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MOTOR VIKATAN VOLUME: 1 ISSUE:4



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# MOTOR

The Pulsating Automobile e-Magazine **VIKATAN**



## MOTOR VIKATAN AWARDS 2022

- » Car of the Year 2022
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# BYD e6

## India's first electric MPV

FIRST DRIVE



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**E**lectric vehicles are picking up in India, especially due to the rising fuel prices. We are seeing quite a lot of electric scooters running on Indian roads and some cars too. While the EVs offer the biggest running cost advantage but still customers are worried about the range and the insufficient charging infrastructure. The vehicle manufactures are currently working on various battery technologies to increase the range and fast charging.

On this background, the Chinese automaker BYD (Build Your Dreams) has entered into the Indian EV passenger car segment by bringing its famous e6 MPV. The company has been in India for a few years now with their electric buses and special purpose vehicles. After testing the waters, the company has taken the logical step of entering the passenger car market, but with a different approach. What is it? BYD will be selling its new e6 in the B2B market, which means the cars will be available only for fleet owners or hotel chains or private companies.





FIRST DRIVE

# BYD e6

**India's first electric MPV**







Globally, BYD has been sharpening its sword for 10 years with the development of the next generation of e6. Its development is based on the data and feedback from drivers and passengers around the world. The design is meant to evoke emotions with the dragon face design language prevalently expressed in the front face. Yet in Eastern culture, the dragon is a symbol of happiness and luck and is seen as a guardian angel.

As a pure electric vehicle, there is no need for a traditional grill, giving designers, greater artistic freedom in creating their design. The new e6 is much clearer in the design field - its proportions are that of a traditional MPV, elongated to offer plenty of room. The new e6 is quite the looker - from its slim grille flanked by a pair of sharp

headlights to its smooth flowing silhouette with a slightly tapered roofline. The side profile looks clean with minimal design. The blacked-out B and C-pillars, front-door mounted ORVMs, a shoulder line that moves up after the C-pillar makes it feel good. The set of 17-inch alloy wheels feels retrofitted and doesn't look premium.

The dimensions of the car make you feel like a Toyota Innova and BYD also says the e6 is an MPV but it comes only as a five-seater and offers generous storage space

**The e6 is built on its legendary predecessor while making improvements in every relevant detail re-imagining the EV of tomorrow. BYD sets a new industry benchmark, and it does so with one of the single greatest innovations of the automotive industry, the blade battery.**





with 580 litres of bootspace. The cabin of the e6 feels roomy and the dashboard is clean with a neat layout. The centre console features a large rotating touchscreen, which replaces several physical buttons and switches and can display important functions in portrait and landscape mode. The Android-based operating system allows you to use applications from the App Store but does not have Apple CarPlay or Android Auto.

The e6 also features a dragon heart centre console control panel, which allows the driver to operate the vehicle without taking their eyes off the road, improving safety. Which is further enhanced by a CN 95 air filtration system offering medical grade face mask levels of air purification.

The front seats have six-way

manual adjustment and are comfortable, but shorter drivers will find it difficult to view across. All the seats feel premium and well-cushioned. There is ample legroom even for taller passengers but there is not enough thigh support, therefore for long drivers, there might be discomfort. The rear passengers get one AC vent which we felt is not good enough to cool the rear, especially during summer.

The next-generation E6 is built on the BYD E platform. The platform integrates the most important electric components reducing weight, optimizing efficiency, and improving the driving experience. The e6 is built on its legendary predecessor while making improvements in every relevant detail re-imagining the EV of tomorrow. BYD sets a new

industry benchmark, and it does so with one of the single greatest innovations of the automotive industry, the blade battery.

The blade battery is a new generation cobalt-free LFP battery that sets new benchmarks in safety, reliability, performance and power density. In an EV safety and efficiency are the two main requirements and to address it BYD has developed this blade battery.

For efficiency, the power density of the blade battery allows for a driving range greater than 500 kilometres. A number previously inconceivable for LFP batteries in a passenger vehicle. The blade battery also features superb hot and cold weather performance, allowing the e6 to operate even in the hottest environments. Charging time has also been greatly reduced





now requiring just 90 minutes to reach full charge. For safety, BYD has made a wide range of tests on overcharging, short-circuiting, crushing, blending, incineration, and even nail penetration. None of these caused the blade battery to enter an unsafe condition.

The driving experience has been driven by a philosophy of using technology to optimize the experience. The electric motor offers instant torque with a smooth linear throttle response. The transmission is quiet, smooth, single-speed eliminating the need for gear shifts. The chassis has been developed in consideration of various road conditions and usage. The front McPherson struts and rear Multilink suspension, giving the next generation E6 precise control and agility. In electric vehicles, NVH is far more challenging as there is

no ambient noise to mask noise, vibration and harshness from the chassis and drivetrain. BYD has worked nicely on the NVH part since the e6 offers a smooth, quiet, and comfortable experience at all speeds.

The braking system on the e6 features Bosch IPB (Integrated Power Brake) with extremely fast response time and smooth linear braking fields. The regenerative brakes on the next generation e6 are capable of harvesting energy from as low as two-kilometre per hour and optimizing efficiency has been paramount in every aspect of the e6 design.

The new e6 is powered by a 71.7kWh battery pack that powers a single electric motor developing 95hp and 180Nm. With all this tech in place, the next generation E6

offers more than 500 kilometres of combined range on the WLTC standards. With the DC 60 kilowatt charging, delivering a full charge in 1.5 hours and AC 40 kilowatt charging delivering a full charge in 2.5 hours. The e6 is also compatible with a 6.6-kilowatt charger which takes 12 hours for a full charge.

Priced at Rs 29.15 lakh for the e6 GL and Rs 29.60 lakh for the e6 GLX trim, BYD focuses more on the TCO by having low running costs of Rs 1.59 per km (claimed) and an impressive real-world range. Also, BYD is not comparing the e6 with Toyota Innova or other MPVs that are available in the market as others are used for even private buyers. With the new e6 featuring the dragon face design, large interior space, safety, reliability, and high efficiency it is set to join the Indian EV car market club. 



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**K**ia, a relatively new brand in the Indian market. Yet they have seen a substantial amount of success with their products like the Seltos and Sonet. Both have got a lot of love from the Indian consumers. Now they have unveiled their fourth product for the Indian market and it is the new Kia Carens, which is a three-row car, but Kia is not calling it an MPV. And when you do look at it, it is a nice blend between an MPV and an SUV. It has a good amount of ground clearance and a really long wheelbase, which Kia claim is the longest in the class. So, it should be a roomy car on the inside. Since it was an unveiling we were not allowed to go inside but the videos show that it has ample space.



A blue Kia Carens SUV is shown from a rear three-quarter view, parked on a sandy beach. The background features a calm sea and a sunset sky with warm orange and pink hues. The car's design is sleek, with a prominent chrome trim running along the roofline and side windows.

First look: Kia Carens

# FLUID LINES KIA CARENS

If it is a South Korean car, the first thing that comes to our mind is the host of features. Carens also comes with a host of features. But first, let's dive right in and take a look at the car and how it is from the outside. The front fascia debuts Kia's new 'Opposites United' design philosophy which lets go of the traditional tiger-nose grille and brings in a split headlamp

setup for the very first time. At the front, it's a very clean looking design, but of course, there are a lot of Kia elements, which always jazz it up, like the 3D effect on the piano black that runs right across the top.

There's chrome garnish right through the front followed by distinctive DRLs, which Kia claims are from the constellation of the stars as well. You have a three cube

headlamp underneath, and the triple-layer follows through with the fog lamps. The bottom looks much like the Kia Seltos, where we see the chrome with the 3D design effect as well. There's a lot of chrome around this car, which is something that Indian consumers love and Kia know that!

On the side, the lamps do wrap around the side. The side profile





is quite flat and there is a long wheelbase and a good amount of ground clearance. There's a blacked-out portion and once again, a chrome garnish that runs right across the bottom. The side profile is more attractive with the new set of five-spoke alloy wheels, which is fitted with 16-inch tyres. The roofline is flat and ensures enough space is opened up at the rear for the third row of seats. Like in the Seltos there is no panoramic sunroof but in Carens, there are roof-mounted air-con vents which means that the sunroof cannot extend all the way to the rear.

