Thu, 17 November 2022
Weekly Newsletter

DVN-I
Automotive Interior

NEWSLETTER #136

Editorial

DVN Exclusive Interview: Optalert

VIAMICHELIN IMAGE

DMS—driver (and occupant) monitoring systems—are a hot topic in the industry, and at DVN Interior we continually report on innovations and developments relevant to these systems. Upcoming regulations and NCAP protocols are driving progress in the field, and a variety of systems can already be found in production vehicles.

This week's in-depth article brings you our interview with Optalert CTO Simon Block. His is an Australia-based company founded by sleep expert Dr. Murray Johns, who invented a personal safety device for transport workers to detect and prevent drowsy driving.

Optalert has more than 20 years' expertise in drowsiness, developed primally in their work for the mining industry, wherein the equipment and vehicles; the payloads; the operator cognitive loads, and the consequences of an accident caused by drowsiness are all enormous. That's the demanding environment in which Optalert has grown their know-how.

Driving safety, HMI and cognitive (over) load is a topic we will address at our DVN Interior Think Tank seminar in Köln at the end of the month, on 28-29 November. (**see leaflet**) If you haven't yet registered, just drop us **an email**. We're looking forward to seeing you there!

Sincerely yours,

Philippe Aumont
General Editor, DVN-Interior

In Depth Interior Technology

DVN Interview: Optalert CTO Simon Block

DVN Interior, Philippe Aumont: How did Optalert come to be?

Simon Block: Optalert was founded over 20 years ago in Australia by Dr Murray Johns, one of the preeminent sleep physicians in Australia and well known in the field globally. He discovereda way to objectively detect drowsiness through biological markers. Our solution is universal across ethnicity, gender and age. We became the experts in measuring drowsiness, developing our expertise within the mining and transport industries for nearly 15 years. In the last 5 years we have turned our attention to the automotive [sector].

In our mining business, large excavators, and haul trucks costing millions of dollars, move huge amounts of ore across some of the most hostile territories. Any accident could certainly cost lives and significant loss of production. Many of these vehicles are driving on unmarked mining roads with very long driver shifts. So, you can imagine the low cognitive load and long shifts means they are highly susceptible to drowsiness. Optalert built a full ecosystem for delivering a solution, including a direct sensor built into wearable glasses, an in cabin processor, and comprehensive cloud services to support real time monitoring and notifications with comprehensive reporting.

DVN-I: And how did you migrate towards the automotive sector?

S.B.: Defining and refining our solution in mining and transport enabled us to engage with automotive providers as they started to seek DMS options for their advanced driver assistance systems. We always felt that the passenger car was the logical home for our technology. About 5 years ago, the automotive sector started to seriously consider DMS. By adapting our technology to video, our solution had matured into a completely unobtrusive, objective measurement without the need for a wearable device. At that point we started engaging with the automotive industry via tier-1 organizations.

DVN-I: What is your vision? Your mission?

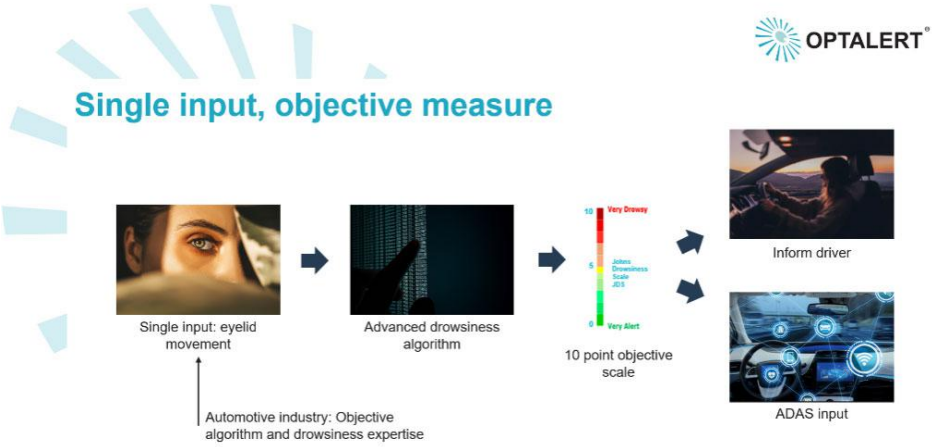
S.B.: Being the experts in drowsiness, our mission is to keep people alert and alive. We have the best measurement, as it's completely objective, returning no false positives, which is key for OEM adoption. It is the only measurement with scientific validation. We have validation from Harvard Medical School, and other independent peer-researched papers that back that up.

From a business perspective, we want to be the drowsiness solution in every driver monitoring system.

DVN-I: How did you get your first project?

S.B.: Initially we contacted the tier-1s. We had an algorithm, and a concept based on a camera with an image processing system, to be adapted to their camera system and their image processing. We were a little bit too early, as they didn't have a camera embedded yet! It was only a couple of years later that startups; tier-1s, and DMS technology got into the game. The market has matured around our offering.

We signed our first automotive contract several years ago, working closely with the tier-1 and by having a superior measurement that will satisfy the industry requirements today and into the future.



OPTALERT IMAGES

DVN-I: So, what are you measuring?

S.B.: We only require a single input measurement, the movement of the eyelid. We only need one eye and we track the eye lid movement over time. If the eye is visible to the camera, we can continually monitor for drowsiness. Every driver monitoring system today will be based on near infrared cameras with illumination at 940 nm, which allows it to penetrate things like sunglasses. it works with visible light, but also in darkness, whatever the position of the driver, and even if there's a face mask.

DVN-I: What sort of technology is the magic based on?

