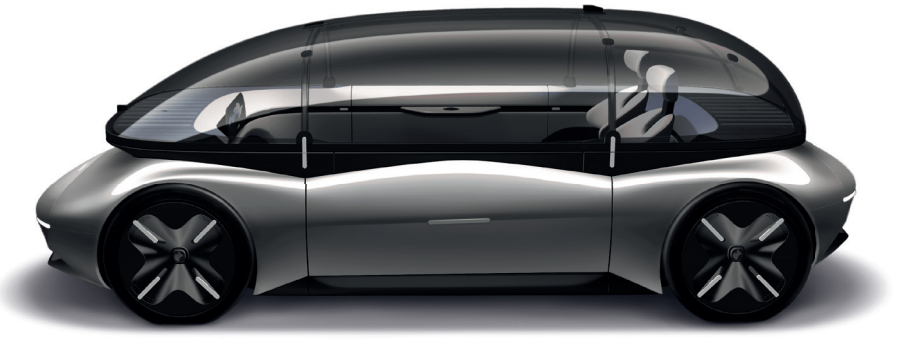
As the automotive industry continues to drive for change, a new prototype is announced that will tour shows all around the world

Asahi Kasei launches next-generation concept car

Asahi Kasei has been celebrating the centenary anniversary of its establishment on May 25, 1922. Simultaneously, the organisation has announced the release of a next-generation concept car, AKXY2™ (pronounced "ax-ee"), that re-imagines how values for sustainability, satisfaction and society will influence the needs of future mobility on the road to automation and electrification in a changing society. The concept car is equipped with a vast assortment of value-adding technologies that exemplify how Asahi Kasei's 100 years of collective innovation across the material industry is contributing to present and future mobility.

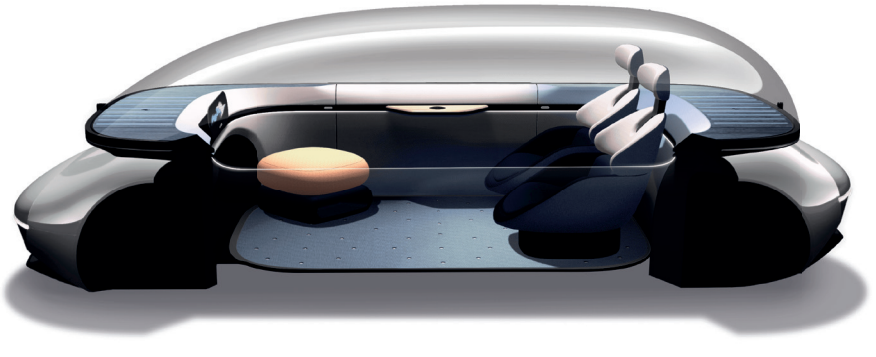
"Aside from advancements in legislation, evolving demands from customers are causing OEMs to tear down existing processes in favour of safer, more comfortable and more sustainable vehicles, answering the needs of diverse end users," comments Heiko Rother, General Manager of Automotive Business Development at Asahi Kasei Europe. "We need to act fast. Our recent survey from November 2021 shows that 50% of car users in the four major automotive markets – the USA, Germany, Japan and China – will choose a different brand to the one they currently own. The materials used in the car are a key enabler for multiple differentiating factors and user experience beyond drivetrain or driving performance – whether visible or not."



AKXY2: AN ALL-ASAHI KAHEI CAR

The AKXY2 concept car demonstrates the cross-divisional expertise of Asahi Kasei throughout the entire value chain, from raw materials and production technologies to the usage of recycled and recyclable materials, while addressing the changing regulations and evolving needs of car users.

Virtually everything that can be seen, touched or felt in the vehicle is either manufactured or co-developed by Asahi Kasei. The car features materials and solutions that touch the senses, improve safety and ensure the highest functionality while reducing its environmental impact. The concept of the vehicle is driven by a theme of "3 Ss": Sustainability, Satisfaction and Society.



AKXY2 IS MORE SUSTAINABLE

From textiles to elastomers, Asahi Kasei materials that can contribute to a lower carbon footprint are integrated into the vehicle. The interior surfaces are covered by Dinamica®, a premium microfibre suede partially made of recycled polyester, and Sage Automotive Interiors can also provide other sustainable fabrics utilising raw materials that range from recycled PET, bio-based PET, natural blends, and ocean waste. The vehicle seats are cushioned by Cubit™, a 3D mesh material made of PET and partially bio-based PTT. The S-SBR tyres, made from bio-based butadiene, improve fuel and energy efficiency from their low rolling resistance while reducing the microplastics generation of tyres.