The rear of the car too is clear apart from that chrome garnish that runs across the bottom again with the 3D elements. And there's a very interesting set of tail lamps, which kind of wraps itself around the sides. It's connected by a light bar in the middle, but it has an interesting graphic. From the tail





lamp, there is a sharp line that runs over to the rear door handle and from the front headlamps to the front door handle.

As I said in the beginning, we were not allowed to step inside the car this time but Kia has revealed the features that we can expect in the Carens. It will be getting a 10.25-inch touch screen, fully digital instrument display and lots of practical storage areas and foldable tables for the rear passengers, and you get 64 colour ambient lighting as well on the inside. The second-row seats get a one-touch tumble down function for an easy ingress/ egress to the third row that again has a 50:50 split-fold option. Carens also comes with ventilated front seats, a flat-bottom steering wheel, an eight-speaker Bose stereo system, an air purifier, five USB Type-C ports, and a wireless charger.

The new Carens will be powered by the same set of engines and transmission units that we currently see in the Seltos. We expect some difference in the engine mapping. On the safety front, you get vehicle stability management, ESC, ABS, six airbags and all-wheel disc brakes. So yes, they are offering quite a bit on safety. There are other features too, with the class-leading space that Kia promises, the Carens should be a roomy car and it will come in the six and seven-seater versions.

So when will Kia Carens be launched? It is said that Carens will be launched in the first quarter of next year and we expect it to be priced at around Rs 15 lakh - Rs 19 lakh and expect it to take on the likes of the Mahindra XUV700, MG Hector Plus, Tata Safari and its cousin, the Hyundai Alcazar.



We expect some difference in the engine mapping. On the safety front, you get vehicle stability management, ESC, ABS, six airbags and all-wheel disc brakes. So yes, they are offering quite a bit on safety.



# FLASHY BIG BOYS 2022

# 5

UPCOMING  
MID-SIZE  
SUVs

A few years back India was said to be a small car market, but now it is no longer the same. The focus has shifted to SUVs due to their versatility. Auto-manufacturers are witnessing exponential sales growth in this segment because people find them to be practical, spacious, and safer. More than half the passenger vehicles sold in India in the last few months were SUVs that commanded more volumes than hatchbacks and sedans. Companies are focusing on this segment from Maruti Suzuki to Hyundai. Both companies, Maruti and Hyundai, dominate this segment.

This trend is not just confined to India, it is more or less a global shift. The share of SUVs in US, China and Europe is around 45-50% of overall sales. On this background to dominate in the Indian market many companies launched their best SUVs in 2021. Similarly, 2022 is also going to witness great SUVs. Here's the top 5 mid-size SUVs that will be launched in 2022.



## NEXT-GENERATION MAHINDRA SCORPIO

The next-generation Mahindra Scorpio is already undergoing road testing and its launch is expected to happen in 2022. The SUV will be the one based on the same body-on-frame platform as the Thar, which means that its front end, for example, will be quite a bit higher than before. All this being said, the overall styling has remained untouched from what we've seen so far although it's important to note that they still have to confirm specifications of all the engine options internally given it is still early days. The engine could remain the same as those of the Thar – a 2.0L turbo-petrol unit and a 2.2L turbo-diesel unit – but tweaked for higher power output given that it's now built for a much larger car.





## HYUNDAI VENUE

The Hyundai Venue facelift is expected to be launched in the Indian market by mid-2022, likely before the introduction of the Creta facelift. The refreshed Venue has already been spied testing in South Korea, where it will be launched first. The images of the test mule suggest that the Venue will get a new front end, and much like the new Tucson and upcoming Creta facelift, will also sport the new 'parametric grille' design. Besides this, only a few tweaks to the tail-lights, rear bumper and alloy wheel design are expected, with the rest of the design remaining unchanged. Powering the Venue facelift will be the same 1.2-litre petrol, 1.0-litre turbo-petrol and 1.5-litre diesel engine options as the current car.





## MARUTI SUZUKI D22 CROSSOVER

Maruti Suzuki and Toyota JV is working on a new mid-sized SUV, codenamed D22. The new SUV is reported to be launched in the second half of 2022. It will be produced at Toyota's Bidadi plant. The new mid-sized SUV will rival the Hyundai Creta, Kia Seltos, VW Taigun, Skoda Kushaq and the MG Astor.

The new mid-sized SUV is likely to be based on Toyota's DNGA (Daihatsu New Generation Architecture) that also underpins the Toyota Raize and the Daihatsu Rocky. It is unclear which powertrain(s) will be available with the crossover. There's a chance it'll be fitted with Maruti Suzuki's 1.5-litre four-cylinder petrol engine, which powers vehicles like the Vitara Brezza, Ciaz, and Ertiga. This engine produces a maximum power of 103bhp and a maximum torque of 138Nm. A 5-speed manual transmission will most likely be standard, with an automatic transmission as an alternative.





## HYUNDAI CRETA

Since it was first launched in 2015, the Hyundai Creta has been upgraded slightly overtime, ensuring that it stays on top of the sales charts. Hyundai has already revealed the Creta facelift for the Indonesian market. The biggest change on the Creta facelift is the heavily redone front-end styling, which is now in line with the design seen on the new Tucson. It now features Hyundai's 'parametric grille' with new daytime running lights and more squared out headlights. The rear has also been updated with a reprofiled boot lid and bumper. On the features front, Hyundai has equipped the Creta facelift with Advanced Driver Assist Systems (ADAS), new BlueLink safety features, and a 10.25-inch digital instrument cluster. Most of these features are expected to make it to the Indian model when it is launched sometime in the second half of 2022.





## MARUTI SUZUKI JIMNY


While the Jimny is sold as a 3-door model globally, the India-spec Jimny will be a larger 5-door SUV, which will be more suited to the Indian buyer. After numerous delays, the Jimny will be officially revealed in 2022. It will be offered with a single-engine option – the 1.5-litre K15B petrol engine that is expected to feature a more powerful and robust version of Maruti's smart-hybrid tech. Unfortunately, Maruti won't be offering any diesel option, something that is typically associated with rugged off-roaders in India. The 5-door Jimny will be sized like a compact SUV in India, measuring 3,850mm in length. With a ground clearance of 210mm, a ladder-frame chassis, a four-wheel-drive system, a low-range gearbox and rigid axles at both ends, the Jimny will have all the credentials of a true off-roader and will be a more upmarket successor to the Gypsy.







PRASANNA ADITYA

 KANNAN R

**P**ulsar turns 20. Yes, Bajaj launched its first-generation Pulsar in the year 2001. Can you believe it? Even after 20 years, we still love the Pulsar. At the end of November 2001, the first pulsar bike was launched in India. During these 20 years, Bajaj updated the Pulsar regularly and we are seeing its off-springs nowadays. To celebrate the 20th anniversary of the Pulsar, Bajaj launched two new models, the Pulsar 250F and Pulsar 250N. We flew to Pune to ride the bikes. We rode the bike on traffic-jammed city roads and free-formed highways. Here's our first ride report of the big boys.





First Ride: Bajaj Pulsar 250F & 250N



# A Generational Shift for the Pulsar Saga

On-Road Price: ₹1.64 - 1.67 lakhs





1. Semi digital display - Analog tacho meter 2. Single channel ABS. 3. 24.5bhp power & engine refinement is better than the NS200 bike 4. Good seating position & seat height 795 mm

### Sporty or Naked?

F... Faired and N... Naked, this is what Bajaj says for the suffixes of the bike names. If you are a traveller or a rider who mostly rides on the highway, then faired will be a good option. Because Bajaj designed the F version with all the aerodynamics aspects. For city riders, there is the Naked version. There are a few changes only in terms of design, but the engine is the same in both versions.

Lights are LED in faired version. Projector headlight with a sharp look gave its front design a boost. Side view mirrors are placed in the front cowl. A tall clip-on handlebar makes the bike look stylish. Apart

from those small design changes, the fuel tank, side panels, and tail section are all same in both F & N versions. Tyres have sufficient grip, but wider tyres would be great. The copper casing for the engine is awesome. Both bikes have 'toe shift' only for gear shifting, so shoes would be preferable. The seat height in both bikes is 795mm only. But there is a difference in the riding positions. As the footpegs are set a little backward. That adds a touch of sportiness to the riding posture.

