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DAuto Engineering Private Limited

2016
DAuto Newsletter

June Edition

Design engineers turn designs into reality. Without them, a great idea but nothing more than, ... well, a great idea.

Volkswagen BUDD-e Concept wins Interior Design of the Year Award

The futuristic interior concept of the BUDD-e minivan concept car presented at CES 2016 has received the "Interior Design of the Year" award.

Graham Johnson, Managing Director of the exhibition organizers and responsible for the Automotive Interior Awards, explains: *"The CES 2016 Showcar offers a fascinating insight into what Volkswagen may achieve in future. On this basis, we should all be excited about next-generation of Volkswagen interior technologies and developments."*

The award was presented at the "Automotive Interiors Expo 2016" in Stuttgart. Tomasz Bachorski, Head of Interior Design, and Gustav Hofmann, Head of Interface Design, received the award on behalf of the Volkswagen brand and the design team headed by Chief Designer Klaus Bischoff.

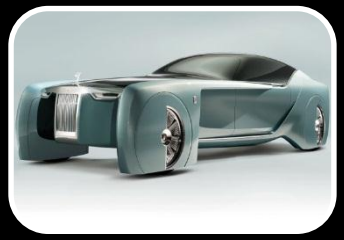
The judging panel comprises a total of 17 international leading motor and design journalists who cast their votes in six categories.

The futuristic interior is characterized by the intuitive operation of the instrument and operating concept and the atmosphere of lightness.

Rolls-Royce 103EX envisions the future of luxury mobility

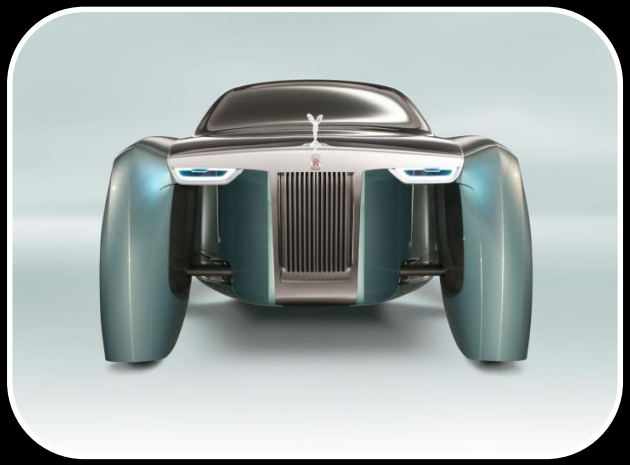
The Rolls-Royce Vision Next 100 – codenamed 103EX – is Rolls-Royce's first "Vision" concept – an autonomous vehicle that anticipates the demands of the luxury customer of the future.

The Grand Arrival of the Rolls-Royce VISION NEXT 100 is first signaled by the Spirit of Ecstasy and Pantheon grille illuminating to cast an ethereal, otherworldly glow from the front of the car.



As this vision of the future gracefully sweeps up to its destination, the ethereal glow spreads from the trailing edge of the front wheel arch to the rear of the single coach door, signaling that something momentous is about to happen. As the Rolls-Royce VISION NEXT 100 gracefully comes to a halt, something magnificent occurs.

Giles Taylor, Director of Design, Rolls-Royce Motor Cars, explained: "*With the Rolls-Royce VISION NEXT 100 we were mindful not to dwell on the past. We wanted to be as innovative as possible and at the same time transcend the design history of the marque.*"

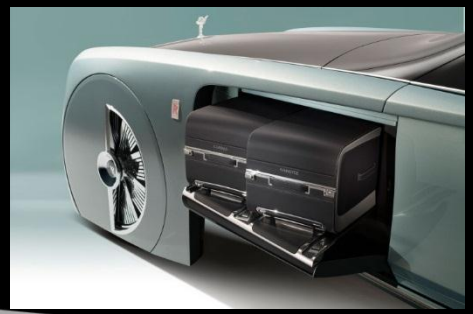


Designers envision a future where, much like with today's Rolls-Royce Bespoke experience, the customers' will be able to influence the exact design of their vehicle and how it will be configured.

Rolls-Royce 103EX envisions the future of luxury mobility

This is made possible by the adoption of an approach inspired by the world of great coachbuilders of the past. An advanced chassis, hand-built from the most advanced materials and powered by a zero emissions powertrain, will be coupled with a body developed specifically for each individual customer thanks to the use of advanced manufacturing technologies.

The luggage compartment opens automatically following arrival and disembarkation, presenting two Grand Tourer cases. In the case of the Rolls-Royce VISION NEXT 100, the cases are fittingly personalised to CS Rolls and FH Royce.



"Rolls-Royce design today is the epitome of elegance," Taylor comments, "and this elegance is achieved through simplicity of design under which lies the technology that makes our patrons experience effortless."

Passengers are cocooned in the futuristic but handcrafted lounge atmosphere, the coach door and clamshell canopy glide closed to envelop them in uninterrupted silence and luxury.

