⚛️ YAMAHA

How Yamaha upskilled 1,500+ employees to learn data science

Problem

Yamaha needed more people who knew how to work with data so they could handle a large volume of requests and become more data driven.

Solution

Create a training program where individuals from within the company could upskill and learn data science and analytics themselves.

Result

Better collaboration across the business and over 1500 people gained the skills needed to use data science and analytics in their everyday work.

Data, analytics, and data science skills are pivotal to a business. Without them, how do you make informed decisions based on facts? How do you predict future outcomes to better understand customer behavior? How do you assess risk, identify potential problems, and improve business operations? However, companies are faced with the challenge that there aren't enough people in their organization who know how to work with data. For businesses that want to defend or improve their competitive advantage and start answering all these questions and more, data science and analytics skills are no longer just a nice-to-have, but a need-to-have.

But upskilling your organization isn't easy, especially when you're an enterprise with tens of thousands of employees. Using KNIME, Yamaha Motors was able to achieve large-scale data science upskilling — training over 1,500 people in 2023 (742 in 2022: 636 in 2021) to use data science in their everyday work without any prior experience.

Hokuto Fujii, Data Science Strategy Lead at Yamaha, played a large part in these upskilling efforts. Believing in the power of democratizing data science, he was able to push digital transformation forward at his company and enable people across different business units to start benefiting from low-code analytics and data science.

Upskilling 1,500+ employees

to learn data science and analytics skills from scratch and start working with data on their own using KNIME.

Manufacturing   Data science

Upskilling

△ Open for Innovation KNIME
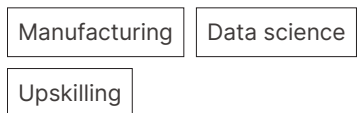
Learning valuable new skills from scratch

Yamaha was looking for a way to optimize and streamline decision making at scale because they were working different business strategies that spanned multiple countries. But to do this, they needed more data analysts. And because data science skills are in such high demand, finding and hiring people who have the right level of knowledge wasn't easy.

Business experts from different departments began asking themselves questions like, "How do I import clean data?", "How do we get insights and analyze data?", and "Do we have the resources to analyze big data?". This made Yamaha start to see the importance of teaching data science skills across the greater organization so individuals with domain knowledge could answer these questions on their own.

To tackle both, they decided to train in-house and build data science expertise internally. First, they had individuals across departments download KNIME Analytics Platform. KNIME's low-code, no-code data analytics tool is free to download and doesn't require IT for set up, so everyone was able to start working with data immediately. And because it's open source, new users could access blueprints and data science workflows created by others to jumpstart a project. They were also able to learn from numerous training resources to teach themselves how to build visual workflows without needing to develop Python, R, or other coding skills.

By developing a learning path where business experts from multiple departments could teach themselves analytics skills, people across the organization became citizen data scientists who quickly learned to work with data comfortably, make data-informed decisions, and build better customer experiences powered by data.

Achieving large-scale data science upskilling was possible for Yamaha with the right in-house training strategy and practice tool. KNIME is easy to learn, and made it possible for users at Yamaha to work on real-life use cases after just a few hours of training. Currently, KNIME is running over 1500 licenses at Yamaha. And most of these users learned valuable analytics and data science skills from scratch.

Yamaha Motors

Yamaha Motor Co., Ltd. was established in 1955 and is headquartered in Iwata, Shizuoka, Japan. The company is a Japanese mobility manufacturer that produces motorcycles, motorboats, outboard motors, and other motorized products. They are also involved in the import and sales of various types of products, development of tourist businesses, and management of leisure, recreational facilities, and related services.

"KNIME Analytics Platform is very effective for training student data scientists working at Yamaha because it's easy to operate and get insight from their business data."

Hokuto Fujii
Data Science Strategy Lead

Use cases: Data analysis by citizen data scientists

KNIME is used during multiple stages of the data science life cycle at Yamaha Motors Company. First, it's used to collect different types of data (IoT, customer, and manufacturing) from multiple cloud locations. They use KNIME's vast collection of connector nodes to do this. Yamaha can then easily filter this data by different characteristics, aiding in product development and allowing them to rapidly analyze data. During analysis, KNIME users at Yamaha can either incorporate coding languages like Python or SQL, or opt for a fully no-code approach to access insights.