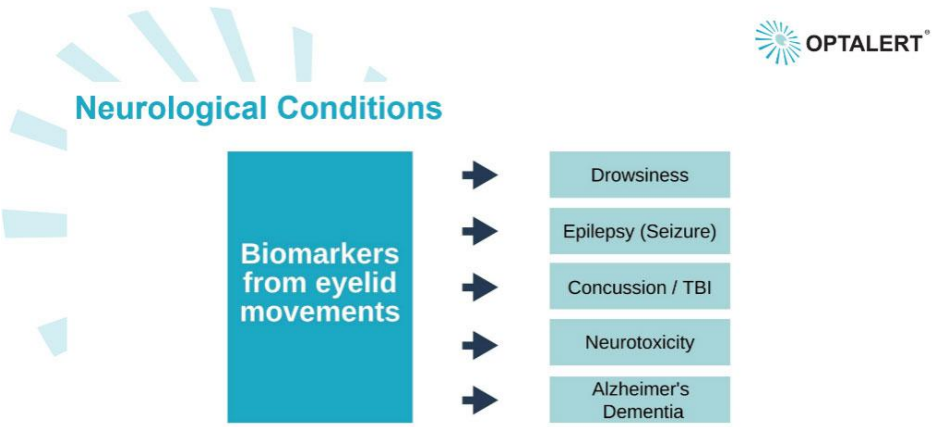
S.B.: A competing technology that has come to the forefront in the last few years is the use of artificial intelligence and neural networks to detect certain patterns. This solution is very good at detecting the identity of a person, if they are wearing a seat belt, whether they are drinking coffee, whether they are smoking, etc. All objective observations that AI can be readily trained on, given sufficient data.

But it is not a good measure for detecting someone that is drowsy. There is a whole lot of reasons we yawn or have long eyelid closures not all are associated with drowsiness. Also, the detection of a microsleep or worse, falling asleep is an indication you have already failed to protect the driver and prevent a dangerous situation.

The industry needs a proactive indicator. Our system detects drowsiness continually and objectively and has a medical basis. Also, our measurement has a medical basis, detecting the neurological drowsiness based on the direct observation of the eyelids.

DVN-I: What are the body signs you are tracking?

S.B.: Our biologically-based measurement is based on the physiology of eyelid movements. The muscles which activate eyelids are controlled from two zones of the brain that must maintain synchronization to blink correctly. Blinking is an insight into what's going on cognitively with the individual. When you become drowsy, the correlation between these muscles starts to break down. Optalert tracks these fine statistical profiles of the blink. And we calculate over 64 different mathematical parameters on the blink data and we track them overtime. This permits us to make an objective inference on the drowsiness of that individual. And our measurement is universal across ethnicity, gender and age, so therefore does not require training over extensive diversified data sets.



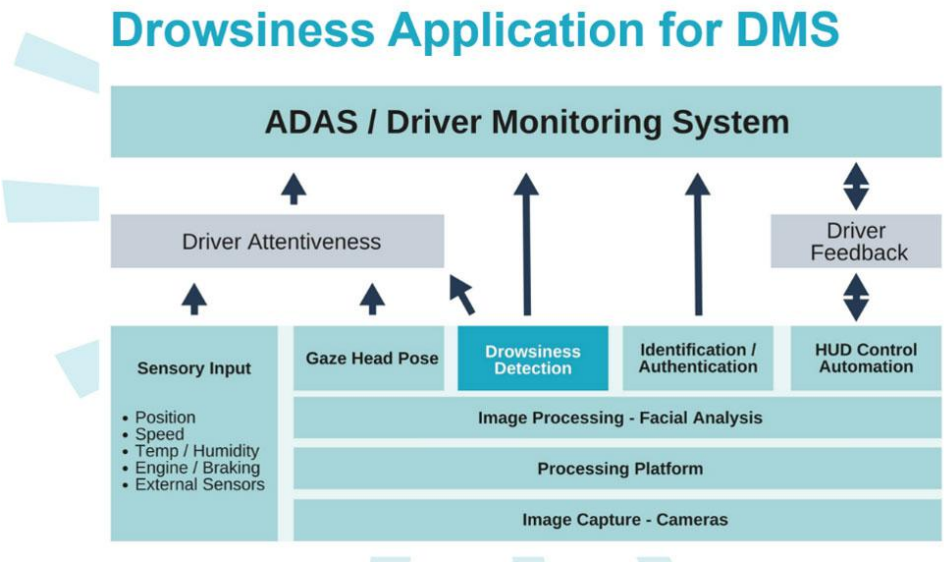
DVN-I: How do you link the two eyes?

S.B.: Optalert only needs to track one eye to obtain a drowsiness measurement. Typically, we track the eye closer to the camera, but both eyes may be tracked for redundancy.

DVN-I: How do you assess the performance of the system?

S.B.: That is something the industry currently struggles with. With regulations like Euro NCAP, the threshold is very low. They have set the bar at a level that is just indicative of how long you have your eyes closed. It also uses a subjective self-assessment measure, the KSS (Karolinska Sleepiness Scale) that has nine levels of drowsiness estimated by the person being measured. This is a key issue with the regulation as it is well known that self-assessment is a flawed approach. The threshold has been set low so that providers can pass it, but is that how car manufacturers should be approaching safety?

By contrast, our system measures the probability of a performance failure due to impairment of the subject's ability to perform a task requiring a level of vigilance, in fact a level of concentration. It is objective and does not rely on self-assessment. Importantly our Johns Drowsiness Score has corresponding KSS results, making it easy to pass the minimum regulatory requirements.



DVN-I: What are you selling to your customers?

