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Innovation must go on: startups and corporates complete 30 projects together for a reimagined future

A global pandemic, disruption across industries, a swift shift to digital. In the context of 2020, Europe's largest open innovation platform successfully facilitates pilots, proofs of concept, and implementations focused on mobility, production, enterprise, sustainability and beyond.

Stuttgart. Despite the challenges facing industries across the globe, open innovation proves itself to be a beacon of progress. With 30 new projects in the works, STARTUP AUTOBAHN powered by Plug and Play celebrates its growing tally of over 350 projects with more than 240 startups since its founding in 2016. "Our program may look a bit different than usual, but it has allowed us to see innovation in a new light, revealing the unwavering commitment of our community to what we are doing on this platform", says Hannah Boomgaarden, Senior Program and Community Manager at STARTUP AUTOBAHN powered by Plug and Play.

With challenge comes opportunity for the team in Stuttgart. Under the motto "the sum of innovation is infinite" they have come together to reconceptualize what it means to host an EXPO: the platform's final showcase of pilot projects, which under previous circumstances welcomed over 1,200 invite-only attendees to a day of innovation in Stuttgart. Adapting EXPO 8 to the virtual space, on September 23 and 24, along with a lineup of acclaimed speakers - 28 project documentaries are set to premiere. This format is pushing the boundaries of how tech solutions can be pitched on the virtual stage.

Projects between STARTUP AUTOBAHN's corporate partners including: Daimler, Porsche, T-Systems, Bosch, Hyundai, DXC Technology, ZF / Wabco, Motherson, Webasto, TÜV Rheinland, BASF, and Murata will be the focus of the two days, emphasizing the work of the program startups and business units. Projects cover topics ranging from hydrogen distribution, AI image analysis in car damage, air quality tracking through „weather of things", autonomous driving safety applications, digital twins in production planning, automotive parts made from sustainable materials and 25 other disruptive technologies.

Plug and Play presents Global Innovation Award to four recipients in sustainable cross-collaboration
With the Global Innovation Award, Plug and Play honours the work of STARTUP AUTOBAHN partners and startups who successfully come together and apply their knowledge, passion, and innovations, to solve challenges facing the industry today. Program 8 saw four teams - three corporate partners and one startup - combine their resources to pilot a blockchain-based solution, with the goal of improving sustainable production in the automotive industry. Plug and Play is pleased to announce the Global Innovation Award of Program 8 goes to the partners BASF, Motherson, Porsche, and the startup CircularTree.

More than ever before, customers are requesting carbon footprint and sustainability information on the products they purchase. In the automotive industry, supply chains are oftentimes long and complex. BASF, Motherson and Porsche – representing a simple automotive value chain – have teamed up with the Berlin startup CircularTree to bring CO_2 data into one place. CarbonBlock, the developed blockchain application, makes greenhouse emissions of supply chains transparent. It provides companies with "smart contracts", which make it possible to digitally forward the CO_2 emissions of components along the supply chain, in order to quantify a product's carbon footprint in a standardized way. The objective: developing a standardized solution, which allows the traceability and calculation of product carbon footprints.

Bosch introduces instant remote support 'Data Glasses' with Oculavis' SHARE application
In a new proof of concept, Bosch and Oculavis have teamed up to introduce a remote support solution for the commissioning and troubleshooting of IPN malfunctions. Currently, service specialists are sent to the various Bosch locations to handle such requests.This approach limits the availability of experts, delays downtimes and restarts of systems, and costs time and money. By introducing the Oculavis SHARE application with data glasses, live-video connection between the specialist, located remotely, and the on-site team, is now possible. 15 pairs of glasses have been implemented in eight Bosch plants around the world. Requests for sets have been pouring in, indicative of the possibilities for the future.

Bosch tests Monk AI image analysis technology in evaluating vehicle damages
 Bosch, together with French startup, Monk AI are piloting technology to be used in the evaluation of vehicle damages. Bosch regularly seeks out partners to enrich service offerings for customers and the goal of this collaboration is to explore how Monk's image analysis technology could contribute to solving damage detection tasks. The team has been testing the algorithm performances in challenging environments and for various use cases such as in optimizing fleets and workshops operations. One of the highlights of the technology is that it works on any conventional camera, including smartphones.