Additionally, Yamaha uses KNIME's reporting functionality for visualization of their data and AI features to speed up work. For example: KNIME Server, which is now KNIME Business Hub (an enterprise software for productionizing workflows at scale), was used to deploy a material changeover support application. This was built to help with the automatic selection of alternative material candidates, which reduces the cost of material switching operations.

Selecting an alternative material when a specific material can't be used can take approximately 30 hours to complete. Yamaha used KNIME Analytics Platform and AI to build a model that could answer questions and suggest material that can be used during the switch. Then, they used KNIME Server to deploy the model across the organization.

Yamaha now has data analysts working throughout the entire value chain, from product planning and development to manufacturing, services, and marketing. KNIME is their powerful tool of choice to achieve a data-driven approach within each business area.

"There are numerous cases where (Yamaha) employees wish to conduct data analysis in their role, but they dislike the high cost of learning a programming language. KNIME has proven to be highly effective for these individuals as it enables them to easily initiate their learning journey in data analysis. Furthermore, since it's a free software it can be immediately utilized in business without incurring additional cost after completing the training."

Hokuto Fujii
Data Science Strategy Lead

Yamaha's approach to data science upskilling

Yamaha leveraged KNIME to build data analysis training for all employees (any department/job title) according to different objectives and levels of difficulty, consisting of, for example: lectures focused on the basics for beginners and hands-on exercises for users experienced in coding languages, who carry out business analysis, and anyone wanting to master analytical tools.

Offering KNIME courses to employees led to an overall increase in participants who wanted to teach themselves data analytics and data science at Yamaha. A total of 511 employees have attended a live, instructor-led **KNIME training course**. Within a year, everyone who participated in the training course made significant progress in building knowledge and advancing to the next stage of training. At this point, over 1,500 people have participated in KNIME training and KNIME Analytics Platform is running on over 1,200 computers at Yamaha.

Yamaha also uses KNIME Server, what is now called **KNIME Business Hub**, a commercial arm of KNIME Analytics Platform that allows data and business experts (and the enterprise as a whole) to collaborate on data science solutions more efficiently. Anyone analyzing data can deploy their workflows to a shared space and communicate results to any number of end users

Before using KNIME, Yamaha had an overworked team of approximately 80 data scientists. Now, it has a thriving community of over 1,500 data literate employees. Democratizing data science has helped Yamaha become a truly data-driven organization and contributed to innovation and growth of the company. KNIME Analytics Platform and an in-house training strategy with different learning resources has paved the way for this transformation.

Why use KNIME for large-scale data science upskilling

KNIME Analytics Platform is perfect for those new to data science and analytics. Its visual interface allows beginners to build workflows without any coding skills. If they get stuck, **KNIME Community Hub** has blueprints available that can be adapted and customized to their needs. The **KNIME Forum** is also available if any questions come up while using the platform or doing any type of data work.. And K-AI, KNIME's AI-assistant, can help users build workflows and answer any questions about using the product along the way.

KNIME also removes friction by creating a self-serve flow of knowledge (what we call, the **upskilling flywheel effect**). When an organization is using a common language and a user-friendly tool, citizen data scientists can quickly share and learn from each other's solutions.

Although Yahama has citizen data scientists spread out across time-zones and disciplines, KNIME allows internal data communities to grow organically in size and amount of knowledge. With KNIME, these teams can also deliver analysis easily to any number of end users. This extends the flywheel reach even further so that more people are able to think critically about the data, ask relevant questions, and make evidence-based decisions.

Are you interested in democratizing data science skills in your organization? **Take a quick tour** of KNIME Analytics Platform and see how user-friendly data science can be with its intuitive visual interface.

To hear Hokuto Fujii take the stage at the 2024 KNIME Spring Summit and share Yamaha's upskilling journey, visit our on-demand content page **here**.