S.B.: Our offering is a software development kit (SDK), with an encapsulation of our algorithm adapted to the DMS video processing layer. This is a very thin layer of software, that can sit on top of our customer DMS. It can be readily integrated, it's completely hardware agnostic. It can be ported to any platform, (Windows, Linux, Mac, any embedded platform), directly feeding it on a frame-by-frame basis, with the eyelid opening value and providing the drowsiness measure as an output.

Our business model is to sell the SDK, to allow customer to integrate it into their DMS. Once we sign a production and commercialization agreement with the client, they license the solution on per unit basis.

DVN-I: With who are you working with?

S.B.: We're mostly working with tier-1s and DMS providers. We really see the market falling into two segments, the tier ones that have DMS as part of a wider product offering and the dedicated DMS providers, smaller companies that have sometimes software only DMS solution.

DVN-I: Where are your customers?

S.B.: Mostly in Europe and the US. More recently we have begun conversations in Asia too.

DVN-I: Do you have specific requirements to integrate it within your customer systems?

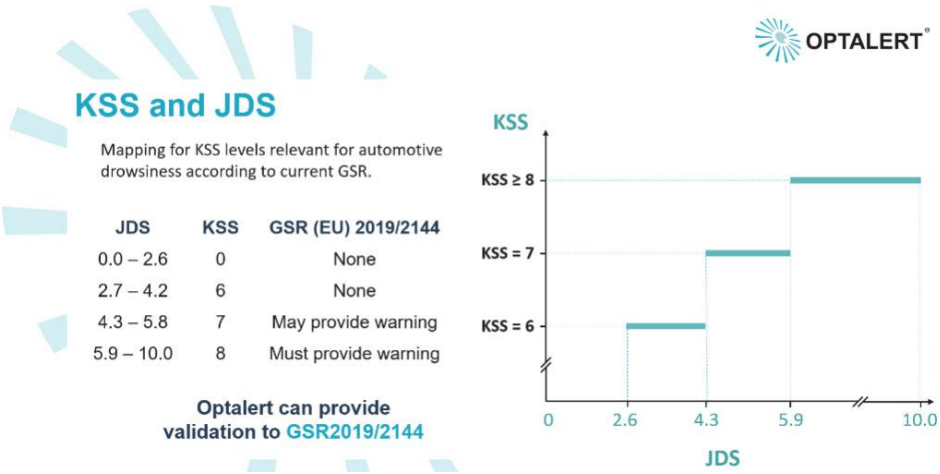
S.B.: Our software-based solution is completely agnostic in terms of technology and hardware. We do have requirements on the accuracy of the eyelid movement measure. As an initial engagement, we typically go through an evaluation phase where we obtain data from the DMS provider. We feed that through our algorithm and observe the data to see if they are resolving the eyelid values accurately enough, whatever the camera technology is. Of course, it needs to have sufficient frame rate and resolution to provide that signal accurately enough. DMS providers can even upload a limited amount of data directly on our website to see that initial assessment for free.

DVN-I: How are you positioning your technology versus others?

S.B.: Optalert is the only technology with such a fantastic track record of real-world use. When you attend automotive conferences, you see many technology presentations, hear many discussions around regulations, but no one has a 15-year track record measuring drowsiness. Because of the nature of drowsiness, you need to put someone in harm's way to really test it in the field. That is something that is very difficult to test on a prototype. Plus we have scientific validation of our algorithm.

And we are commercially validated by companies like Vale, one of the biggest mining companies in the world (around €60bn turnover). They even specify that any equipment must have an operational Optalert solution to be used in production. Every day, thousands of their drivers around the world are being tracked with Optalert.

We do not need to adapt to any human factors, because it's a fundamental physiological measurement. The subject just needs to have an eye! AI-based systems would have to use a huge amount of data, to recognize how a human looks like, age, gender, ethnicity, and so forth. It is like measuring body temperature, it works whatever the physiology of the individual.



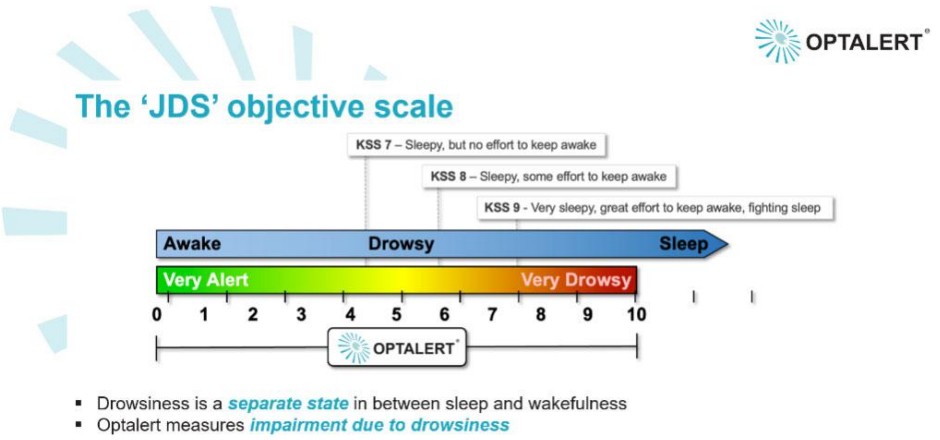
OPTALERT IMAGES

DVN-I: How do you see regulation progressing?

S.B.: It is starting from a very low level. Maybe it is necessary to start, but that's definitely not good enough. KSS is a subjective measure, and it has basic bias in it, as you ask the driver every 5 minutes how they feel, and the question itself supports their cognitive engagement. It will need to be based on a permanent non-intrusive, cognitive based measure, like ours.