The semi-digital meter looks different. Analogue for the tachometer, other options share space in the digital meter. Gear indicator,

clock, two trip meters, fuel meter, odometer share space. It does have a side stand alarm and ABS warning too. But it doesn't have the Bluetooth connectivity option like its competitors. The fit and finish of these Pulsars are good compared to the previous bikes.

### Engine - Performance & Mileage:

The 249.07cc, SOHC, oil-cooled engines make these Pulsars the 'Big Boys'. The engine got a single cylinder and two valves. Once we start the bike, the exhaust note is sporty but smooth. We can't compare these F & N versions with N, NS, AS, or RS. Its engine produces 24.5 bhp power, which is higher than NS200 and 200F and 2.15k









Flashy projector headlights!



The 14 liter petrol tank

kgm torque. The engine refinement of these bikes is better than the 220cc model. Still, we experienced some vibration in the seat and footpegs. Which is minuscule. The bikes are good while revving through the 4000-7000 rpm limit. Before riding, I was disappointed about the 5-speed gearbox. For a 250cc bike, a 6-speed gearbox would be preferable. But after riding, I'm satisfied with the gear ratios of the bikes.

After lunch, we went for a speed test on the Bajaj track. 140 Kmph! Yes, I reached around 140 km, but the best part is I didn't feel any disappointment at that speed. Are you satisfied with the new Pulsar's speed? Bajaj claims the mileage is 39 kmpl. According to my estimation, it gives around 35. Which is a good number for a 250cc machine.

#### Ride and Handling:

I love Pulsars. But I don't do

attempt hard cornering using the Pulsar, because of the front-end weight. On this bike, I felt confident while cornering. The ride and handling of these bikes are great. F Version weighs 164 Kg and N version Weighs 162 Kg. The grip and handling are awesome when compared with old Pulsars. These bikes handle the bumps and dumps of the road very well. The suspension set-up is a bit stiff. For the city, 250N is my choice. The Front fairing in the F version makes the Pulsar weight unbalanced and is not best for city rides.

I must mention the slip and assist clutch here. We can ride in the 30s even in 4th gear. And ride in 35 in 2nd gear. I was riding at 70 kmph before I lowered the speed to 20 kmph for a speed breaker. Even then, I didn't downshift and continued to ride in the 4th gear itself. The bike handled it without any engine lugging. An Italian firm, Grimeca, supplied the brakes for these Pulsars, which are made in India. These are decent, but nothing to brag about. Dual-channel ABS is missing. Apart from that, these bikes are great touring machines.

#### Can I have one?

125, 150, 180, 200, 220 and now 250. Bajaj has Pulsars in every sub-250 segment now. There are no major disappointments in these Pulsars. The slipper clutch is great. Even though the price of these big boys is equal to the FZ25 and RTR 200 4V, which have more advantages. These Pulsars overtake them in terms of power. If they gave dual-channel ABS with this price tag, then they can grab their share in the 250cc segment far more easily.



# MOTOR VIKATAN AWARDS 2022



As we are celebrating the new year, let us check out the best cars and motorcycles launched in India in 2021. First of all, hearty thanks to all the readers of Motor Vikatan, we are grateful to all of you for voting and expressing your preferences to choose 'the best car & motorcycle of the year'. And here we present to you the People's Choice for the best automobiles 2022.





Car of the Year 2022  
Mahindra XUV700



Facelift of the Year 2022  
Jeep Compass





**Budget Hatchback 2022**  
**Maruti Suzuki Celerio**



**Premium Hatchback 2022**  
**Hyundai i20 N Line**







## Executive Sedan 2022

### Skoda Octavia



## Entry Luxury Sedan 2022

### Volvo S60 Petrol







## Sub Compact SUV 2022

### Tata Punch



## Compact SUV 2022

### Renault Kiger





## Midsize SUV 2022

### Volkswagen Taigun



## Premium SUV 2022

### Hyundai Alcazar







## Entry Luxury SUV Mercedes Benz GLA



## Best Electric Car 2022 Tata Tigor Ziptron EV





## Best Off-roader 2022

### Force Gurkha



## Technology of the Year 2022

### MG Astor







**Bike of the Year 2022**

**Yamaha R15 V5 & R15**



**Commuter Bike of the Year 2022**

**TVS Raider 125M**





**Facelift of the Year 2022**

**TVS Apache RTR 160 4V**



**Retro Bike of the Year 2022**

**Royal Enfield Classic 350**



**Scooter of the Year 2022**

**TVS Jupiter 125**







## Track Bike of the Year 2022

KTM RC 200



## Variants of the Year 2022

Bajaj Pulsar F250 & N250





PRASANNA ADITYA

 BALASUBRAMANIAN

# TVS JUPITER 125 BIGGER & BETTER!





## First ride : TVS Jupiter 125

**T**VS kept this Jupiter ride as suspense. Until we reached the factory, we didn't know what we were going to ride. We guessed that it may be the new Jupiter 125cc scooter, we confirmed it once we arrived at the track. Let's see what TVS provided in the new Jupiter.

### Design:

While looking at the new 125cc Jupiter, at first glance it looks the same as the Jupiter 110cc which is being sold currently. But, when we start noticing the details, we came to know that there are minor but effective changes that make the new Jupiter look apart from its counterpart. There is a shiny coating over the body, Lights

Price: ₹95,000 - ₹1 Lakh (On-road, Approximate)

Positives: Features, Engine refinement, Spacious

Negatives: Missing the peppy riding experience







1. Digi analog meter displays mileage info, side stand engine cut off indications and more. 2. Multi Function Key Slot 3. 33 liters of underseat storage can hold two helmets. 4. No need to get off the seat to refuel, front fuel cap placed in the front.

As usual, there are power and eco modes. Power delivery is linear in eco mode too. We can't say that Jupiter's performance is great, but the ride is good for daily commuting.

are all in LED, which is provided as standard, while the 110cc has only halogen lights. A Digi analogue meter with all the information we need. The windscreen is missing, if you want one you have to go for the classic. TVS mentions another feature in this Jupiter that has MetalMax. The front and rear fenders, side body and apron are all made of metal. Thus, the name MetalMax. Some scooters are made of fiber materials, which easily gets damaged in a crash. TVS mentioned that this can withstand a crash. Other than these changes, 12-inch alloy wheels, headlight, side panel, exhaust are the same as the 110cc counterpart. Overall, it looks good.

### Features & Usage:

We give 9 out of 10 for Jupiter's

practicality. The top-end ZX and classic version get most of the features, while we can get it as optional in the standard version. There is a USB charger near the open glove box, which has a 3-litre capacity. Bluetooth connectivity, mileage meter in the Digi-analog meter, side stand engine cut-off, auto start and stop feature are all there. The boot space in this Jupiter is just 'wow'. 33-litre boot space where it can hold 2 full-size helmets. There is another feature that we can't see in any other scooters. TVS designed the fuel filling cap on the front side, while most of the scooters kept the fuel filling cap on the rear. Yet, the fuel tank has the same 5-litre capacity. Great job TVS.

Engine, Performance & Mileage:



The major upgrade in this Jupiter is its engine. The new Jupiter is fitted with a new 124.8cc single-cylinder, air-cooled engine which is used in Ntorq and Raider. Hence, TVS changed a lot of things in the engine from airbox to valves, to use it in the Jupiter. The aforementioned other bike's engine has 3 valves, this Jupiter has only 2 valves in the engine. One valve is reduced for the mileage. As it's a commuter, mileage plays an important role in designing the Jupiter 125. We weren't able to find out the exact mileage, as we rode this on the TVS track only.

As usual, there are power and eco modes. Power delivery is linear in eco mode too. We can't say that Jupiter's performance is great, but the ride is good for daily commuting. We stretched it to 90 kmph on the straights. The acceleration was dull post 70 kmph and we could feel minor vibrations crossing 50. Overall, it's ok to ride this in day-to-day city life.

