

How Navozyme Built an AI-Optimized, Automation-First QA Function with Xray



"Before, I could spend one to two hours creating test cases for a single user story. Now it takes me 20–30 minutes. I don't need to create everything manually anymore. I just review and refine. It saves me a lot of time."

- Scaled QA coverage to 2,000 test cases within a centralized repository.
- Reduced test case creation time from 1–2 hours to 20–30 minutes per user story.
- QA function reduced from a multi-person setup to a single QA specialist role.
- Enabled fully automated regression testing integrated into CI/CD pipelines.
- Shifted QA from manual validation to a pipeline-integrated quality function.
- Reduced repetitive manual testing effort through AI-assisted Test Case Generation.

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"Xray was the first choice for us. It lives right inside Jira and GitLab, so QA became part of how the whole team works – not a separate step."



Navozyme is a deeptech maritime company accelerating the digital transformation and decarbonization of global shipping. Its software platforms combine advanced algorithms, data intelligence, and secure digital infrastructure to digitize and optimize critical port and vessel operations, including regulated waste management, port-to-ship data exchange, and bunkering operational process coordination.

Because Navozyme's systems are used in real-world maritime operations, **software quality is directly tied to operational reliability and customer trust**. Stability, accuracy, and predictability are essential; failures are not just technical issues but business-critical risks.

As Navozyme's product portfolio expanded and release cycles became more frequent, the company needed a QA approach that could scale without slowing development, while maintaining high confidence in every release.

After Xray was implemented, the QA function itself became leaner. What began as a two-person QA effort evolved into a single-specialist function, requiring tools and processes that could sustain delivery speed and coverage without increasing headcount.

The Challenge

Before adopting Xray, Navozyme's QA processes were largely manual and fragmented. Testing was managed through spreadsheets and disconnected tables, with no centralized test repository and limited automation support.

This approach quickly became a bottleneck. As the number of features and products increased, maintaining test cases manually became time-consuming and error-prone. Visibility into test coverage and execution status was limited, especially for developers and product stakeholders who relied on QA updates to make release decisions.

"Honestly, before Xray, the processes lacked structure and efficiency. We were using different tables, and we didn't really have an automated QA process."

Anastasia Sobol, Quality Assurance Specialist at Navozyme

Key challenges included:

- Manual test creation and maintenance
- Managing approximately 2,000 test cases without a centralized repository
- No unified test plans or structured regression strategy

- Limited visibility outside the QA function
- No seamless integration with CI/CD pipelines
- Difficulty scaling QA with a very small team

Navozyme needed a test management solution that could **centralize testing, integrate with Jira, and support end-to-end automation**, enabling QA to keep pace with product development.

The Solution

Navozyme evaluated several test management tools, including Jira-integrated alternatives. The deciding factor went beyond feature comparison: Navozyme's engineering strategy envisioned QA as a central part of the development ecosystem — living inside the same tools the team already used, Jira and GitLab CI/CD, rather than introducing any additional external platforms.

Xray stood out as the only solution that offered:

- Native Jira integration, embedding QA directly within the development workflow instead of requiring a separate external tool
- Strong API support, enabling full automation through CI/CD pipelines
- Clear, accessible documentation that allowed fast self-onboarding

"I compared different tools in a big table, and Xray was the first choice for me, mainly because of the API capabilities. We could automate the whole QA process."

Anastasia Sobol, Quality Assurance Specialist at Navozyme

This meant the entire quality function, from test planning to execution to reporting could remain contained in their existing tools and automated.

Using [Xray's documentation](#), Navozyme quickly implemented automated test execution through GitLab pipelines. Tests could be triggered in specific environments, executed as part of regression cycles, and reported back into Jira, all without manual intervention.

Today, the automation stack is based on TypeScript and Playwright, integrated with Xray via CI/CD pipelines. Anastasia is also experimenting with Cursor to accelerate the creation of automated test scripts, further increasing efficiency.

This allowed QA to become **fully integrated into the delivery pipeline**, rather than a separate, manual step at the end of development.

A Structured and Scalable QA Process

With Xray embedded in Jira, Navozyme established a structured QA workflow that supports both automation and collaboration.

Test plans are prepared before each sprint begins, ensuring clarity around scope and coverage. Once development is complete, testing is executed against the defined test plan. If time allows, automated tests are written immediately for new functionality, reinforcing an automation-first mindset.

Related components and dependent features can be validated at any time directly from the Xray test plan, providing flexibility and fast feedback when needed.

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Testing activities are now planned, executed, and reported within Jira, making test status and coverage visible to the entire team. Developers can review test cases linked to user stories, product managers can validate release readiness, and QA maintains full control over execution and reporting.

Key operational improvements include:

- Automated regression testing is executed before every release, reducing bugs in production
- Centralized test repository and reusable test plans
- Improved collaboration between QA, development, and product teams
- Reduced dependency on QA for basic test visibility
- Higher confidence in release readiness

Regression testing is performed before each release using a combination of automated tests and manual tests managed within Xray test plans. The current focus is on expanding automation coverage, particularly for regression scenarios, to further strengthen release confidence.

“Not only me, but also product managers or developers can run tests. They can go to the repository, select a test plan, click a few buttons, and get the results.”

Anastasia Sobol, Quality Assurance Specialist at Navozyme

This shift moved QA from a siloed function to an integrated part of the product development process. By keeping test management where the team already works, collaboration between QA, engineering, and product became seamless rather than coordinated.

Leveraging AI Test Case Generation

Navozyme also adopted [Xray's AI Test Case Generation](#), powered by [Sembi IQ](#), to reduce the manual effort required to write test cases.

Instead of creating tests from scratch, QA now reviews and refines AI-generated test cases based on user story descriptions and acceptance criteria. This approach preserves full human oversight while significantly accelerating test preparation.

“Before, I could spend one to two hours creating test cases for a single user story. Now it takes me 20–30 minutes. I don't need to create everything manually anymore. I just review and refine. It saves me a lot of time.”

Anastasia Sobol, Quality Assurance Specialist at Navozyme

The impact has been measurable:

- Test creation time reduced from 1–2 hours to 20–30 minutes per user story
- Less repetitive manual work
- Faster sprint readiness

- More time allocated to test design and quality strategy

Xray's AI Test Case Generation for test case creation has been particularly valuable in maintaining efficiency within a one-person QA function, allowing the same workload that previously required three people to now be handled by one specialist in roughly the same timeframe.

"Right now I'm the only QA in the company, and thanks to Xray's AI features I can do the work that previously required three team members."

Anastasia Sobol, Quality Assurance Specialist at Navozyme

The Results

Since adopting Xray, Navozyme has transformed its QA capability into a scalable, automation-first function:

- Fully automated regression testing integrated into CI/CD
- QA processes are scalable with a very small team
- Significant reduction in manual test creation effort
- Faster, more reliable release cycles across multiple products
- Improved visibility and collaboration across teams



Thanks to Xray, work that previously required two QA specialists can now be performed by one person in approximately the same amount of time. The streamlined launch of automated tests, efficient retrieval of results, structured test repository, and AI-assisted test creation collectively enable sustainable scalability without increasing headcount.

Today, Xray is central to Navozyme's quality strategy — embedded within the same tools the team uses to build and ship software, rather a separate process. By combining Jira-native test management, deep automation support, and **AI-assisted test creation**, Navozyme has built a sustainable QA foundation that meets current needs and supports future growth.

This approach allows Navozyme to deliver reliable, high-quality software in a demanding, mission-critical industry, with confidence at every release.

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