Today the regulation requires KSS, and long eye closure monitoring to trigger alerts: 2 seconds is micro sleep, 3 seconds is next level, and 6 seconds is driver incapacity. Our system delivers those measures, but we do not think it's enough. We also deliver our objective JDS (Johns Drowsiness Scale) from 0 (low risk) to 10 (high level of drowsiness), with 0.1-point increments.

We see our measure satisfying the industry regulations not only today, but also for the future. But more importantly, delivering a solution that does not fail the industry.



DVN- I: What else can your system do?

S.B.: With the rise of cameras in the vehicle, the market will mandate RGB/IR functionality to drive non-safety applications such as selfies. We are seeing the inclusion of emotion detection and other technologies and there are

plenty of experts in these fields.

Drowsiness based on eyelid movement is our expertise. Today we are exploring the potential for other neurological markers, to one day monitor the presence of sleep apnea, Epilepsy or Parkinson's Disease. If you commute a couple of hours a day there is the potential to track and monitor neurological activity, building a baseline. this may lead to the early detection of these conditions. Optalert is actively working on these biomarkers.

In Australia, if you have symptoms of Epilepsy, you lose your driver's license. With Optalert, it could be possible to be monitored, and to continue to safely drive.

We can also use our technology to determine the driver is alert. For autonomous vehicles, regulation has a maximum speed limit for transitioning from autonomous to manual. If you monitor the driver properly, and you know they are alert, you could increase that speed limit. That is a potential additional value to our system.

DVN-I: What other services or functions can your system can deliver?

S.B.: Pending driver state, for example, the vehicle could suggest s/he should have a coffee in 20 minutes at the next service station. Instead of annoying the driver with alerts, it can give positive information. You can think also of tightening up the safety features like seat belts, or letting the driver know the state of the drivers in other vehicles, via technologies such as V2X.

Additionally, our technology can be used via crowdsourcing to generate heat maps, with areas where accidents have the potential to be more frequent because of drowsiness. We do that for mining customers today and we see a significant reduction in accidents.

DVN-I: What does all this add up to, all in all?

S.B.: Optalert has more than 20 years' expertise in drowsiness. Optalert has the only objective, medically based and universal drowsiness solution, independently and extensively validated by leading medical and academic institutions.

We have successfully commercialized our solution in mining and long-haul transport fleets for nearly 15 years. It is easy to integrate, it is a software only solution.

We are now delivering this market-leading technology in the automotive industry.

Finally, the future of driver monitoring is proactively monitoring the health and wellbeing of the driver and vehicle occupants.

Interior News

Forvia Materi'act to Develop, Produce Sustainable Materials

INTERIOR NEWS

FORVIA IMAGE

Forvia announced last week the creation of Materi'act, a new brand to develop and manufacture sustainable materials on a greatly increased scale and pace.

Materi'act develops; sources; produces, and sells materials with up to 85-per-cent CO_2 reduction versus current materials. The range of products includes recycled; bio-based, and carbon-capturing compounds; bio-based foils; low-CO_2 carbon fibers, and green steel for the automotive industry and others. All sustainable materials from Materi'act are aligned with the European Green Taxonomy.

The new entity brings more than 10 years' expertise in formulating and processing recycled and bio-sourced materials, including experience in variability management.

From waste and biofeedstock management to renewable materials, Materi'act mobilizes an entire ecosystem. For example, biomass introduction in compounds is enabled by the APM joint venture with Interval, an agricultural cooperative producing hemp and related co-products such as fibers. Recycled content introduction in compounds is enabled by a joint development agreement with key partners like Veolia. Biomass introduction in coated materials is supported by a joint development agreement and a commercial agreement with Ananas Anam to develop and sell a sustainable alternative to leather, made from waste pineapple fibers. By developing strong partnerships for bio-sourced and recycled materials, Materi'act is securing both feedstock quantities and industrial readiness to meet customers' performance requirements and to have a sustainable impact on the industry.

Materi'act will be headquartered in Lyon, France. A new research and development centre as well as a pilot workshop will be onstream next year. Materi'act will employ 400 people by 2025, and generate over €2bn by 2030.

AqFresh Additive Reduces Interior-Trim VOCs

INTERIOR NEWS

AQDOT IMAGE

Aqdot, a chemical-technology company based in the UK, has released AqFresh™: a versatile new additive technology designed to improve vehicle IAQ (interior air quality).

VOCs (volatile organic compounds) are organic chemicals with a high vapor pressure at room temperature. They come from from post-polymerization of plastics—and they're smelly, messy when they accumulate on window glass, and harmful to the health when inhaled. AqFresh, a supra-molecular powder, has been incorporated into nonwovens; textiles, and plastics typically found in automotive interior parts and proven to significantly reduce their VOC and odor emissions. The patented technology uses cucurbiturils: barrel-shaped molecules with a hollow hydrophobic cavity and polar portals, enabling them to tightly bind a wide spectrum of unwanted molecules.

AqFresh—see **video**—captures a wide range of pollutants and malodors, is not affected by normal changes in environmental conditions, and is nontoxic. This unique technology has been applied to textile and nonwoven materials through dry impregnation as well as by spraying and padding during the finishing process. AqFresh has also been proven to be effective in rigid plastic parts such as polypropylene dashboards, into which it can be incorporated via compounding or polymer masterbatch. It has been added into the manufacturing process of PVC coated textiles and VDA-270 sensory panel tests clearly demonstrate a 1- to 1.5-point reduction of odor.