### **Ride & Handling:**

The seating is comfortable and spacious. Its seat length is 65mm longer than the 110cc. The spacious seat provides a great ride for a family of husband, wife, and child. Ergonomics is perfect. It provides a great ride for tall people too. Yet, its seat height is 765mm which is great for short people while handling this Jupiter. The rear comes with a gas-charged single shock absorber with preload adjustment, which offers superb comfort while riding. We can't say 'it is the segment best', but it is pretty good for a normal ride. Weight is the same at 109 kgs. The wheelbase is 1,275 mm, which is also the same. Ground clearance has been increased from 150mm



to 165mm, which is good for this segment. The new Jupiter came in three variants, drum, disc, and alloy. Our choice is disc and alloy.

### **Should we buy one?**

With ₹90,000 to ₹1 lakh on-road price, this Jupiter is a decent one to ride. While other scooters with the same features cross 1 lakh price, this one is pretty good.

This new Jupiter 125 is not peppy as its competitors. But it's got spacious seats, a list of features and equipment, ergonomics, practicality, boot space, and others. With all the experience we had with this Jupiter, we can say that this one is great for commuting. That's it!





# AUTOMATIC POCKET ROCKET

**T**he Yamaha Aerox 155 has evolved beyond the mental image of a regular scooter. It was most evident while refuelling this Maxi scooter at the petrol station. The attendants asked, "I can't spot the petrol tank? Is this a scooter or bike? What scooter is this?" Such questions prove that this scooter is a sure head-turner.

## Design

Aerox has come up with a fresh new design, breaking all stereotypes of having a 'flat floorboard for family riding.' There is a minor intersection between the seat and handlebar, although that will affect the practicality of the scooter. It's a new design element we welcome.

Starting with the LED headlight and sharpening of the back. Larger tyres, a slightly bulky exhaust system compared to other scooters and sporty rear twin shock absorbers. When riding the Aerox weighing 126 kg, we also got the feeling of riding a slightly larger bike. It even looks big.

The fuel tank upfront looks amazing. While refuelling, there is no need to get off the scooter. If it had been slightly flatter, it could have been used to store stuff. For taller riders, the knee gap in front









1. Buttons to open the seat and fuel cap 2. LED Headlights 3. VVA - Variable Valve Actuation Technology 4. Twin shock absorbers at the rear

will prevent them from moving back and forth.

Yamaha has given 24.5 litres of space under the Aerox seat. A large helmet can be placed under the seat, which is rather unique. But, is the 5.5-litre fuel tank enough for this performance scooter of Yamaha?

### Features

Aerox is a premium scooter with a large engine and it needs to be equipped accordingly. In this regard it doesn't outshine, it's just acceptable. LED headlights and tail lights are great, nights are now bright. Indicators can also be upgraded to LEDs for an additional Rs 1,500. The fully Digitalized

Instrument Cluster looks special. Trip meter, fuel consumption and tachometer details are available.

Although there is Bluetooth connectivity, there is no navigation control on the screen. Calls and SMS alerts will come if desired. The last place where the scooter was parked can be known through Yamaha Connect mobile app. Fuel cap and slip buttons are provided near the keyhole.

It also has an automatic start/stop feature. We can turn this off if we want. When it is on, the scooter automatically shuts off, if it stops for 2 or 3 seconds at the signal. Twist the accelerator a little and the bike will turn on again. Charging port, side stand cut off features add

value to the package.

Aerox, which is sold overseas, has a keyless feature. But in India, that option isn't given. Also, in other countries, preload-adjustable gas-charged shock absorbers are provided. In case you need the shockers to be upgraded an additional Rs 17,000 will have to be spent to get gas-charged shock absorbers.

### Engine and Performance

This is where the Aerox shows its uniqueness and true colours. Yamaha has used the same engine as the 155cc mill in the R15. It uses a 155cc liquid-cooled engine with 4 valves. The engine is so smooth that there is no vibration even at





100 kmph I was able to cruise and fly beautifully on the highways at speeds of 90 – 95 kmph. Aerox gives you the acceleration needed to overtake, even at speeds of 90 kmph. It was able to go up to a maximum speed of 115 kmph.

How is it in the city? Aerox shows inherent speed within the city. With a refined engine; the throttle response is also awesome. Great fuel efficiency cannot be expected if you ride fast. You will get less than 40 kmpl. But with the right handling at the right speed, you can get 50 kmpl. Engine Start/ Stop feature is good in urban traffic. The exhaust note could have been sportier to match the sporty nature of the scooter.

In case you need the shockers to be upgraded an additional Rs 17,000 will have to be spent to get gas-charged shock absorbers.

### Should I buy it?

Yamaha has boldly launched a performance scooter in India with such a design. With an ex-showroom price of Rs 1.29 lakh, Aerox justifies it with an excellent product. Aerox will definitely appeal to those who want a scooter, which is sporty and has superb performance. Performance aside, Aerox will struggle to impress those who want a scooter for practicality. Most scooters in India are bought for practical purposes only. It remains to be seen how the Aerox will fare in the Indian market.





# New Skin For This Orange!

It was expected that KTM would be launching the entire RC series 125, 200 and 390 in 2022. But, KTM decided not to miss the festival season of 2021. And so, they launched the RC 125 and 200 this year. KTM invited us to Pune to do a track ride review of the new 2021 RC 200. Does the new RC impress us? Any change in performance? Should we debate the design aspects? Let's dive in...

## Design

The frame of the bike is inspired by the KTM MotoGP bike itself. Many may argue, but when you look at the bike in person, we promise that you will feel the design of the new RC 200 is better than the old RC 200. Because the premium looks, touch and feel and overall quality improvement can only be experienced physically. The headlight, DRL and indicators are all LED. The DRL and the indicator are designed in conjunction with the headlight. This is new to see. The seating is comfortable. The previous RC 200 gave the impression of "whether the seating was a little better or not". But the padding and cushioning on this new model are great. Rider and pillion are both comfortable. The taillight design is also innovative.



TREK RIDE: KTM RC 200







1. Comes with LCD display. No TFT.
2. As the engine is same 199.5 cc, the performance is also same.
3. Seat gets new cushion padding
4. Adjustable clip-on handle bar and awesome aerodynamics.

## Engine

KTM did not make any changes to the engine. It is the same 199.5 cc single-cylinder liquid-cooled engine used in the previous model. This engine produces 25bhp of power and 19.2 Nm of torque. KTM claims that this new model will give a slightly improved performance. The reason for that is said to be that it has an airbox with a 40 per cent larger size than the previous model. Thus, the engine performs with increased air intake. With this, KTM claims to have a better throttle response and a superb pickup.

## Performance

While riding, I felt the difference between the previous RC 200 and the new RC 200. Its radiator is

Seat height is 824 mm. The levers are not adjustable. The RC 200 comes with an LCD instrument cluster. We expect a TFT cluster on the RC 390. Even though the LCD instrument cluster gives us all the information we need. It is slightly larger than the previous model.

slightly larger and curved than the previous model. The cooling system has also been improved as more air is coming through. KTM has reduced the weight of the new model by 3.3 kg. The chassis, wheels and brakes are the parts that have reduced the weight of the bike. This weight loss also adds to the bike's overall performance.

It took 4.2 seconds to reach 0-60 km/h and 7.9 seconds to reach 0-100 km/h. This bike is designed to look like a race track specific bike. I had an incredible race bike experience while riding on the track.

The second thing is the handlebar. KTM has redesigned the height of the new RC 200 with





a new handlebar. It can be adjusted to sit lower and more aerodynamic for racing. It can also be adjusted to suit a relaxed riding position. They have increased the height of the bar by 14.5mm.

You might think we are reviewing this bike as if there are no flaws in it. That's not true. There are flaws. KTM has given MRF tyres to this new RC 200. These tires are okay for riding on everyday roads. However, the required grip was not available at high speed. Especially when cornering!

Seat height is 824 mm. The levers are not adjustable. The RC 200 comes with an LCD instrument cluster. We expect a TFT cluster on the RC 390. Even though the LCD instrument cluster gives us all the information we need. It is slightly larger than the previous model.

The new RC 200 uses a soft suspension. This soft suspension is super for daily use. But, not if the speeds increase.