The imposing dimensions – 5.9 meters long and 1.6 meters high – mirror the dimensions of today's Phantom Extended Wheelbase, whilst the ever constant Spirit of Ecstasy grows in stature, harking back to the regal Phantoms of the 1920s.

New Audi A5 Coupé: the design

Audi has revealed the second generation A5/S5 Coupé, featuring a new surface treatment that adopts the brand's current design DNA.

The first generation A5 is well known among designers for being defined by Walter de Silva as his most beautiful creation. Now Audi has revealed its successor, which maintains the distinctive and well-balanced proportions while adding the styling cues typical of the company's current model line-up.

Seen from the side, the new A5 is characterized by a stronger and sharper wave-shaped shoulder line, but the overall look is preserved, with its long hood, the stretched wheelbase and short overhangs.

On the other hand, the front view showcase more differences:

the lines are sharp and bold, with a flatter hexagonal single grille, new headlights with square-shaped LED lighting units and a new hood featuring two pronounced crease lines that underline to the aggressive look but mark a departure from the first generation clean, curvy look.

New Audi A5 Coupé: the design

From a technical standpoint, the new Audi A5 Coupé is more efficient than its predecessor thanks to a reduction in weight (up to 60 kg) and the improved aerodynamics – the drag coefficient is just 0.25.

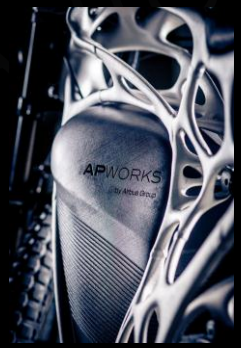
At the rear the new A5 features newly-designed tail lights, but the original character is not revolutionized.

The interior appears to be more modern, and features a high-tech, sporty look. The only controversial element is the touch screen, which is not integrated on the dashboard.

Airbus unveils 3D-printed motorcycle with bionic design

Airbus subsidiary APWorks has presented the 'Light Rider', the world's first 3D-printed motorcycle, which uses advanced materials and manufacturing processes to achieve a total weight of just 35kg.

The Light Rider motorcycle is made using APWorks' Scalmalloy® material. Powered by a 6 kW electric motor, the bike has a lightweight frame weighing just 6 kg, and is 30% lighter than conventionally manufactured e-motorcycles.



APWorks, a 100% subsidiary of Airbus Group, has been developing additive layer manufacturing (ALM) technologies since its launch in 2013. Now it produces bionically optimized metal parts for a wide range of industries, from aerospace to automotive and robotics.

APWorks is offering a limited production run of 50 Light Riders for sale, which can be pre-ordered with a deposit of 2,000€ and a total price of 50,000€.

APWorks used an algorithm to develop the Light Rider's optimized structure to keep weight at a minimum while ensuring the motorcycle's frame was strong enough to handle the weight loads and stresses of everyday driving scenarios.

Airbus unveils 3D-printed motorcycle with bionic design

3D Printing Technology

Each 3D-printed part of the Light Rider's frame is produced using a **selective 3D laser printing** system that melts millions of aluminum alloy particles together consists of thousands of thin layers just 60 microns thick.

"The complex and branched hollow structure couldn't have been produced using conventional production technologies such as milling or welding, "said Joachim Zettler, CEO of Airbus APWorks GmbH.

"Advances in additive layer manufacturing have allowed us to realize the bionic design we envisioned for the motorcycle without having to make any major changes. With these technologies, the limitations facing conventional manufacturing disappear," he added.

The material used is a proprietary alloy called Scalmalloy®, a corrosion-resistant aluminum alloy that is virtually as strong as titanium.

Specifically developed for ALM-based production, the material combines high strength with an extraordinary level of ductility, making it an especially interesting material to use for highly solicited parts in lightweight robotics, automotive and aerospace applications.

Volvo unveils highly efficient Concept Truck

Volvo Trucks has revealed a new truck prototype that thanks to a lightweight construction and aerodynamic design is capable of cutting fuel consumption by more than 30%.

Almost one-third lower fuel consumption. Volvo Trucks' new concept vehicle shows how it is possible to drastically boost productivity in long-haul operations. Among the secrets behind these remarkable fuel savings are aerodynamic design and lower kerb weight.

"We've modified the entire rig and optimized it for improved aerodynamics as much as possible. For instance, we use cameras instead of rear-view mirrors. This cuts air resistance, so less energy is needed to propel the truck," explains **Åke Othzen**, Chief Project Manager at Volvo Trucks.

The concept Truck was developed by Volvo Trucks with support from the Swedish Energy Agency, and is the result of a five year long research project aimed at creating more energy-efficient vehicles.

One of the key factors behind the low fuel consumption is the massive **40 % improvement in aerodynamic efficiency** that has benefited both the tractor and trailer.

Volvo unveils highly efficient Concept Truck

Work on the Volvo Concept Truck has been in progress since 2011. The aim is to improve the efficiency for long-haul truck transportation by 50 %. Since the concept vehicle is part of a research project it will not be available on the market. However, some of its aerodynamic features have already been implemented on Volvo Trucks' series-produced vehicles, and more of its solutions may be fitted in the future.