According to a global consumer survey of 670 buyers of new cars, the smell of the interior influences buyers' choice of car. While Americans revere that new-car smell (which is mostly VOCs), 77 per cent of Chinese would be more likely to buy a new car that does not have a new-car smell; they link it with poor IAQ.

Focal Car Audio Off to a Great Start

INTERIOR NEWS

FOCAL IMAGE

For most drivers, the right soundtrack—an exciting audiobook; an entertaining podcast, or their radio station—is part of the driving experience. The quality of the playback has a major influence on the listening experience.

Hi-fi specialists Focal, in Saint Etienne, France, equips among others DS and Peugeot production models with speakers; subwoofers, and amplifiers. In 2018, they launched their Utopia Excellence range with the Utopia M products—which immediately won a CES Innovation Award in Las Vegas.

Besides trebles; midtoness, and basses, the surround sound can also be defined in the car. Focal puts a lot of effort into this, which is why the default setting is actually already pretty good. "Adjusting it is only worthwhile if you have special personal preferences, such as stronger bass", says Focal's automotive OEM manager Guillaume Sirami, who has been working at Focal for more than 14 years. Similar to other vehicle components, sound engineers make acceptance and test drives to examine the sound of a sound system under different conditions; for example, in city traffic or at 130 km/h on the highway.

Škoda's Vision 7S Loses the B-Pillar

INTERIOR NEWS

ŠKODA IMAGES

We've got more information on The Škoda Vision 7S, elaborating on our previous coverage. The car is designed to attract the interest of families who have large space requirements, whether for children or for hobbies and leisure. Up to seven people can ride along. In van configuration with the seat backs folded down, the load volume rises to over 2,000 liters.

The portal doors and the lack of a B-pillar open up the entire flank of the Vision 7S for entry or for simply latching the child seat shell onto the center console of the show car. Inside, four seemingly floating lounge-style seat buckets invite active driving or just relaxing. At the touch of a button, the seat slides outward from the driving position to the relax position and tilts toward the central touchscreen, which simultaneously rotates 90 degrees to landscape mode while part of the dashboard retracts forward.

SKODA IMAGE

The interior of the Vision 7S bears virtually no resemblance to today's cabins. Unusual for electric cars is the wide and very high console. It separates the passengers both in the front and on the rear seats. On closer inspection, it is suspended and has a magnetic underside. Various small items from Škoda's range of accessories can be attached to it.

The designers have found an optimal position for a baby seat: opposite the direction of travel, the shell is positioned on top of the center console between the headrests of the front seats. An interior camera transmits the child's video image to the 14.6” large front screen.

The display is mounted on edge and is intended to control all infotainment functions. However, Škoda will also rely on physical controls in the future. Three large rotary controls are available in the center console for the climate functions. In front of them are two magnetically locked smartphones that act as touchscreen remote controls to allow further human-machine interaction. The air outlets on the dashboard only extend when needed.

The fabric-covered door trim masters light and switch functions without LEDs or buttons that are visible when not in use. The status of the lock, for example, shines through the fabric, and pressing a certain spot opens the door.

Great importance was attached to the use of recycled materials. The production car is expected to emerge from the Vision 7S study by 2026.

Mercedes EQS 580: High-Level E-Mobility

INTERIOR NEWS

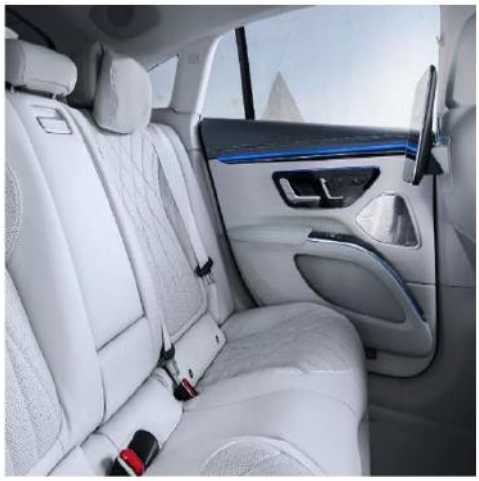
MERCEDES-BENZ IMAGES

S stands for luxurious and premium in Mercedes taxonomy. It is even more true when S vehicle turns into an EV to become EQS. Now, it also stands for AI (Artificial Intelligence) to create an even greater experience.

The EQS is full of AI. For example, the navigation system calculates the fastest route not only according to the current traffic volume, but also considers the charging status, the charging stations available on the route, and the course of the route itself.

The driving experience itself is better described as floating. Powertrain noises are almost completely absent; there's only a pleasant whirring. The EQS is easy to maneuver on account of the self-steering rear axle, which makes parking or maneuvering a cinch. Up to four degrees in both directions is the standard programming; up to ten degrees can be bought for an extra charge and unlocked by an over-the-air update.

The Hyperscreen display running across the entire dashboard has a giant surface area of two and a half square meters. It is divided into three parts: a TFT display for the driver and two OLED panels, one in the center for navigation, and climate; and one for the front passenger. In addition, there is a large HUD, readable even with sunglasses. The MBUX voice control plays in important role between driver and the vehicle. With intelligent software, MBUX fully adapts to its users and provides them with personalized suggestions for numerous infotainment, comfort, and vehicle functions. Known as the zero layer, most applications are offered within the field of vision, according to situation and context.



MERCEDES-BENZ IMAGES

The legroom in the front and in the rear are above segment average. The second row of seats can be electrically adjusted as standard. Unlike other luxury-class sedans, the trunk compartment already offers space for 610 liters of luggage in its normal state. Folding the rear seat backs creates space for 1,760 liters.

