need to re-enter all this?’ With Jama Connect, no, you don’t need to re-enter anything. Dump it into Excel, import it, and you are done,” said Muhammad.

## Time to value was almost immediate

In contrast with their previous solution, Monogram development processes are significantly faster than before. From user input down to requirement approval, the Monogram team is saving a great deal of time thanks to streamlined processes. And these faster development cycles directly translate into quicker time to market.

“The number of users, the number of success stories, and the number of happy outcomes with Jama Connect was one of the ways we measured our success with moving from our previous solution to Jama Connect.”

Not only were the employees pleased with the tool – the results speak for themselves. The team boasts a 7x increase in the requirements management phase of development.

“Over the course of seven months, we had just step one of five completed with our previous solution implementation and within a month, we were up and running with Jama Connect. What took us seven months in our previous requirements management tool we redid in Jama Connect in one month.”

As far as what advice the Monogram would give with teams who might be struggling in the same way that they were, their answer is clear.

“If time to market is essential for your business, you need a tool like this. Go with Jama Connect. From an end-user perspective and an admin perspective, there’s such a low barrier to entry as far as learning and getting up and running. The solution satisfies all our needs. It doesn’t matter the size of your company or what you’re developing, go with Jama Connect,” said Muhammad.





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](https://jamasoftware.com).