

Transforming user experience with gen AI



From complexity to clarity

Nelen & Schuurmans, a consulting and IT service provider specializing in water management, is dedicated to providing innovative solutions to its clients. With a strong focus on research and development, the company aims to stay ahead of the curve in its industry through a commitment to delivering high-quality products and services that meet the evolving needs of its clients.

With this goal in mind, Nelen & Schuurmans sought to develop its latest software solution, [Rana Water Intelligence](#). It is designed to make data-driven water analysis more accessible for non-technical users and simplify complex tools like hydrodynamic simulation software for new and less experienced users.

Water management processes are inherently complex, leading specialists to rely on a variety of tools and software for generations. However, these tools often mirror that complexity, resulting in steep learning curves. Users have no choice but to depend on senior colleagues or extensive prior experience to navigate data-driven water analysis effectively, rather than relying on technical documentation or other knowledge bases.

This gap has resulted in difficulties when scaling knowledge and skills across a client's organization. That's why Nelen & Schuurmans decided to utilize the [IBM® watsonx®](#) portfolio of AI products to develop a generative AI (gen AI) assistant. The intention was to bring the Rana user experience (UX) closer in line with how users develop skills in real-world practice.

265%

Capacity to host free-user interactions exceeded expectations by 265%
2,132%

The inference cost of paid code-generation prompt packs delivered an ROI of approximately 2,132%

Modernizing water management with IBM

Nelen & Schuurmans partnered with [IBM Ecosystem Engineering](#) to develop a pilot gen AI assistant to improve the accessibility and user-friendliness of Rana. The solution uses both [IBM watsonx.ai®](#) and [IBM watsonx.data®](#) to transform and index documentation, provide semantic search capabilities and generate API call code snippets for users. The assistant also allows users to interact with the system and receive helpful guidance and feedback on how to use the software both via the user interface and programmatically through generated code snippets.

The implementation process involved collaboration between Nelen & Schuurmans and IBM, with the pilot being scoped around a retrieval-augmented generation (RAG) solution architecture, using a semantic chunking methodology to refine Rana documentation for use with large language models (LLMs).

The pilot demonstrated the potential of gen AI technologies in improving the UX and driving business value for Nelen & Schuurmans, while also further developing its internal expertise in the gen AI domain.

Boosting UX at scale with an AI-powered assistant

Nelen & Schuurmans has successfully embarked on the journey to make a gen AI assistant for Rana by using watsonx.ai and watsonx.data. The pilot solution, co-created with IBM, provides users with relevant information and guidance throughout the hydrodynamics simulation modelling process. As a result, users now have an easier time completing tasks they had little prior experience with.

The solution also empowers Nelen & Schuurmans to provide additional avenues for a firm return on investment for both Rana and its gen AI features. According to Joep Grispen, director at Nelen & Schuurmans, "The tone of voice of the assistant matches our brand ideals, and the cost for the free daily interactions is sustainable."

With this new addition to its technology stack, Nelen & Schuurmans is poised to drive greater profits and solidify its position as a domain pioneer. In the future, the company plans to perform larger sample user tests, incorporate a guardian model to prevent abuse or resource waste and define unique user permission groups for each collection.

About Nelen & Schuurmans

[Nelen & Schuurmans](#) is a consultancy and IT company based in the Netherlands, specializing in water management and climate resilience solutions. The company operates globally, providing expertise to public and private sectors.

Founded with a mission to contribute to a healthy, safe and resilient environment, Nelen & Schuurmans equips decision-makers with cutting-edge data and consulting services.

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