Mercedes-Benz develops data-controlled production in the Factory 56 with Datenberg
In the "Factory 56", the car factory of the future, Mercedes-Benz is using innovative technologies and processes in the production of its vehicles across the board. With the aim of further increasing the quality and flexibility of vehicle assembly worldwide, they have teamed up with startups that offer digital solutions, such as Datenberg. Datenberg works on processes for data-driven production. The aim set for the joint pilot project was to automate the analysis of the gap-measuring system in the assembly shop and body-in-white area. For this purpose, a software module for the continuous analysis of influences on vehicle joints was installed and continuously supplied with data such as geometries, screwing and bonding data. The data is prepared for the different target groups, such as planners, assembly line employees and maintenance staff, and process values are continuously visualized, which are then supplemented by other possible influencing variables. This makes digital rapid information for conspicuous trends in the data possible, and thus protects against even the smallest defects.

Daimler collaborates with startups on blockchain technology for the Mobility Blockchain Platform

The Daimler Mobility Blockchain Factory is continuing to blaze the trail in building blockchain-based business platforms. They have partnered with four startups: Ontology, Spherity, Riddle&Code and 51nodes to realize true end-to-end smart contracting between fleet operators and rental or mobility service providers. In joint development with these partners, they have taken the Mobility Blockchain Platform to the next level and have added digital identities and blockchain wallets for customers, companies and cars. By integrating this with their smart contracts and distributed ledger these customers and companies can conduct fully automated fleet and rental business transactions.

Mercedes-Benz and Nexmachina accelerate digital transformation in the shopfloor via Internet of Things

In Vitoria, Spain, the facility management of Mercedes-Benz España, S.A.U. worked together with the startup Nexmachina on a joint project on digital transformation. Nexmachina is a pure IoT startup, specializing in wireless technologies. Their focus lies on LORA WAN (Long Range Wide Area Network), designed to transmit small messages from machines, objects or processes in use. In their joint pilot project at the Mercedes-Benz plant in Vitoria, they focused on the smart monitoring of hundreds of fluid meters scattered throughout the two assembly plants. With this project, they wanted to prove that IoT technology and LORA WAN in particular, provide an efficient and economical solution to digitize fluid meters and other assets in the plants.

DXC Technology and Zensors develop AI solutions to ensure safety in the workplace

Health and safety in the workplace are a critical issue, but many employers fail to properly regulate the conditions. Modern technologies can now lend a hand in ensuring that company safety standards are being met. In a new collaboration between DXC Technology and Zensors, an AI startup from the United States, the teams are working to do just that. Together they have been training Zensors' AI technology to detect and alert supervisors about safety misconduct on the shop floor. Imagine, if workers are not wearing their protective glasses or jackets, their solution will identify and alert managers, allowing them to intervene. Zensors' AI solutions offer great flexibility to adjust configured use cases and to onboard new ones. The project is currently in the evaluation stage, assessing the newly configured detection of safety situations.

DXC Technology and Foretellix verify the safety of AVs at scale for the "Million-mile Challenge"

Did you know that millions of miles must be driven to prove the functionality of advanced autonomous driving capabilities and features? Having a market-leading development platform for autonomous driving in place, DXC Technology is constantly improving the development environments of their customers, supporting them to solve what is referred to as the "million-mile challenge". Driving scenarios must be tested in an efficient and reliable manner, valid algorithms and the ability to scale the solution to process vast amounts of data is vital. Foretellix, an Israeli startup, offers a solution that fits perfectly into the existing DXC Robotic Drive platform, and together the team has created an integrated and scalable scenario management solution, significantly reducing cost and time of autonomous driving development, while complying with the highest reliability and safety standards.

DXC Technology develops broadcasting platform through WEM.ios NoCode application in just weeks

DXC Technology and Dutch startup WEM, have successfully developed the Digital Innovation Broadcasting Platform on WEM's NoCode platform – as a pilot project for DXC to test WEM's technology. In just a few short weeks, DXC Technology and WEM successfully developed an interactive platform capable of bringing employees of all regions and industries of DXC in one virtual meeting room to share innovative startup technologies scouted by STARTUP AUTOBAHN with the global DXC community across the entire DXC Enterprise Technology Stack. The platform has proven itself to be a crisis-stable solution, with its first stream taking place at the beginning of the COVID-19 pandemic. The partnership between DXC and WEM.io has grown since - engaging with customers several digital- and application transformation projects around the globe - significantly cutting development cost and delivering faster outcomes.

