Akka and German-French Academy for the Industry of the Future create a whorkshop about machine learning and digital twins

Innovations thrive on exchange. From digitalization, autonomous driving to Industry 4.0 - both in Germany and France, scientists and companies are face with these socially relevant topics. That is the reason why AKKA Technologies, one of the leading engineering and development service providers, has joined forces with the German-French Academy for the Industry of the Future, founded by the German Technical University of Munich (TUM) and the French Institut Mines-Télécom (IMT), to create an exciting new interactive format where academic partners and industry experts work hand in hand across borders and across disciplines to develop solutions for the industry of the future.

At the first interactive "German-French Industry of the Future Workshop" on June 24th, 2021, over 60 participants from academia and industry came together to collaborate on how machine learning can push the boundaries of digital twins. In addition to inspiring technical keynotes, participants from across France and Germany had the opportunity to delve into use cases of digital twins and potentials of machine learning in interactive working sessions.

But what is a digital twin? A digital twin describes a digital representation of things and processes from the real world. While one twin exists in the real world, a second, so-called digital twin is created in the computer. This can include physical objects as well as non-physical things such as services. For the digital twin, it is irrelevant whether the counterpart already exists in the real world or will exist in the future. For example, the digital twin enables control over the entire life cycle of a vehicle or aircraft and can therefore make a decisive contribution to resource-efficient and thus ecologically and economically sustainable production. Digital assistance systems can also support the planning, network and design of production facilities on the basis of a digital twin.

In this context, machine learning offers a high innovation potential to overcome the boundaries of digital twins and to represent the development of things and processes even closer to the real world. Among others, Dr. Dirk Hartmann, Senior Principal Scientist at Siemens AG, Dr. Andy Yap, Vice President Software & Embedded Solutions at AKKA Technologies, Prof. Dr. Noël Crespi, Professor and Head of the Data Intelligence and Communication Engineering laboratory (DICE), Télécom SudParis together with Prof. Dr. Roberto Minerva, Associate Professor at the Data Intelligence and Communication Engineering laboratory (DICE), Télécom SudParis presented their ideas in their keynotes.

The German-French Academy for the Industry of the Future is a strategic vehicle to promote close collaboration between leading European research institutions and industrial companies. It was founded by the French Institut Mines-Télécom (IMT) and the German Technical University of Munich (TUM). Focused on joint research, education and innovation, the Academy's mission is to master the challenges accompanying the increasing digitalization of industry processes.

Paul-Guilhem Meunier, Project Manager of the Franco-German Academy for the Industry of the Future: *"The main mission of the Franco-German Academy for the Industry of the Future is to promote the complementary nature of research and training skills between the two countries on cutting-edge technological issues. France and Germany have a long tradition of innovation for economic development. Today, we are capitalizing on this heritage to develop European leadership in the context of the advent of Industry 4.0. With this*

technology workshop, we seek to meet a sovereignty challenge by developing know-how in artificial intelligence applied to industry. "

Peter Mehrle, CEO of AKKA Germany comments on the new format*: "We did not choose the topic of digital twins and machine learning out of the blue: As one of the leading European development service providers, we are active in many industries. In all these areas, digital twins can help us simulate and validate processes in a faster and more sustainable way. I am delighted that we have been able to gain an excellent partner in the German-French Academy for the Industry of the Future. Together, we will work across borders on issues concerning the industry of the future."*

Cooperation between universities, research institutions and industrial partners is of utmost relevance when it comes to driving innovation and accompanying the transfer of knowledge from basic research to industrial application. *"Within our research department AKKA Research, we draw on a rich network and continue to shape new research projects on both sides of the Rhine. In the automotive sector, for example, we had already been working on vehicles with autonomous driving functions for 10 years - in the development of our Link&Go and Link&Go 2, Digital Twins were an innovation accelerator. In aviation, too, we worked with customers to improve aircraft maintenance thanks to our 3DJuump software."***, says Felix Jakob, Director of AKKA Research in Germany.**

Dr. Andy Yap, Vice President Software & Embedded Solutions at AKKA, is convinced about the positive outcome of the first session of the new format: *"The mix of inspiring expert keynotes, interactive working sessions and critical discussion of industrial use cases is exactly what makes this new format so exciting. To summarize the event, we agree that there is enormous potential in combining modern machine learning approaches with the carefully selected datasets and simulations based on Digital Twins."*

The format will continue in a European context in the future. Interested experts from academia and industry are welcome to participate.

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ABOUT AKKA TECHNOLOGIES

AKKA is a European leader in engineering consulting and R&D services. Our comprehensive portfolio of digital solutions combined with our expertise in engineering, uniquely positions us to support our clients by leveraging the power of connected data to accelerate innovation and drive the future of smart industry. AKKA accompanies leading industry players across a wide range of sectors throughout the life cycle of their products with cutting edge digital technologies (AI, ADAS, IoT, Big Data, robotics, embedded computing, machine learning, etc.) to help them rethink their products and business processes. Founded in 1984, AKKA has a strong entrepreneurial culture and a wide global footprint. Our 21,000 employees around the world are all passionate about technology and share the AKKA values of respect, courage and ambition. The Group recorded revenues of €1.5 billion in 2020. AKKA Technologies (AKA) is listed on Euronext Paris and Brussels – segment B – ISIN code: FR0004180537. For more information, please visit www.akka-technologies.com
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ABOUT INSTITUT MINES-TÉLÉCOM www.imt.fr

Institut Mines-Télécom is a public higher education and research institution under the aegis of the French Ministry for the Economy, Industry and Digital Affairs, which groups together 8 graduate schools, 2 subsidiaries and a network of strategic and affiliated partners. Its activities in the fields of engineering sciences and digital technology support the education of engineers and managers, partnership-based research, innovation and economic development. Always attentive to the economic world, IMT combines strong academic and scientific legitimacy, close corporate relations and strategic positioning in the key transformations of the 21st century: digital technology, industry, energy and ecology, and education. IMT is a founding member of the Alliance for the Industry of the Future and co-founder of the German-French Academy for the Industry of the Future with Technical University of Munich (TUM). It is recognized by 2 Carnot Institute accreditations for the quality of its partner-based research. Each year, IMT trains over 13,000 students, enters into nearly 70 million research contracts, and hosts some 100 start-ups in its incubators.

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