Driver and passengers are greeted acoustically when approaching the vehicle and when getting in. A corresponding Aura sound also accompanies the exiting and locking of the EQS. Also part of the particular soundscape is the driving sound, which is reproduced by the speakers in the interior to stir emotions and inspirations. At the same time, the driving sound is interactive, as it responds to a good dozen parameters such as the accelerator position, speed, and energy recovery. The choice of driving mode also influences the driving sound; in Sport mode, for example, the sounds become more dynamic and further effects are activated. The amplifier on the Burmester surround sound system uses intelligent sound design algorithms to compute the sounds in real time, and the speakers reproduce them.

Rolls-Royce Spectre: Luxury Decentralized-Intelligence EV

INTERIOR NEWS

BMW IMAGES

The age of twelve-cylinder engines and internal combustion engines is getting close to an end at Rolls-Royce. However, the electrification that has now begun will not change anything in terms of appearance or luxury. Rolls-Royce is joining the electric age next year; around a year before market launch, the company has now unveiled their first battery-powered model, the Spectre fastback coupe.

The interior of the Spectre is the most technologically-advanced cabin ever in a Rolls-Royce, with a revolutionary 'Decentralized Intelligence' system that allows for the free and direct exchange of information between more than 1,000 vehicle functions. One of the highlights is the optional Starlight Doors feature, which incorporates 4,796 illuminated dots in the interior and that number excludes the headliner.

The special nighttime theme continues with the Spectre's illuminated fascia. It incorporates the Spectre nameplate surrounded by a cluster of over 5,500 stars. Located on the passenger side of the dashboard, the illuminations are completely invisible when the motor car is not in operation.

STARLIGHT FEATURES IN DOORS AND HEADLINER (BMW IMAGE)

Access to the four seats is provided by large, rear-hinged doors, which also can be commissioned with a backdrop of wood Canadel panelling. Named after a cove in the South of France where Sir Henry Royce and his design team spent their winters, Canadel is tactile, with a light satin finish that retains the material's natural texture.

The Design Lounge

BMW Moves, Shrinks US Design Studio

THE DESIGN LOUNGE

BMW IMAGES

BMW Group has moved the U.S. headquarters of their design studio, Designworks, to Santa Monica, California. Designworks has additional sites in Munich and Shanghai.

Designworks is a global creative consultancy. Designworks USA was founded in 1972 by Chuck Pelly, and became a wholly-owned subsidiary of BMW in 1995. Through their experience with clients in diverse industries, they bring external perspectives and creative inspiration to the BMW Group. Designworks also shares expertise from the complex automotive sector with clients from other industries in joint innovation projects.

Adrian Van Hooydonk, the design director of BMW Group, characterizes the move, which takes Designworks US' square footage down from 70,000 square feet (6,500 m^2) to 16,000 square feet (1,485 m^2) in the new space. It's easier for employees to get there, and Designworks' 65 employees will be encouraged to use the studio at least three days a week.

The new space incorporates minimalistic Scandinavian-style furniture with warm wood tones, oranges and chocolate browns. It sports the hallmarks of hybrid office life: small booths, group tables, and individual work stations that can be

used as standing or sitting desks. Such furniture as modular sofas, black marble tables and tall bar stools come from Muuro and Knoll.

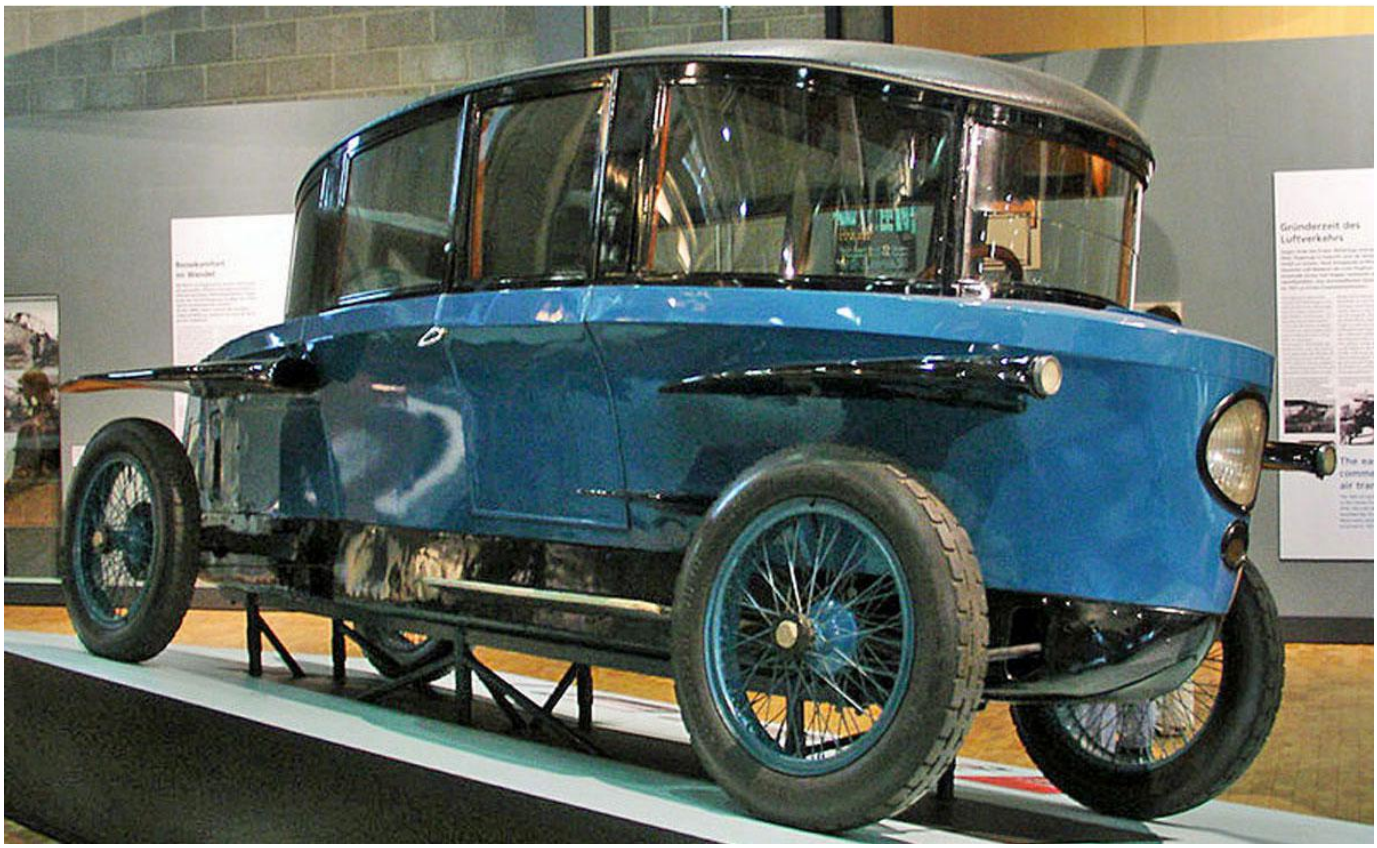
What the new Designworks's office doesn't have is staging for the large clay models traditionally used in automotive design, which helps explains the radical downsizing. Big space for clay modelling is no longer necessary, as everything is done on a computer.