AKXY2 IS DRIVING SATISFACTION

The needs of car occupants are evolving. One of AKXY2's major themes revolves around "the senses" from the smell of the cabin and the touch of the textiles to the soundproof atmosphere and futuristic looks. To address evolving safety needs beyond crashes, elements from Asahi Kasei's Seite 2 von 2 Healthy Car Portfolio are implemented to protect the automotive interior from the spread of pathogens via

antimicrobial fabrics. A CO_2 sensor can monitor CO_2 levels in the cabin to maintain optimal air quality while reducing energy usage and protecting the cabin from children or pets left behind. In addition, semi-transparent and backlit fabrics as well as plastic optical fibres allow for customised ambient lighting inside the vehicle, while Asahi Kasei's sustainable textiles and foams equip seats with a new level of comfort.

AKXY2 IS FOR SOCIETY

One of the core concepts of AKXY2 considers the role cars will play in our changing society. The car will become more than just a means of transportation – it will be a place to socialise with friends and family, much like the patio of a home. We explored how the automobile can be a platform of inspiration for our future society.

Through full collaboration with European and American sites of group company Sage Automotive Interiors, an abundant line-up of automotive interior fabric is showcased, enabling higher customisation of the interior compared to the first AKXY™. As for utilisation of the interior space, concepts for potential synergy with the Homes sector of Asahi Kasei are proposed to enhance collaboration with customers and automotive users. The functions of the door and canopy open/close touch solutions and the heated seats are achieved in collaboration with UltraSense Systems, Inc., a company in which Asahi Kasei Corporate Venture Capital has invested, as well as other companies.

Asahi Kasei has been creating for tomorrow over the past 100 years, and both internal and external collaboration has been a key element of growth. "One of Asahi Kasei's greatest strengths is without question the ability to draw from our diverse product portfolio across multiple group companies and collaborate with outside start-ups to create new concepts, such as smart fabrics," says Mike Franchy, Director of North American Mobility at Asahi Kasei America. "AKXY2 showcases our expertise as a trusted partner to OEMs and Tier-1s for both interior and exterior components and technology. It's hard to believe that this all started 100 years ago with basic textiles from synthetic cellulose, like Rayon. We've come a long way since then, and I'm looking forward to seeing these contributions continue to shape the automotive industry." ■

Retroreflective powder coating for e-bikes, new by PPG Industries

PPG recently became the world's first producer of a commercial retroreflective powder coating. It is supplying it to the US company Lyft for use on e-bikes in the company's DIVVY bike-share programme in an effort to increase cyclist visibility. The partnership represents the debut of retroreflective e-bikes in the United States.

Designed to reflect maximum light back to its source, PPG Envirocron™ LUM coating is a proprietary and patent-pending breakthrough technology. While liquid-based retroreflective coatings are commonly used to increase the visibility of pavement markings and street signs, PPG Envirocron LUM coating is the first-ever retroreflective powder coating.

Lyft's pilot programme for its new high-visibility e-bikes debuted in California in June 2021 and expanded to Chicago in December. It launched in New York City earlier this year.

Lyft's new fleet of e-bikes are coated with an Abel Gray finish, which is a tribute to the late Abel Lopez. A Lyft engineer,

Lopez was struck and killed by a vehicle while riding his bicycle in October 2020.

PPG's Envirocron LUM coatings technology is rooted in nature, inspired by the reflective properties of a deer's eyes. Using a formulation with embedded glass beads, the single-layer coating refracts light and retroreflects it directly back to a vehicle's driver to enhance visibility.

The coating delivers a non-solvent solution with high transfer efficiency. It provides exceptional scratch and mar resistance for the e-bikes to withstand a high volume of riders and meet Lyft's goal for a durable and sustainable solution.

Asian PU study update from IAL

London-based market research firm IAL Consultants has announced that it has been working on an update of its title, *Polyurethane Products and Chemicals in Asia Pacific*.

The study will be available in eight individual volumes that will include volumes on raw materials, flexible foam, rigid foam, coatings, adhesives and sealants, elastomers. binders and major end-use markets. Prices vary according to individual volume (Coatings: €3500; Adhesives & Sealants: €2500; Raw Materials €5900). The raw materials volume covers the main and speciality isocyanates and five classes of polyols.

The complete report can be purchased for €16,500 and includes the raw materials volume and access to IAL's database. Countries being covered by this, the tenth edition of IAL's report in this area, are as follows: Australia, Bangladesh, China, India, Indonesia, Japan, Malaysia, New Zealand, Pakistan, Philippines, Singapore, South Korea, Taiwan, Thailand, Vietnam and the rest of Asia.