

Extracts from experts' and/or partners' speeches at the launch event of the 5G Mökki network on 14 October 2021 at Häme University of Applied Sciences

Tomi Heimonen, Director of Xentre, the Research and Education Unit for Business and Innovation at the South-Eastern Finland University of Applied Sciences (Xamk), finds it important that the 5G Mökki concept is a future-oriented one.

'The concept identifies market opportunities and offers opportunities for international cooperation in research as well. Mökki can be the centre of various kinds of cooperation, joint development, shared learning and even fun activities. 5G Mökki helps connect education and research and development activities as well as students and business life', Heimonen said. He also pointed out that Xamk alone is able to provide a connection to 10 000 students, 900 staff members and more than 250 projects through Mökki. But the best thing in Heimonen's opinion is that the network allows us to create a global future together.

Erkki Räsänen, Principal Lecturer at Metropolia University of Applied Sciences, said that 5G Mökki was a good match with their IoT laboratory, Garage. Garage is another place meant for students and companies to be able to meet and collaborate at the grassroots level. Räsänen also said that, from a technological point of view, 5G technology combined with the Internet of Things, AI and machine learning create the foundation for all activities in Garage. 5G Mökki and Garage combined offer a place where young people can start doing things they are interested in straight away. This motivates them to develop completely new solutions. As a good example, Erkki mentioned a cooperation project with a company where the project was only expected to generate results by the end of the year. Instead, they saw results in just two days, which elevated the cooperation with the company to a completely new level.

Denise Stanley-Chard, founder of the international CLOCK organisation, hopes that 5G Mökki will become a place for a wide variety of rooms and communities where creativity can flourish. Dr Stanley-Chard leads an organisation that promotes learning through practical projects, especially in the creative and cultural sectors. The organisation also helps to identify the development of individuals' and communities' capabilities and to encourage them to enjoy the fruits of their learning and be rewarded for them. Denise predicts that 5G Mökki and the 5G learning and application network will influence the education in creative fields worldwide. Denise also hopes that 5G Mökki will not only become a meeting place for young people and companies, but a place where people of all ages can share their experiences and learn and create new things. In her opinion, Mökki could also be a place for empathy and mutual respect, where people learn from one generation to another. As part of her presentation, Stanley-Chard gave a recent example of their 5G implementation cooperation with Metropolis Studio, the largest independent music producer in the UK. 5G technology enabled musicians to play together online even though they were a hundred miles apart. In the project, they managed to reduce the delay in data transfer to four milliseconds.

In addition to technological opportunities, Denise wants to see 5G Mökki as an environment for global cooperation and a place where creativity is used to find solutions to serious issues, such as cyber security. As an example, she mentioned the EU's Horizon project where young people were introduced to key issues related to cyber security by having them write lyrics to music. Finally, Denise gave her thanks to the network and said that she and her partners are fully invested in the network and its further development.

Mark Nelson, founder and Director of Innovation at Stanford Peace Innovation Lab, sees 5G Mökki as a unique field research environment and network. He also finds that 5G Mökki is a research tool

that creates a completely new research area, computational social science. As a parallel, he mentions the invention of microscope in biology and the telescope in space research. Dr Nelson sees the 5G Mökki network as a field research environment of good internet connections, allowing the exploration of social interaction and for us to understand society and ourselves as part of it without people having to travel from one place to another. 5G Mökki researches and promotes product, service and business development projects and provides knowledge-based, real-time proposals for achieving the best possible results. 5G Mökki can also be used to explore how to conduct the science of science even better. Development activities based on research data are valued highly worldwide. As the latest thing, Dr Nelson also mentions the funding mechanism that encourages the rapid dissemination and utilisation of research data. According to Mark Nelson, it benefits everyone.

5G Mökki workshop after expert speeches

The theme of the workshop was the easy and rapid production of AR productions. The workshop was organised by 3DBear Ltd and facilitated by the company's CEO **Jussi Kajala**. Before the actual workshop began, opening words were delivered by **Sami Häggman**, Business Development Manager at DNA Plc, one of Finland's leading mobile operators. In his speech, Häggman pointed out that 5G technology is not only a new empowering technology; it is also a platform for developing new digital services. In addition, it enables companies to develop their business operations and their profitability regardless of their sector. Häggman also pointed out that, alongside operators, a much larger ecosystem is required for the development of new digital services. In that sense, the 5G Mökki network created by Aalto University and other actors in the network is exactly what is needed. One central tool is 5G Mökki with workshops bringing different people together and upholding ongoing communication.

The CEO of 3DBear Ltd continued with the workshop section, kicking it off it by saying that soon everyone will be able to create AR applications. Dr Kajala introduced the participants to new immersive technology and its potential in education. Kajala also pointed out that the methods they were using followed a concept of learning where creativity is the highest form of learning. 5G technology and 5G Mökki will further increase access to immersive technologies in education, work and leisure time. 5G technology and 5G Mökki combined with immersive technology enable learners to access places and environments that they would not otherwise be able to access. Another aspect is that they enable developing new products and services for environments without physically being there. With these tools, introducing new products and services to customers is also faster and more productive. Participants then had the opportunity to create their own AR applications and share them with the other participants.

In the closing discussion of the event, people pointed out that 5G Mökki will not only increase virtual interaction, it will also be necessary for achieving physical encounters between campuses, departments and various research and teaching groups. Now in post-Covid times, people are even more interested in cross-border encounters for creating and sharing new solutions that will benefit their organisation, their region and the whole world.

Xamk Project Manager **Riku Happonen**, who was visiting Hämeenlinna, suggested that in this post-pandemic situation, 5G Mökki is a necessary addition to campuses to encourage students to return after getting used to remote learning. Campuses need to offer something new and enticing to give students a reason to come back. Being forced to come on campus is not the best motivation for learning. Smart Häme Project Manager **Heikki Ruohomaa** from Häme University of Applied Sciences summarised the post-pandemic world as follows: we are taking new steps in how we communicate

with each other, how we implement education and how we do business. New technology and operating models offer opportunities for entirely new types of financing and business models.

More information about the event and the community:

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