In addition to the aerodynamic improvements, the concept vehicle is fitted with newly developed tires with lower rolling resistance. The trailer weighs two tonnes less than the reference trailer, which translates into either lower fuel consumption or the possibility of higher payload. The project also includes an improved driveline. The rig was test driven on Swedish roads in autumn 2015.

Peugeot L500 R HYbrid Concept

The extreme Peugeot L500 R HYbrid Concept racing car celebrates the 100th anniversary of the Indianapolis 500 victory by Dario Resta on the Peugeot L45.

The sleek body features a blue-black color scheme that pays homage to the original racing car, while at the same time recalling some of the company's recent show cars, characterized by a combination of different exterior colors and finishes.

The Peugeot L500 R HYbrid Concept features extreme proportions, with a height of just 1 meter and a projected weight of 1,000 kg.

The powertrain is a plug-in hybrid combining a 266 gasoline engine with two electric motors – one on each axle, for a total torque of 730 Nm. The 0-100 km/h sprint time is just 2.5 seconds.

Peugeot L500 R HYbrid Concept

The interior features a high-tech cockpit equipped with the brand's i-Cockpit technology and holograms showing info in dual disc displays.

Matthias Hossan, the brand's concept car and technological advance chief, explains: "*With the L500 R HYbrid we're paying tribute to PEUGEOT racing exploits dating to the early 20th century. Inspired by this spirit of performance and innovation we wanted to convey a sculptural, elegant and technological view of the future of PEUGEOT motorsport.*"

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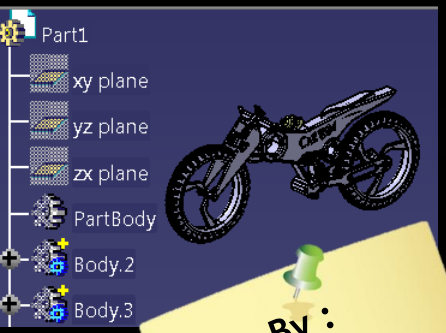

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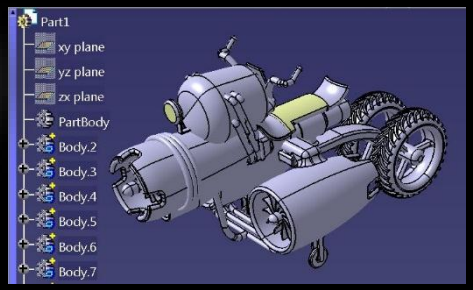

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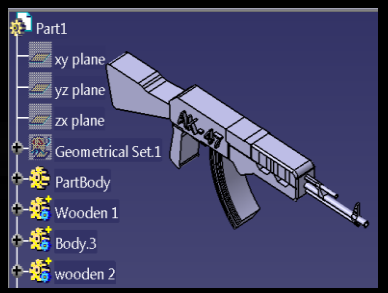

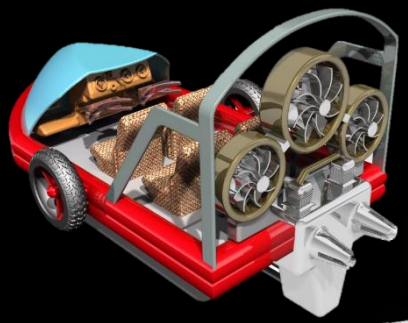

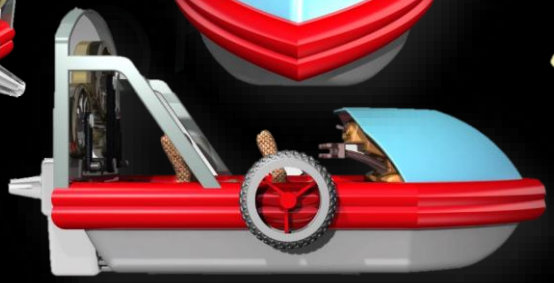

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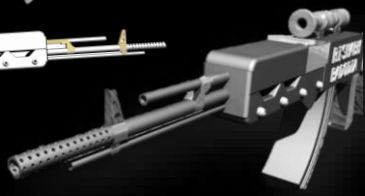

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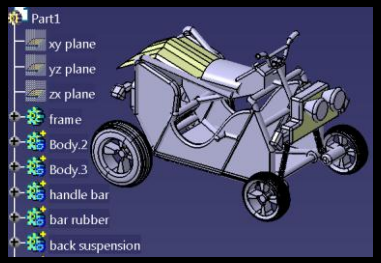

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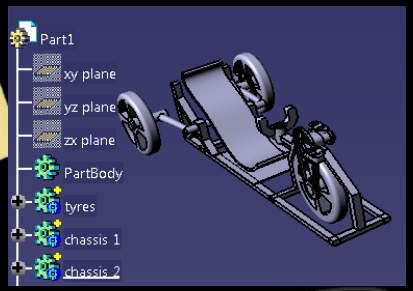

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