Hyundai CRADLE aim towards sustainable hydrogen distribution together with Hydrogenious LOHC Technologies

The distribution and transportation of hydrogen in large quantities is currently one of the biggest challenges Hyundai Motor Group is working on. Their Hyundai CRADLE office has partnered up with German startup, Hydrogenious LOHC Technologies, to work towards a sustainable, safe and cost-efficient transportation solution for hydrogen. LOHC technology allows hydrogen to be stored without pressure, using a carrier oil. This makes hydrogen as easy and efficient to transport as conventional liquid fuels and will enable distribution at the global scale both sustainably, and at a low cost. Currently, the teams are exploring opportunities for collaboration, which could include using their technology as a hydrogen logistic solution in Korea and Germany, leveraging on their frontier research activities with, for example, Jülich Forschungszentrum, or venturing into completely new fields of applications for LOHC.

Motherson works with UBQ Materials on carbon neutral automotive interior part

In an attempt to reduce waste and make their products more sustainable, Motherson has teamed up with Israeli startup, UBQ Materials, to produce carbon neutral molded parts from UBQ's polymer compound - converted from household waste. The team is working on determining its fit for automotive use in interior parts and are testing to ensure it is odor free and suitable for its intended use. The next step will be to produce an automotive exterior part using this compound and getting it to serial production in the future.

Motherson pairs with Inspekto for quality assurance on the production line

As one of the largest tier 1 suppliers to the OEM, quality assurance is of great importance to Motherson. In production, their parts are inspected at each step of the production line, yet this is time consuming and exposes them to risk of impaired judgement due to human error. To ensure quality and efficiency, they have started a pilot with Inspekto, a German industrial startup. Inspekto provides a computer vision based camera monitoring system to detect quality consistency on the production line. Currently, Motherson is testing the Inspekto system in three different factories globally, with different product lines from their wire harness, modules and polymers, and vision divisions. They are still in the beginning phases of testing.

Circularise tracks plastics from raw material through to finished car with Porsche
Porsche has developed a prototype app together with the Dutch startup Circularise and the suppliers Covestro, Domo Chemicals and Borealis. The app uses blockchain technology to make information about the sustainable production of components and materials visible to customers. It does this by enabling the individual plastic content of product parts to be tracked.

ClimaCell extends Porsche Roads app to include real-time air quality
US startup ClimaCell has further developed the ROADS by Porsche app so that detailed information on air quality is now available in real time. ClimaCell has based this on a "weather of things" approach and uses several hundred million virtual sensors. These include satellite signals as well as data collected using Car-to-X technology, traffic monitoring cameras or mobile devices. A traffic light system informs drivers about the air quality on their route.

Monk pioneers lightning-fast inspections by smartphone together with Porsche
A project from the French startup Monk, supported by Porsche, speeds up the return and assessment of rental cars and lease vehicles. Monk has developed a software application that allows fast analysis of possible damage on these vehicles. Using a smartphone, the user takes photos so that the scope of potential damage to different areas of the car can be analysed by artificial intelligence.

Clear and precise speech recognition: Hi Auto cuts out background noise with Porsche
Together with Porsche, Israeli startup Hi Auto has developed an audiovisual speech recognition system. The user speaks in the normal way via a microphone, while a camera simultaneously observes lip movements. This information is evaluated by means of a deep learning algorithm and enables speech and background noise to be separated more clearly than with previous purely audio-based methods.

T-Systems and voiXen optimize customer satisfaction with AI
When faced with a product issue or concern, customers expect quick and friendly help. But how can customer service satisfaction be increased? T-Systems teamed up on a pilot with German startup voiXen. By means of artificial intelligence, voiXen's algorithms analyze customer service conversations and with the results, operators can optimise call duration by up to five percent and training preparation by up to 75 percent. T-Systems is now integrating this module for quality assurance into its solution portfolio for customer centers. Additionally, voiXen operates its solution in Germany and is therefore subject to the General Data Protection Regulation (GDPR) and the German Data Protection Act. This means that T-Systems' customers receive a privacy compliant complete solution from a single source.