Designworks will not be open to the public, although some events will be accessible to non-employees.

Rumpler Trompfelwagen

THE DESIGN LOUNGE

COFFEE CORNER
DVN
Interior



WIKIMEDIA IMAGES

The resistance of a car driving through the air increases in function to the square of its speed, and the power required to drive through the air increases in function to the cube of the speed. This concern accounts for many automotive developments and a multiple number of design alterations since very early on. Because zeppelins where worried about aerodynamics before cars did, aviation engineers preceded this apprehension. Often more sensitive and knowledgeable on airflow matters, they contributed greatly to the aerodynamic transformation of early vehicles. The equation above mentioned, became timely an important component of anything that moved through the air. One of the greatest contributions though was the shift of imagination on what the form of future mobility would be during the early pioneering years of the automobile.

Edmund Elias Rumpler, an Austrian aircraft designer, was the creator of the first streamlined production car, before the Chrysler Airflow and Tatra T77. He certainly knew that teardrop shape was the best for aerodynamics, however, when a car is built like a teardrop, it probably ends up with some impractical volumes: long and slim tail and overall, very unconventional interior set up.

The Rumpler Tropfenwagen ("Rumpler drop car" named after its raindrop shape), presented in 1921, had a drag coefficient of 0.28, a figure that dazzled engineers later, and would be reasonable even with today's standards. To better serve its aerodynamic shape, it was equipped with the first ever single-plane curved windows. Both windscreen and side windows were extensively bowed. Able to seat four or five, between the axles for maximum comfort, the driver was alone at the front with a great panoramic vision. Although the car was very advanced for its time, it sold poorly due to initial unresolved mechanical problems, eventually the appearance and of course the absence of a luggage compartment.

Even though taxis are the least concerned vehicles on aerodynamics, most of the 100 prototypes built were finally sold as taxis; the high ceiling enabling easy entrance and exit, was seen as an advantage. The last of them was built in 1925.

In 1927, way before CGI, the film Metropolis used real sets to feature a futuristic urban dystopia, following an imaginary substitution of the horse carriage into what would become ‘the vehicle’. The dominant themes of Metropolis concern its architecture, street life, spaces and daily routine of its inhabitants yet mobility is represented, or rather synthetized, into one curious moving object, a unique and identitary streamlined shape on wheels, nothing less than the Tropfenwagen itself.The film has enjoyed since a cult status, still inspiring creators of all kind. All these are curious twists of fate, facts and trivia that conjured up feelings of motion into a new era of imagination. By the mere attempt to streamline a horse carriage, the archetype of motion shifted human imagination into modernity.

News Mobility

Holon is New Benteler AV Brand

NEWS MOBILITY

BENTELER IMAGE

Benteler Automotive, based in Paderborn, Germany, develops and produces components and modules in the areas of chassis, body, engine, exhaust systems, and system solutions for electric vehicles. Now, the company has founded the Holon brand and will focus in the future on the business with fully electric, autonomous shuttles for public and private passenger transportation. The company plans to start production in the USA in 2025.

Holon is working with Italian design firm Pininfarina; mobility provider Beep, and lidar specialists Mobileye, among others. The latter is to develop the autonomous system for the vehicle, Beep will provide technology and services for the deployment and operating systems of a mobility service, and Pininfarina is to design the vehicle.

In addition to public transportation companies, Holon plans to offer their vehicles to municipalities and private entities such as campuses, airports and national parks. Another area of application is last-mile delivery, for which Holon plans to develop special autonomous transport variants. Holon also plans to announce initial pilot applications, including outside North America, in the coming months and develop them starting in 2023. A Holon autonomous shuttle will be unveiled at CES 2023 in Las Vegas next January.

Finn StartUp Plies New Business Model

NEWS MOBILITY

FINN IMAGE

Anyone who wants to order a new car now needs patience. Delivery times for EVs, for example, are up to 18 months. New vehicles are available more quickly in combination with a car subscription. These monthly models are still a niche, but one that is also growing due to the availability bottlenecks - and the startup Finn, which is one of the first providers of car subscriptions in Germany, is benefiting from this.