When testing the braking power, it took 19 meters to reach 60-0 km/h. The



new RC 200 takes 47.4 meters to reach 100-0 km/h. Could the brakes have more bite? Not really. In the previous KTM, the biggest complaint customers made was the fuel tank. The tank, which was just 9.5 litres, is now 13.7 litres.

### Price

We thought the price would have gone up as many changes had been made. But, that's not the case. The new RC 200 is priced at the same price as the previous RC 200 (2.09 lakhs, ex-showroom). Maybe

it will be increased when the RC 390 is released in January 2022.

### Final Verdict

Having seen the same design on KTM for many years, the design of this new RC 200 looks great. Not only the design but also the performance as well as the weight loss has been sprinkled with occasional updates. It is a great update overall. There is no alternative but to opt for a good sports bike within 200cc. But only if there is no hike in the price in the future.



# E-Power vs ICE



## Who Wins The Commutes?

**A**s we enter 2022, the most important question we commuters will face is 'whether to buy an electric or an Internal Combustion Engine (ICE) scooter?'

With the spiralling fuel prices, congested roads and lack of parking infrastructure in our urban environment, switching to two-wheelers for commuting suddenly makes a lot of sense. Scooters are the ultimate answer

for your commute needs. With their versatility, ease of use, low running costs, these machines are perfect for the entire family to use for regular errands.

The scooter market has been growing incessantly since the time the original Activa was launched by Honda. Since then, numerous options have been added to the segment in India. On the heels of this, there has also been an electric revolution. City streets are seeing ever increasing E-Scoots zipping

around noiselessly.

The biggest dilemma facing prospective buyers, is whether to buy an electric or conventional bike. And here's a quick guide to help you make that decision.

### Pricing

First up is the price of a new bike. For perspective we will take the example of the TVS iQube, a scooter from a renowned brand and the Honda Activa, still the most popular conventional scooter.





The TVS iQube comes with an ex-showroom price of Rs 142191/- in Pune. After taking into account FAME II subsidy and state subsidy in Maharashtra, this can be yours for Rs 93000 approximately. The ex-showroom price of the Activa 6G DLX on the other hand is Rs 72309/- in Pune. Add to it tax and insurance, your effective price is roughly 15000 less than your electric bike.

The question then arises, how long and how many kilometres of riding your electric bike will it take before you recover the additional Rs 15000/- of your initial cost? Which takes us to the next item which will affect your cost, the fuel cost and maintenance.

#### **Fuel Cost & Maintenance**

This is where the e-bikes make the biggest difference over conventional scoots. A chasm

which has got wider with spiralling fuel prices.

At Rs 100/- a litre of petrol and fuel efficiency of 50 kmpl, your per kilometre cost of fuel works out to Rs 2. Compare that to the cost per kilometre of an e-scooter, and your jaw will hit the floor. 25 to 30 paise is what you spend per kilometre if you live in urban areas, where per unit cost of electricity is around Rs 10/-. In rural and semi-urban parts of India, electricity is even cheaper.

E-Scooters smash ICE scooters out of the park in this comparison.

#### **Range**

Good electric scooters these days have a range of 70-100 km. Which is decent for everyday urban commutes. As few people commute more than 50 km a day. If you are one of those few, then don't go electric. Your battery powered machine will require to plug in

every day, as you would do with your mobile.

ICE scooters on the other hand have a range of 240 km or so. Significantly more and unlikely that you will be able to commute so much in a day. And when you do, re-fuelling will be much faster than charging. Which brings us to the convenience of owning one.

#### **Convenience & After Sales**

When we are commuting, the only thing more important than cost, is convenience. You don't want to waste time looking after things when harried by your daily grind.

ICE wins here. Besides filling petrol, which would take around 5 minutes every few days, there is not much you need to think about. Most people would get their scooters serviced once a year, with only engine oil and filters being





As charging takes anywhere between 1 to 2 hours. Technology is relatively new and being an early adopter of any new tech comes with its inherent risks. If you live in an apartment block, then charging your scoot in the parking lot might be a problem.

After Sales is another important criterion to keep in mind. Traditional scooter manufacturers already have a wide after sales and spares network in place. In smaller towns and remote areas also, you should be able to fix your bike with relative ease. This isn't as yet the case with electric vehicles, which will take a few more years to catch up.

### Flexibility of Use

Your electric bike is very much restricted to its urban environment. If you want or need to take your bike out of the city on occasion, you can't. Or you will need to plan it out thoroughly in advance. With your ICE scooter, you can get out and hit the highway any time you choose.

### Verdict

What then should you buy? Buy electric if you enjoy new technology and gizmos. Buy electric if you will be more involved in the ownership. Buy if you live in a big metro city with decent E infrastructure. Buy if you want to reduce the sound and air pollution in your city.

Buy ICE if you want tried and tested technology. Buy ICE if it is the only vehicle in your household. Buy ICE if you depend on non-branded mechanic shops for your servicing needs.



replaced. This bike also employs technology which is a century old and there is not much that goes wrong.

With your E-Scooter, you need to ensure that it is charged. If you are running late to work and find the battery low, there is nothing much you can do. As charging takes anywhere between 1 to 2 hours. Technology is relatively new and

being an early adopter of any new tech comes with its inherent risks. If you live in an apartment block, then charging your scoot in the parking lot might be a problem. Not insurmountable challenges, but something to take into account. Some bikes come equipped with replaceable batteries, but even that is not as convenient or fast as filling petrol at a bunk.



**TVS** *Racing*

**TVS** 

**TVS**  
**BUILT TO**  
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 Race

 Dynamic



Kit



Colour



Race Number



Suspension



Handlebar



Footpegs



Alloy wheel



Every once in a while, we want to break out of the shackles of urban life and go explore our surroundings. It is inherent to human nature to absorb the serenity of the countryside and use it to recharge our batteries. Even a short weekend escapade can leave you sufficiently refreshed to take on the drudgery of office-home-office. And if you enjoy driving or riding, then these trips take on a whole new dimension of fun and adventure. Here's a list teasing your wanderlust, for people residing in Maximum City, Mumbai. Pick your car keys and hit the road, because fun beckons.

# Weekend Destinations for



## Murud

**M**urud is a quaint town on the Konkan Coast, just 150 km from Mumbai. Steeped in history, it is famous for the Murud Janjira Fort, a sea fort. Which is claimed to have been undefeated against various enemies. The fort is not the only attraction, the beaches along the coast are relatively empty and enjoyable. There is also the pretty ghats on the other side, which is verdant green during and immediately after the monsoons. Coastal seafood is a big attraction in this part of the country. Besides the main fort, there is the Kasa Fort, Gol Gumbaz, Kashid Beach, Garamdi Dam and more. Enough to keep you occupied over your long weekend.



# Mumbai's Automobile Enthusiasts



## Mahabaleshwar

**A** picturesque hill station in the Sahayadri range of the Western Ghats, Mahabaleshwar is the perfect weekend getaway from Mumbai, just 250 km away. The place is famous for its strawberries and fantastic climate round the year. You can visit 365 days a year, but the best is in January for enjoying the weather and post-monsoons for the greenery. Located in the ghats, this also makes for a refreshing drive.

Besides the strawberry and cream which you must try out there, you can visit Venna Lake, Krishnabai Temple, 3 Monkey Point and Wilson Point. The only downside of this place is that it is frequented by weekend tourists, with its proximity to Pune and Mumbai!



## Nashik Vineyards

**A** weekend trip for the wine connoisseurs amongst you, which includes a scenic 200 km drive from Mumbai. Nashik is home to 90% of the wine production of India and the place is well worth a visit to explore the vineyards. Especially in the midst of grape harvesting season, when the vineyards are working at full tilt. The biggest and most well-known amongst them are Sula Vineyards. There are others as well like York, Grover and Vallonne. Other than the vineyards, you can drive down to the plethora of dams surrounding the town and visit Trirashmi Caves and Trimbakeshwar Temple.