T-Systems and Senseforce are putting predictive maintenance in your pocket
When will a component fail? "Machine Service in a Pocket" from T-Systems uses artificial intelligence to answer this question. The solution developed by T-Systems and Senseforce, displays important machine values and key figures on a mobile device. In the event of warnings or abnormalities, T-Systems supplies the technical drawing and the service manual, helping to avoid production stoppages at the print shop for example.

Senseforce connects the machines and transfers this data in a suitable format to the Open Telekom Cloud, among other places, and offers dashboards and reports that the users can configure themselves. Thanks to the Austrian startup's low-code tools, employees without programming skills can configure reports and interfaces. In the cloud, the AI analyzes the information and provides the findings. Senseforce masters all common protocols and is quickly applicable. Within two days, the first machines are connected and can be evaluated. The solution's initial launch is for customers from medium-sized businesses.

T-Systems and VISPA develop accessible creative spaces online
As companies make the shift to remote work, there has been a noticeable lack in virtual creative spaces that enable experts, customers and service providers to get creative while working from home. Many virtual alternatives to agile collaboration are exhausting and uncreative. Here enters VISPA. In VISPA's solution, participants become avatars, move around in virtual rooms, work together on whiteboards and present their ideas. Previously, each participant had to install VISPA on his or her computer. In a project together, T-Systems is now working with VISPA to develop a solution for use on a browser. Program and data come from the Open Telekom Cloud and users simply dial into the virtual workshop using a link. The offer is planned to be launched on the market by the end of the year.

TÜV Rheinland's learning videos now available in multiple languages adapted with Synthesia's AI technology
TÜV Rheinland has recently implemented several projects together with Synthesia, a London based startup, developing AI technology for automated video generation. Specifically, based on Synthesia's AI technology, training and instructional videos, which TÜV Rheinland Academy offers for its internationally active customers, were translated into several languages, with lip movements of the speakers automatically being adapted. This enables the expert to address the learner directly in his or her native language, intensifying the global use of videos as one of the most effective mediums for conveying learning content. With this cooperation, TÜV Rheinland continues to pursue its innovation and digitalization strategy.

Webasto and Forciot analyze dynamic force within convertible roof systems in real-time
Did you know that while opening and closing a convertible, the entire roof system is in constant motion? During this process different forces act on the roof and many variables such as temperature, dimensions, inner tensions and stretches make the evaluation or simulation of the real-time forces very complex. To build cutting-edge convertible roof systems faster and more efficiently, the exact knowledge of these forces in real-time could avoid testing cycles and reengineering of failures. This is why Webasto, together with Forciot, have teamed up to manufacture high-tech sensors for the visualization of dynamic forces in real-time, in a fast and cost-effective way. The Forciot sensors can be easily integrated in between the canopy – the flexible textile part of the convertible roof system. This project will enable engineers to react quickly during the developing cycles, if over-proportional concentration of force at a certain point is detected.

The smart convertible roof system by Webasto and Imagine

While opening and closing a convertible roof system, today's passengers must continuously press a button. Additionally, any form of remote operation is limited to the direct vicinity of the vehicle. This restriction is intended to protect against injury. However, passengers are used to smart control units, and are looking for a solution to improve the convertible experience. Together with Australian startup Imagine Intelligent Materials, Webasto has developed an anti-pitch system for convertible roof systems. The textile is covered with a graphene layer, which acts like a super sensor and can stop the opening or closing movement immediately by a single touch. This system will detect any touch on the textile material of the canopy and inner lining, providing additional protection to the passengers and persons standing by.

Failure detection and prevention through sound by Webasto and Noiseless Acoustics
Convertible roof systems run extensive testing programs to guarantee long-term quality which can take up to three months in continuous 24/7 operation, yet they are unable to be monitored constantly. However, possible failures need to be immediately detected and thoroughly analyzed. Together with Noiseless Acoustics, Webasto integrated the Noiseless Acoustics Sense Module into the testing fixture where the convertible roof is validated during the testing cycle. During operation, the acoustic signals of the system are recorded and bundled in the central Sense Module. The final test report outlines the correlation of incidents and predictions derived from the measured data and the hardware. The collaboration has aimed to predict failures before they happen, to save time and ensure high-quality standards.

