The Daily Star DHAKA, WEDNESDAY, JANUARY 6, 2016 e-mail: shift@thedailystar.net

SHIFT

AUTOMOTIVE PUBLICATION OF The Daily Star

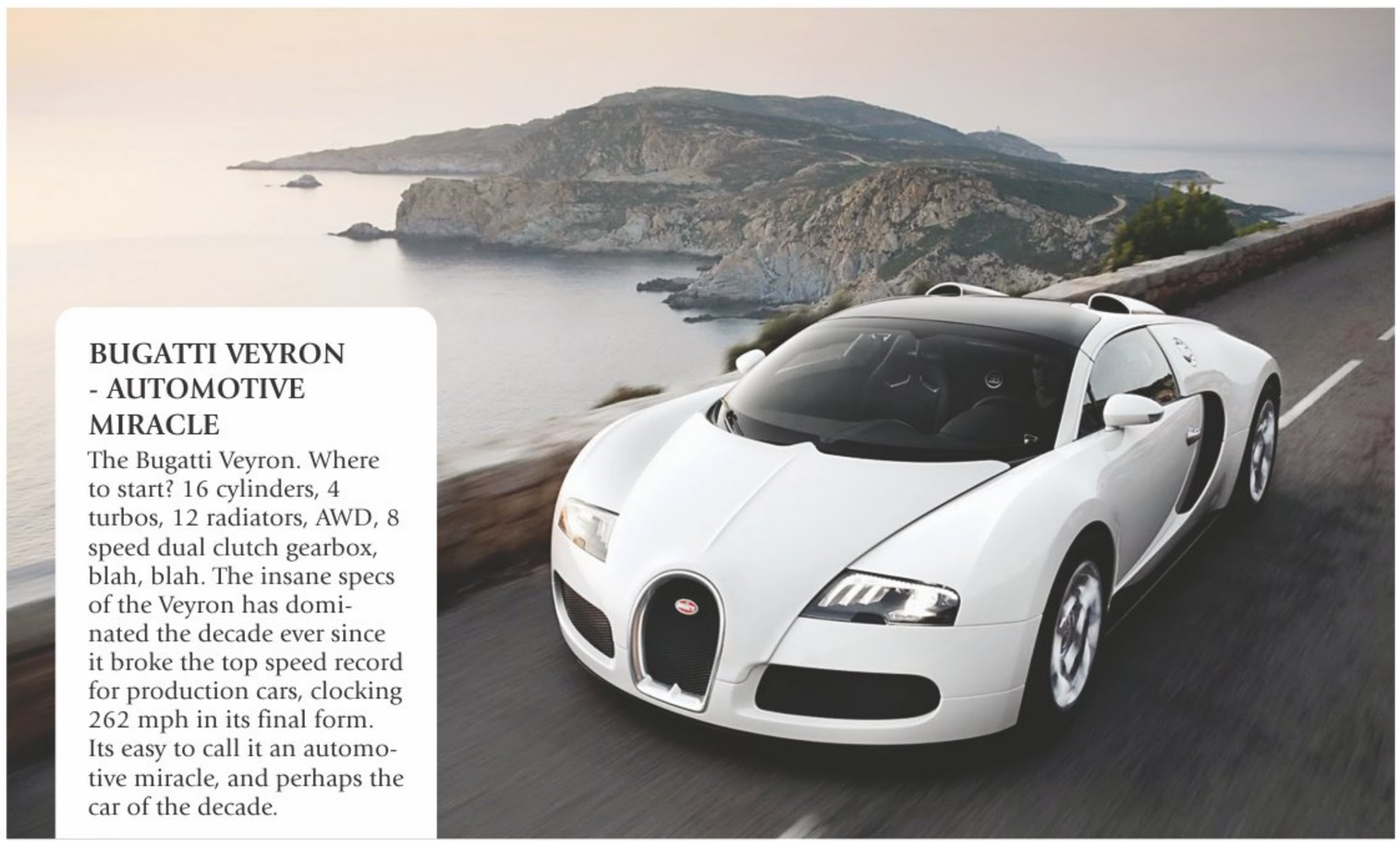
EVOLVING MACHINERY II

Last week we covered the significant automotive milestones the automotive world has seen since its shaky start. This week, in part two, we look at the technological advancements we've seen in the last 15 years. Its incredible, the leaps and bounds the industry has made in such a short span of time, and its mind blowing to think how much ground we have to cover still.

SHAER REAZ

TOYOTA PRIUS – PARKING ASSIST

The second generation Prius had already lost the early innovator advantage the first generation had as the first and only hybrid vehicle on the market. To liven things up and gain an edge over the competition, Toyota packed the 2003 Prius with loads of tech, such as the Intelligent Park Assist System, which parked your car for you using sensors and cameras. Lexus would adopt the tech soon after, and parking assist would become a mainstay for luxury vehicles worldwide.



BUGATTI VEYRON - AUTOMOTIVE MIRACLE

The Bugatti Veyron. Where to start? 16 cylinders, 4 turbos, 12 radiators, AWD, 8 speed dual clutch gearbox, blah, blah. The insane specs of the Veyron has dominated the decade ever since it broke the top speed record for production cars, clocking 262 mph in its final form. Its easy to call it an automotive miracle, and perhaps the car of the decade.