## Dandeli

**A**t a considerably longer distance from Mumbai lies Dandeli in Karnataka. At 600 km, it is best set for an extended weekend vacation. Dandeli is the second largest wildlife sanctuary in Karnataka and home to tigers, leopards, elephants, bears and more. It is also a birders paradise with 300 species of birds visible. The thick forest cover makes it a wonderful experience, not just to visit, but to also drive through when getting there.

Wildlife isn't the only attraction of this gorgeous place; it is also an adventurer's dream. Dandeli is one of the few places in India where you can enjoy white water rafting in summer as well. Watersports is a big attraction of the place, with whitewater rafting and kayaking available. This town which rests on the banks of River Kali, also has the caves of Kavala, Ulavi Temple and a must-visit to Sykes Point, as incredible travel opportunities.



## Saputara

**S**aputara is a hill station north of Mumbai, in the Sahayadri range of the Western Ghats. This town of Gujarat is 270 km from Mumbai and offers a wide variety of options for you to explore during your weekend.

It is one of the highest points in Gujarat and as such sees a considerable number of tourists during the weekend. This place has a mixture of nature, culture and art. With the latter being its artist village and Tribal Museum.

For nature lovers, there is also the Saputara Lake, Gira Waterfalls, Girmal Falls and the Vansda National Park in the vicinity. With so many options to choose from, this place is great to visit for all members of the family!



## Tarkali

**A**round 550 km from Mumbai lies Tarkali Beach in the Sindhudurg District of Maharashtra. There are two options for you to drive down, choosing the faster Kolhapur route or the shorter coastal road. The former is regular highways along the Golden Quadrilateral, while the latter is a more scenic route.

Tarkali is known for its narrow beach with pristine white sand. Making it an incredible place to enjoy watching the sunset in the Arabian Sea. It is also a foodie's paradise with distinct Malvani food for your seafood enjoying tastebuds.

In Tarkali, besides the beach, you can also enjoy water sports, Devbagh Sangam, where the Karli River drains into the sea, the Sindhudurg Fort at Malvan and the famous Kunkeshwar Temple which is also nearby.





## Ajanta & Ellora

**L**ast and surely not least are the caves of Ajanta and Ellora. These are especially of interest to all the history buffs out there but are lovely to view even for those who remember reading about it in school textbooks.

Ellora is a 350 km drive from Mumbai and Ajanta is another 100 km beyond Ellora. The two places can be visited over two days of the weekend. The caves of Ajanta are UNESCO World Heritage sites and are protected monuments. These 2000-year-old art and sculpture masterpieces allow us to delve into a time and space, where automobiles didn't exist. And we survived on human and animal power.

The wealth of culture you absorb while being immersed in this historical art gives you a new and different perspective on the country. It is a must-visit for anyone residing in Mumbai.

These escapades will allow you to have fun, experience adventure, explore nature, and learn more about India, all in the short duration of your weekend off from work!





AVINASH NORONHA

 AVINASH NORONHA

# PEDALLING THROUGH THE NILGIRIS





**T**here is something about high mountains which has always attracted humans. Anthropologists suggest that the views from these heights allowed humans to see and go explore newer lands. That reasoning makes sense, because every time I see the land below from the top, I want to go ride through it.

The Nilgiris are no different. A mountain range set in the Western Ghats, the destination of this ride was Ooty in Tamil Nadu. Udhagamandalam, as it is officially known, is a hill station worth visiting in the south of India. One of the highest points around, it attracts adventurous folks, like fly to honey!







With that destination in mind, I set out from Goa on a pedal powered bicycle. The journey started along the coast, hugging the Arabian Sea, all the way till Honnavar in Karnataka. That was a pre-cursor for things to come. The Western Ghats are all steep short climbs, which grabs you by your lungs and squeezes out every bit of oxygen out of you. You gasp, your muscles burn, your heart pounds and you continue climbing.

The joy of riding in the Western Ghats is the climbs, if you love

climbing, you will enjoy riding this route. It is constantly rolling terrain, you go up and down, and up and down, as if you were stuck in an elevator! Most of this climbing is done in thick green forest roads, a few are highways with traffic, many devoid of traffic. Making it a pleasure to ride. You aren't treated to toxic gases from motor vehicles struggling up the climbs more than a cyclist.

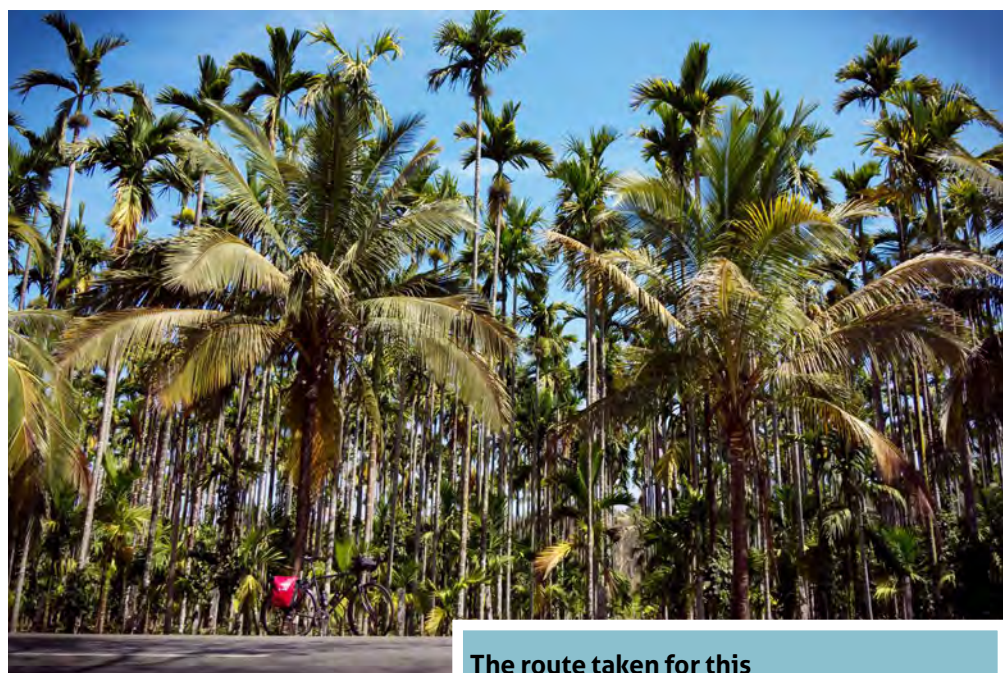
Another highlight of the Nilgiris in particular and the Western Ghats in general is the richness of flora

and fauna. You enjoy spectacular views of our exquisite feathered friends perched in the trees as you heave yourself and your bike up the climb! The varied vegetation providing shade from the sun, but at the same time adding to the immense humidity of the place. Shady trees are of immense value to a cyclist, which people in automobiles won't notice in their air-conditioned cars. Which is why, modern highway systems have no amenities for weary travellers of yesteryears.





Another incredible attraction of this route is the food. Gastronomy is of particular interest to cyclists, and you enjoy the food doubly when ravenously hungry. The food out there is not just tasty, but varied as well. From the fish thalis of Goa, you move to the vegetarian fare in Uttara Kannada, before enjoying stellar pork in Coorg, and the beef with appam in Kerala. You round it up with multiple plates of tasty biryani in Ooty! As a cyclist, I learnt that you need to eat two breakfasts in South India, as morning grub



**The route taken for this bicycle ride was Mapusa – Canacona – Honnavar – Sagara – Tarekere – Belur – Madikeri – Irrity – Sultan Bathery – Ooty, crossing Goa, Karnataka, Kerala and Tamil Nadu.**

is much lighter than what we are served up north.

Food isn't the only thing that changes constantly, so do the people and cultures. People around the place have one thing in common, they are all friendly and helpful towards cyclists. The exception was while cycling through Kerala, locals over there don't smile. They aren't as welcoming towards outsiders. Neighbouring Tamil Nadu and Karnataka were in stark contrast, where the locals would greet you with beaming smiles and

a thousand excitable questions.

After braving rain, cold and a multitude of climbs, I slowly made my way up to Ooty after dark. The coolness of the evening and the twinkling of stars celebrated reaching the top with me.