From €4m in 2020, the startup has increased their revenue to more than €100m within two years, as co-founder Maximilian Wühr revealed to Handelsblatt—a value that makes an impression in the startup scene, and is higher than that of many start-ups with a valuation in the billions.

Finn has massively expanded its fleet since it was founded three years ago. Customers generally pay slightly higher monthly installments under the subscription model than under traditional leasing. In return, they are relieved of a lot of work: Insurance and maintenance are included. Customers only have to pay extra for refueling, whether gas or electricity. In addition, the terms are more flexible, ranging from one to 24 months. Customers can use them as needed without tying up tens of thousands of euros in cash or financing in a vehicle.

According to a study by the Center of Automotive Research, the share of car subscriptions in the private customer segment is likely to increase in the coming years from 0.2 per cent in 2020 to 40 per cent in 2030. In absolute terms, that would mean from 40,000 to around one million for Germany.

Compared to the average car buyer, Finn's customers are younger and more open to new technologies. Those who take out a car subscription with the start-up are 37.5 years old on average.

General News

Renault, Google Expand Pact for Cars 'Like Mobile Phones'

GENERAL NEWS

RENAULT IMAGES

Renault is deepening their collaboration with Google in a bid to extend capabilities on remote software updates to new models such as the electric Megane E-Tech and Austral.

“We want to make the car an intelligent object that learns and one that can be upgraded over the air like a mobile phone,” Renault CEO Luca de Meo said in an interview.

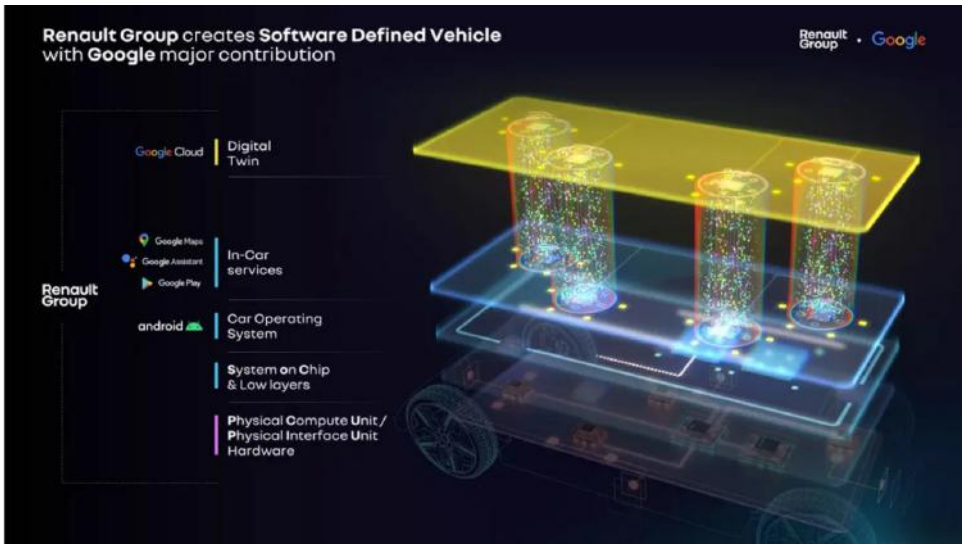
Expanding the partnership with Google, which started in 2018, will allow Renault to offer more OTA software updates as well as additional on-demand services.

The partnership with Google will also help Renault accelerate their end-to-end digital transformation, from the design of the car to its market launch through its production. De Meo explained: "We are a hardware manufacturer; software is another sport. If you want to learn to play tennis, you better go with someone who plays proper tennis".

The new in-vehicle digital features will create additional revenue while bolstering the residual value of Renault cars and retain customers, de Meo added.

Functions on demand will include drivers being able to locate their cars in large parking lots. “The product stays in connection with the company from cradle to grave, for more than one ownership cycle", said de Meo.

The expansion of the partnership with Google shows Renault’s “horizontal” strategy under de Meo, which includes collaborations on software with developers rather than designing the tech in-house—a strategy that has yielded mixed results at other traditional automakers.



Most automakers and technology companies including Sony, Apple and Google, have been working to develop ways to build future cars into platforms more like smartphones, with billable services where key updates are wireless.

Industry to Fight Tighter Emissions Standards

GENERAL NEWS

A few days before the European Commission's detailed submission for the planned Euro 7 emissions standard, the Association of the European Automobile Industry (ACEA) is questioning the entire plan. From the point of view of the European car manufacturers, even an extremely tightened standard compared to the current Euro 6d standard would have little additional effect on the environment before internal combustion engines are to be banned anyway in 2035.

The emissions standards are mainly about the rate of pollutant emissions such as carbon monoxide, particulate matter and for diesel engines, nitrogen oxides. ACEA reports that, according to recent studies, renewing the fleet with vehicles that meet current emission standards and, in parallel, switching to e-cars would reduce emissions of nitrogen oxides by 80 per cent from 2020 to 2035.

With a view to the Euro 7 standard, it had long been feared in the automotive industry that additional requirements would necessitate development and production of unnecessary very expensive cleaning technology and will cost several thousand euros extra per car, with limited quantities to recover investments.

Only the head of Europe's second-largest car company Stellantis, Carlos Tavares, has so far taken a public stand against any Euro 7 standard. However, he and his group are in the process of withdrawing from the ACEA association. Other carmakers still shy away from the risk of making themselves unpopular with statements on Euro 7. From the point of view of environmental associations and environmental institutes, Europe's auto industry is in the process of softening up the European Commission for a Euro 7 standard, which would bring only a few tightening measures for passenger cars.