PORSCHE 911 GT2 – CARBON CERAMIC DISC BRAKES

The 911 GT2 always had a reputation for trying to kill its occupants, with lairy handling and power delivery that required race-driver skills to contain. To give drivers more confidence, Porsche introduced carbon ceramic disc brakes, calling it PCCB. Since then, almost every hypercar has utlised carbon ceramic discs to stop themselves.

AUDI Q7 – COLLISION AVOIDANCE SYSTEM

The Swedes are usually the first ones to implement revolutionary safety systems on cars, but the Germans had them beat on this one. Audi's collision avoidance system utilsed sensors in the front bumper that gauged the distance between the car and the car in front, and applied the brakes automatically if the system felt the need, without user input. Since then, more complex and more refined systems have been developed, and on the high speed motorways of Europe, they've saved lives.

VOLKSWAGEN GOLF R32 – DUAL CLUTCH GEARBOX

The R32 was the top dog Golf, and Volkswagen made sure to cram everything they had into the tiny pocket rocket. The 3.2 litre V6 engine the R32 required a gearbox strong enough and fast enough to get the power to the ground, and the Porsche developed DSG system was introduced with the R32 as the first dual clutch gearbox system. Nowadays you can't throw a rock into a crowd of hypercars without hitting a dual clutch gearbox.

NISSAN GTR – RECORD BREAKING TECHNO WIZARD

With solid competition from Porsche, Corvette and Viper, the GTR had to be exceptional to survive in a market where badge snobbery was everything. After its launch, the automotive world praised its neck-breaking acceleration (0-100 km/h in 2.8 seconds, proper hypercar territory) and its ability to stay composed in every turn, not matter how difficult. It had nitrogen filled tyres and its engine was assembled in a hermetically sealed room by a team of 12 ninja-neers specially trained for just that job. It has gained legendary status as a result.

LEXUS LS - LED HEADLAMPS

Lexus has been at the forefront of luxury automobile tech since the very first LS was launched in 1991. Audi may brag about its lighting abilities, but Lexus beat them out with the first LED headlamps on a mass produced car. The LEDs conserve power, are brighter and make the front end look like Predator.

LAMBORGHINI SESTO ELEMENTO – CARBON CONSTRUCTION.

The Sesto Elemento is hardly the first car to have carbon fiber construction. Carbon fiber has been a standard feature on race cars since the late 80's, and technology trickling down from Formula 1 over the years has made it the material of the future. It has been used in varying amounts on road cars, but the Sesto Elemento, literally translating to "the sixth element", uses up to 80% carbon in its construction, from the body panels, interior, monocoque and chassis. Based on the final evolution of the Gallardo, the Sesto Elemento is a symbol of the carbon obsession of this decade, and we can only look forward to even more carbon clad beasts in the future.

AUDI A8 W12 – DAYLIGHT RUNNING LIGHTS.

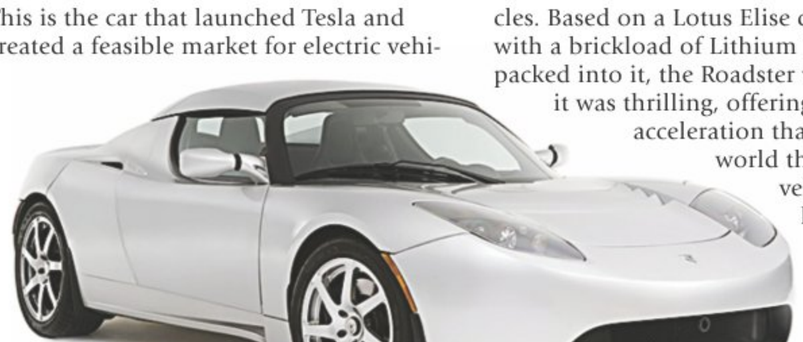
Daylight Running Lights (DRLs) may not seem all that significant next to the rest of the tech highlighted here, but it was a significant innovation for Audi, which has since prided itself on its lighting design. DRLs immediately started popping up everywhere, starting with Audi's German rivals and expanding to more common models such as the Korean KIA Sportage.

BMW I8 - HYBRID SUPERCAR

The BMW i8 is a glimpse into the future of the performance automobile. Powered by a barrage of batteries and supported by a tiny 3 cylinder 1.5 petrol engine, the i8 has enough advanced technology to match its wild, futuristic looks. Upfront are BMW developed and designed laser headlights, a first for the auto industry that we hope will catch on. Like Tesla's attempts at spicing up the image of the electric car, BMW's i8 does the same for hybrids. Its all part of a renewed interest in hybrid performance, with a host of hypercars such as the McLaren P1 and Ferrari LaFerrari employing hybrid technology.

TESLA ROADSTER – ELECTRIC SPORTSCAR.

This is the car that launched Tesla and created a feasible market for electric vehicles. Based on a Lotus Elise chassis but with a brickload of Lithium Ion batteries packed into it, the Roadster was as silent as it was thrilling, offering astonishing acceleration that showed the world that electric vehicles could have performance as well. People never got used to the creepy silence at 120 mph though.



HONDA CIVIC TYPE R – FRONT WHEEL DRIVE POWERHOU

It's a 2 litre turbo VTEC beast that smashed the record for FWD cars on Nurburgring. With 310 HP and a 5.7 second sprint to 100 km/h, that too with four doors, the Civic Type R is a clear symbol of how far the front-wheel-drive technology has come since the days of the Citroen Traction Avant, proof that FWD is here to stay and thrive for quite a while.