# Artificial Intelligence Reshaping the **AUTOMOTIVE**





# INDUSTRY

**T**oday, the automotive industry is at the cusp of a phenomenal transformation. Ambitious automakers have started incorporating advanced technologies in their products and operations to ensure that they stay ahead of competitors. The integration of cutting-edge technologies such as artificial intelligence (AI), machine learning (ML) computer vision, IoT, and many more into vehicles has dramatically changed the image of the automobile industry.

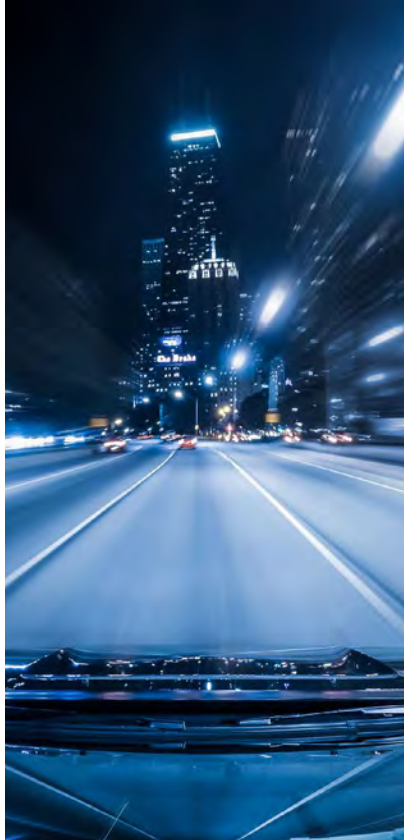


The automobile industry has started leveraging AI in the whole process starting from designing to after-sale service and drivers' safety. Artificial intelligence has laid down the foundation for smarter vehicles in smart cities through this industry. Multiple hi-tech automotive companies have started leveraging cutting-edge technologies to strive in the competitive market with the utmost customer satisfaction.

Though many believe personal, autonomous vehicles are the future, there are multiple ways in which AI and ML are being implemented in how vehicles are built and how they operate on the road. AI technologies like 3D Printing, Collaborative robots, Machine vision, Automated Guided Vehicles (AGVs), Autonomous Vehicles, Driver Monitoring System, AI Cameras, Vehicle Tracking Software, Smart Helmets and Automotive Insurance are transforming the auto industry and will continue to do in the years to come.

### 3D printers

While designing components, 3D printers play a vital role. The



AI in mobility

introduction of 3D printers has transformed the automobile industry in the last few years. The industry utilizes 3D printers for creating automotive prototypes to check fitness, making aesthetically pleasant parts, designing efficient car models, and many more. One of the important technologies behind 3D printers is Fused Filament Fabrication (FFF) that is used for the production as well as end-use parts in the automobile industry.



### Cobots

In manufacturing, Collaborative robots or cobots are thriving in this industry with their smart functionalities such as machine loading, machine tending, inspection, assembly in productions, and much more efficiently and effectively. Cobots tend to work with human employees to enhance outcomes, consistency, flexibility, and support without any potential error.

### Machine vision

Machine vision is known as a key technology for optimizing different processes in the value chain including quality assurance, production, logistics, and many more. The automobile industry is leveraging machine vision for unambiguous object detection, accelerating existing production processes, eliminating potential errors or risks, and so on. It has high speed where the algorithms need milliseconds to detect, analyse, and process sufficient data from images.

### AGVs

On the shopfloor Automated Guided Vehicles have started providing multiple benefits to the automobile industry such as reduction in direct labour cost, eliminating workforce shortage, removing potential errors, limiting heavy goods handling, scalability, enhancing productivity, ensuring better safety, and many more. AGVs are known for carrying assembly lines while being forklift-sized wheeled carts to use the software in navigating their movements efficiently and effectively.

The autonomous vehicle is the hottest topic in this industry to provide major help to citizens.





Automated Guided Vehicles - AGVs



Autonomous Vehicles

There will be on-screen instructions on how-to video the damage and later submit it for an automotive insurance claim. Artificial intelligence will inform drivers how to repair and the total cost covered by the insurance.

Multiple hi-tech giants are aiming at manufacturing autonomous vehicles across the world. AV is capable of sensing the nearby environment and driving on its own without any human driver on the driver's seat. It can go anywhere like a classical car after entering the destination. It is very useful for senior citizens to have freedom and independence to roam around the city.

#### Driver monitoring system

To enhance safety, the driver monitoring system is emerging as

one of the top AI innovations for alerting drivers during drowsiness, distraction, and so on to avoid fatal road accidents. It is also known as a driver state sensing that utilizes a driver-facing hi-tech camera with infrared LEDs on the dashboard to track the eye movements of drivers. There is advanced on-board software that collects the data and creates an initial baseline of the normal active driver. It analyses whether the driver is blinking more, feeling dizzy, narrowing the eyes, and other eye movements to issue audio alerts to keep him alert.

#### AI cameras

The integration of AI cameras in different vehicles has increased revenues in the automobile industry. Drivers are preferring cars with AI cameras to provide safety to themselves as well as family members. These AI cameras are providing multiple services to drivers with a combination of multi-path approaches as well as artificial intelligence for image or video recognition to make roads safer.

#### Vehicle tracking software

The automobile industry has recognized the importance of vehicle tracking software to locate the vehicle efficiently and effectively. GPS is set to provide a live update of different locations of a vehicle and its condition. It helps in the recovery of a stolen vehicle and provides details on fuel, speed, engine, and many more. There is an advanced mapping feature to zoom in to the street level with a close and accurate view for analysing routes without any error and wastage of time.

#### Smart helmets

For the safety of two-wheeler



drivers, smart helmets are one of the most important AI innovations in this industry. Smart helmets are completely different from traditional helmets for the implementation of GSM and GPS technologies. Drivers are inclined towards smart helmets owing to their advanced technology to call an ambulance or a family member post-accident, the presence of operation vibration sensors, alcohol sensors, crash alerts, LED lights, and many more.

#### Automotive insurance

Automotive insurance plays an important role in this smart automobile industry. Drivers can perform their own auto damage assessment for their respective insurance companies without any potential error. There will be on-screen instructions on how-to video the damage and later submit it for an automotive insurance claim. Artificial intelligence will inform drivers how to repair and the total cost covered by the insurance.

#### The Future

The advent of these AI innovations has truly revolutionised the automobile industry. The further up-gradation of AI will enhance productivity and manufacture smarter vehicles. The implementation of artificial intelligence is set to protect the safety of drivers and provide a good experience to passengers in the nearby future. Multiple hi-tech companies are aiming to capture the automotive industry by leveraging their artificial intelligence experience. Customers have started placing trust and faith in artificial intelligence algorithms behind the steering wheel and it has a major growth prospect in the future.



Vehicle tracking software



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# TRANSFORMING TRUCKING WITH DIGITAL SOLUTIONS



**Mr Venkatesh Natarajan,**  
Chief Digital Officer (CDO) and  
Senior Vice President,  
Information Technology, Ashok Leyland

**T**he four megatrends that are currently shaping the world of mobility are Connected, Autonomous, Shared and Electric, popularly known as CASE or other equivalent acronyms. IoT driven 'connected' technologies form the base for these trends to thrive and generate accelerated acceptance; IoT provides data and information that drive CASE strategies, their design, business models and day-to-day operations.

In this advanced world, the Internet of Things (IoT) has undoubtedly become a leading driver for growth and development of business. It is not only limited to mobile phones, laptops and intelligent devices. Today, it has reached the mobility space to include trucks, passenger cars and two-wheelers, helping these connected mobility solutions in communicating and gathering valuable data or information to deliver a host of benefits. IoT is the foundational 'umbrella term' that encompasses all the connectivity-driven technologies and is transforming the transportation industry by providing connectivity to vehicles. Benefits include low Total Cost of Operation (TCO) and thereby increased profits, enhanced safety and comfort. Advanced technology also helps companies explore and develop newer products that suit the ever-changing customer/ market requirements.

According to Allied Market Research, the global IoT in the transportation market was pegged at \$135.35 billion in 2016 and is projected to garner \$328.76 billion by 2023, registering a CAGR of 13.7% from 2017 to 2023.

