FUJITSU

Xamk

Hippu makes AI supercomputing accessible

As a key collaborator with local businesses and organizations, South-Eastern Finland University of Applied Sciences (Xamk) is a vital component of the regional economy. Developing a high-end supercomputing and AI resource gives Xamk further potential to deliver mutual benefits and ongoing collaboration.

Challenge

With supercomputing and AI set to play fundamental roles in working and domestic lives, Xamk wanted to build a powerful and accessible resource to empower both the university and the local economy.

Solution

Xamk worked with Fujitsu, Nordic service provider Atea, and a broad range of other suppliers to create Hippu, a high-power on-premises facility with key AI capabilities and a future-ready infrastructure.

Outcomes

- Powerful supercomputing resource further raises Xamk's profile
- Local businesses and internal research staff can access AI capabilities
- Hippu acts as a template for other supercomputing projects

"Fujitsu showed us how a small team can make a big investment and a big impact with world-class information and technology."

Stina Westman, Research Center Director, Xamk

Collaboration

with local businesses and organizations

In-house

infrastructure builds key competencies

A vital component of the regional economy

From museums and archives to dynamic businesses and organizations, Mikkeli is a city with vast resources of knowledge and information. Nestled close to Lake Saimaa in South-East Finland, it is one of the largest towns in the South Savo region. It is also home to South-Eastern Finland University of Applied Sciences (Xamk), an extraordinary university that blends conventional academia with a commitment to research, digital information, and contributing to the regional economy.

"We are Finland's biggest research polytechnic by far; we have around 250 research projects ongoing at any one time and 300 to 350 research staff on our payroll," explains Stina Westman, Director of the Digitalia Research Center for Digital Information Management at Xamk. "The aim is to drive entrepreneurship and help businesses in the region thrive as their environment changes."

Westman's research unit deals with digital information management at Xamk. The idea of building a supercomputing facility with cutting-edge AI capabilities was, therefore, a logical progression, with the potential to become the central component of Xamk's new research infrastructure, Memory Lab. Memory Lab will serve as a development platform for data economy, digital information management, and artificial intelligence.

"The surge of AI is really felt here," explains Westman. "People understand that we need to take advantage and see what it is and what it can do."

Framing expectations and aspirations

While a supercomputing and AI resource had immense potential to be a useful resource for the town and its wider community, a cloud-based option was ruled out for security reasons. Westman also saw that an on-premises solution would be a valuable development and learning environment for organizations and experts.

"It's beneficial for us to learn how to maintain and continuously develop these types of infrastructure," says Westman. "We want to learn about this technology ourselves and build those skills in-house, so we researched the market to see what was available."

A local telco introduced Westman to Fujitsu, and she quickly understood the AI expertise and resources that Fujitsu could make available to Xamk. Together, they started to develop the concept that would become the Hippu – Finnish for 'gold nugget' – supercomputing project, with Fujitsu providing invaluable advice on implementation models and use cases, and mapping an end-to-end design, supply, delivery, and installation program.

"We were trying to figure out how we could get all the competencies on board and through which channels we could find them," says Westman. "Fujitsu helped us to frame the questions and then find the people to answer them. It gave us a much better grasp of what to expect and what we could aspire to."

Xamk turned to Nordic service provider Atea to work on procurement in 2022, and with Fujitsu acting as technical advisor, architectural planner, and handler of key technologies such as NVIDIA and NetApp, they built a formidable and highly effective team. The Fujitsu AI Test Drive facility played an important role in shaping infrastructural development, and by the autumn of 2023, Xamk was ready to start trial runs.

Industry:
Education

Location:
Finland

Website:
xamk.fi

People:
12,000 students, 900 staff

About the customer

South-Eastern Finland University of Applied Sciences (Xamk) is a multidisciplinary organization with a commitment to regional commerce and development as well as academic activities. Across four campuses, it delivers degree-level, master's, and continuous education, combined with research projects covering a broad range of scientific disciplines. Many students are active in the workplace and choose Xamk to pursue second or higher-level degree courses.

Transformational

resource for the community and students

"We were all collaborating and everyone knew their role," Westman notes. "We would bring in people as needed, but the information flow was excellent, and we had a shared goal."

New competencies, new potential

With Hippu ready to run, funding body South Savo Regional Council financed a project for local businesses to experiment while Xamk enlisted local data science company Mindhive to help with deployment. Hippu is still in the early stages of launch, but local businesses and organizations have already presented numerous exciting possibilities.

"It's a really wide range of companies of various sizes and from different sectors," Westman notes. "We're trying to get a lot of different cases into the pilot stage so we can really test out what we need to develop on top of the infrastructure we have."

From a small media start-up looking to handle sentiment analysis and content recommendations to a smart gym harnessing vast quantities of currently underutilized data, imaginative and valuable use cases are accumulating quickly. Xamk's in-house restaurant is developing customer flow forecasts to minimize food waste, while a local farm collective is assessing how to optimize energy use in Finland's highly variable climate.

"It's really important for us to get more programming and AI competencies for local companies," says Westman. "It's a real win for everyone if we find something that has business potential for them to develop."

There are more trials still to come, and Xamk will continue to evolve and develop Hippu's capabilities as the data economy becomes increasingly important both locally and worldwide. The potential for Hippu to be a transformational resource is already clearly evident.

"Fujitsu showed us how a small team can make a big investment and a big impact with world-class information and technology," Westman says. "Those capabilities made an important difference."

The next step will be to further develop Hippu and Memory Lab as a learning environment for Xamk students as they map out the next stages of their careers. It has also served as a highly valuable proof of concept for Fujitsu that it plans to replicate at other institutions.

"We have goals for our students and what they need to know about AI in future workplaces," Westman concludes. "Having that competence in-house is really important for us, and we're making plans with Fujitsu on getting new uses out of this supercomputer."

Customer:

XAMK

Fujitsu

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