ZF's Division Commercial Vehicle Control Systems accelerates the journey from software to application-specific hardware with Silexica
These days, as software content increases in many parts of vehicles, the software complexity balloons while development productivity stagnates. As part of Program 8, ZF Division Commercial Vehicle Control Systems (formerly WABCO), has partnered with German startup Silexica, to accelerate software development for application specific hardware. The team at ZF Commercial Vehicle Control Systems had identified that making changes to any single software module often requires extensive rework. Enabled by deep software analysis, heterogeneous hardware awareness, and quick design space exploration, Silexica's programming tools significantly accelerate the journey from software to application-specific hardware systems, providing considerable benefits to ZF customers. In the early stages of its project, improvements leading to lower development time and effort were recognized. One of the challenges the partners are collaborating on is the appropriate demonstration of results to validate and assess the possibilities required to make further decisions. The next step will be to extend the usage to a second group project.

STARTUP AUTOBAHN welcomes two new partners to the platform in Program 8
STARTUP AUTOBAHN powered by Plug and Play is proud to announce that two new ecosystem partners have joined the platform. With each new partnership, STARTUP AUTOBAHN powered by Plug and Play is inspired by the goals and ambitions that come along with the teams and energized by the possibilities of new technologies and innovations shaping the future. 30 industry leading partners now make up the platform, each offering something unique and valuable to the equation. A warm welcome to the two newest partners ADAC and Sekisui.

As part of their digitization strategy, ADAC has joined the STARTUP AUTOBAHN powered by Plug and Play platform. The main goal of this new partnership is to identify new business opportunities and to support the digital and technological transformation through new collaborations with startups. ADAC is actively participating in STARTUP AUTOBAHN events, and are looking forward to fruitful exchanges with the community, keen to strengthen ties with the broader automotive industry across Europe. Additionally, ADAC has also joined Plug and Play's Insurtech program based in Munich.

According to Gerrit Pohl, ADAC Chief Digital Officer, "finding the right partners to accelerate and maintain our innovation path at a high level is of extreme importance for the sustainable success of our products and services. For this reason, we have joined the Plug and Play network and expect a lot from it: experience and exchange, exciting cooperations and projects that make the leap into our company."

Sekisui, as a new partner of STARTUP AUTOBAHN powered by Plug and Play, is looking forward to in-depth knowledge exchange with highly specialized tech startups that can offer innovative solutions in their respective field of interlayer films. Their team is eager to cross-collaborate with other corporate partners in pilots with high-tech startups and to strengthen their existing ties within the automotive market.

New partnership type announcement: Strategic Partner
As of today, there will be a new partnership type available at STARTUP AUTOBAHN powered by Plug and Play: Strategic Partner. This was created in an effort to further extend collaborations across public institutions, community initiatives, universities, and more - to support a common aim to drive innovation within Germany and beyond.

About STARTUP AUTOBAHN powered by Plug and Play
STARTUP AUTOBAHN powered by Plug and Play is an open innovation platform that provides an interface between innovative tech companies and industry-leading corporations. The basis of the program is the partnership that develops between startups and the corporate business units. The two entities hold an equal footing from the get-go: together they evaluate the potential for a joint venture, move forward to pilot the technology, and work to achieve the ultimate goal – a successful production-ready implementation. Designed with the intention to exceed startup acceleration, STARTUP AUTOBAHN powered by Plug and Play moderates a community for collaboration with a focus on implementable results.

Founding Partners Daimler, Plug and Play Tech Center, University of Stuttgart, ARENA2036, **Anchor Partners** DXC Technology, ZF / WABCO, BASF, Porsche, DHL Deutsche Post, Webasto Group, Rolls-Royce Power Systems AG, Motherson, T-Systems, Bosch **Ecosystem Partners** Murata, The Linde Group, AGC Glass Europe, Wieland, Jardine Matheson, BP, Hyundai, TÜV Rheinland, Eberspächer, Faurecia, ADAC, Sekisui, Plastic Omnium and Zenzic

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