***So what are the different ways by which IoT is making a significant impact on the transportation and trucking industry?***

IoT helps in public transportation, fleet management, and utilisation of assets and management of inventories among others. For example, public transportation systems leverage IoT to alert passengers through mobile apps on a vehicle's real-time location and the estimated time of its arrival (ETA) at their stop.

Remote Area Monitoring helps to address a major



challenge which is to track the assets, the trucks, especially in remote areas. Fleet operators often face difficulty in locating the assets and are not able to track how effectively fleets are being used. IoT systems collect the asset's relevant information and perform an insightful analysis into that. Operators get alerts via SMS, email or other means for any issues that are noticed during the analysis in real-time.

At Ashok Leyland, India's second-largest commercial vehicle maker, using their 'in-house developed' end-to-end IoT solution iALERT, one can track the real-time information of any fleet like asset utilization pattern, loading weight on the trailer etc. Additionally, one can also know the latitude and longitude of an asset.

The IoT solutions also help in Smart Inventory Management by acting as a catalyst for real-time information across the distribution, production and warehouse centre which in turn reduces the cost of inventory handling. These supply chains can integrate a large amount of data and find insights to develop an optimised inventory management system.

The digital solutions at Ashok Leyland, are classic case studies for a clear view. These solutions were built in line with the brand's mission statement, 'Aapki Jeet, Hamari Jeet' with a focus to deliver the lowest TCO and thereby the highest profit to our customers.



We have always been at the forefront of engineering innovation. By infusing Digital & Connected Technologies into our product ethos, we have established our reputation as pioneers in using innovation as a competitive differentiation and means for our customer's success.

Ashok Leyland's digital integration started in 2017 when the company launched the country's first Digital Marketplace – A platform of cutting-edge and user-friendly solutions that included iALERT, Service Mandi, Leykart and eDiagnostics.

The transformation further accelerated with the launch of 'Digital Nxt' platform where we launched iALERT 3.0—an advanced connected vehicle platform, Uptime Solution Centre—a transformative uptime experience platform and AL Care—a one-stop app for customers to manage all their vehicle needs. Today all the vehicles that roll out from Ashok Leyland's factories are

IoT-enabled. The value generated out of vehicle data for the customer and for Ashok Leyland far surpasses the costs involved.

#### iALERT Connected Vehicle Platform

iALERT started as a simple telematics product and eventually, it has become a platform for a multitude of connected vehicle solutions. It is now the 'Data Powerhouse' for the organisation reaping tangible and intangible benefits in proportions we could have only dreamt of when we started developing it.

Our vehicle IoT platform, iALERT, has more than 1,50,000 vehicles onboarded onto it at one point of time – a combination of BSIV and BSVI vehicles. In India, a truck runs for 400 kilometres a day on average. The frequency and volume of data for BSVI trucks are far more than BSIV trucks. To visualize the amount of data, we collect in a month about 1.2 billion kilometres of vehicle tracking data,



which is the equivalent of four round-trips from the Earth to the Sun! There is no better illustration of the enormity and complexity of the IoT data that we handle.

To give an example of the efficiencies involved, using our AI based fuel fill & pilferage solution built over iALERT data, we have been able to demonstrate huge potential savings of up to Rs.25 lakh a month for customers with an average fleet size of 150 vehicles! What's more, customers can manage/ subscribe to all these digital solutions through the convenience of a highly user-friendly Mobile App.

We are proud of the fact that iALERT today is by far the most proven, indigenously developed connected vehicle platform. It is scalable to support huge volumes of vehicle data and can process this data to offer real-time deep insights to customers.

Over 60,000-plus customers owning over 1.5 lakh vehicles are now onboarded onto the iALERT Connected Vehicles Platform. Driven by advanced analytics, dedicated driver gamification app and customized recommendations (includes Gear utilization, Green band driving and reduced Idling) iALERT can deliver up to 10% savings on Total Fuel Cost for customers. Over and above that, one can also factor in around 15% improvement in customer's fleet utilization through data insights (includes distance covered by the vehicle, Running vs idle hours, Average speed), thereby increasing his productivity and revenue. Of course, losses too can be minimised, whereby stolen vehicles can be recovered using iALERT.

More than 500 cases  
of remote service  
attention have been  
rendered to customer  
vehicles, which  
translates to Uptime  
Savings equivalent to  
1,000 Vehicle running  
days.

### Uptime Solutions Platform

The Uptime Solutions Platform that we launched with BSVI has revolutionized the way service is performed today by leveraging AI-driven prognostics and remote servicing capabilities.

Leveraging our ground-breaking 'Over-The-Air' technology, Ashok Leyland's Uptime Solutions Platform has truly redefined the service experience for all our customers in the commercial vehicle space. More than 500 cases of remote service attention have been rendered to customer vehicles, which translates to Uptime Savings equivalent to 1,000 Vehicle running days. Numerous cases of critical vehicle breakdowns have been prevented till now, through proactive intervention. Dedicated AI Expert team monitor all vehicles pan-India 24x7 for any potential issues/ breakdowns.

### Conclusion

As new technologies continue to emerge, Ashok Leyland will continue to revolutionise how we transport freight and the CV industry. These solutions have helped our customers reap rich dividends by deriving more out

of our products. Ashok Leyland's connected digital platforms monitor more than 40 million kilometres of vehicle running and 1 million hours of engine running every day. All this data has driven significant cost savings of up to 15% in the customer's TCO by leveraging AI Driven analytics & customized recommendations that enhance their overall performance & productivity.

A few decades back, not many companies would have even had Chief Information Officer (CIO) or Chief Digital Officer (CDO) positions. But in the current digital world, the role of a CIO or CDO is a crucial one, especially in the trucking industry and he/ she is now part of senior leadership team.

The traditional role of a CIO in a firm is that of championing information technology (IT) implementation. This includes a host of technologies, including IoT. The CIO's role can be likened to the 'dashavatar' or the ten roles played by Lord Vishnu in Hindu mythology – Chief 'Information, Digitization, Data, Technology, Transformation, Change Management, Process, Security, Integration and People' Officer!

Commoditization of technology is occurring at a rapid pace. The Cloud plays and will continue to play a big role, with costs coming down. In the future, even if customers do not pay for IoT implementation, OEMs will pay for it to keep warranty costs under control and to get deep insights into the product and its performance.

### Blurb or filler

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## iQoo Z5



### Price:

8 GB RAM + 128 GB storage

₹23,990

12 GB RAM + 256 GB storage

₹27,990

### Features:

- 6.67 inch LCD display
- Qualcomm 778G processor
- 8 GB RAM + 128 GB storage
- 64 MP + 8 MP + 2 MP rear camera
- 16 MP front camera
- 5000 mAh battery
- Android 11

### Plus:

- Gaming performance is great
- Fast charging
- Good battery life

### Minus:

- Low light photos are not that good
- AMOLED display is preferred

### One-line review:

This mobile is launched as the updated version of iQoo Z3. It has a powerful processor, 8 GB RAM and other features. But, its competitor Realme GT offers much more features and there is a gaming special Poco F3 GT. There is no reason to choose this one over others.

Rating: ★★★★★★☆☆



## Infinix Hot 11S



### Features:

6.78 inch LCD display  
MediaTek Helio G88 processor  
4 GB RAM + 64 GB storage  
50 MP + 2 MP rear camera  
8 MP front camera  
5000 mAh battery  
Android 11

### Plus:

90 Hz refresh rate  
Good gaming performance  
Good battery life

### Minus:

Camera quality

### One-line review:

This one is a good option for ₹11,000. Good performance, good battery life, value for money.

### Price:

4 GB RAM + 64 GB storage  
₹10,999

Rating: ★★★★★★★★☆☆





## Features:

- 6.6 inch LCD display
- MediaTek Dimensity 810 processor
- 6 GB RAM + 128 GB storage
- 50 MP + 8 MP rear camera
- 16 MP front camera
- 5000 mAh battery
- Android 11

## Plus:

- Good Performance
- Battery life
- Fast charging

## Minus:

- Average camera quality

## One-line review:

A performance-oriented player losing the all-rounder status. This one is a great deal if you are not much into photography. If you like to take some good pictures with it and you like some of the camera features that came in handy with smartphones. Then this is not the one you are looking for. Try Realme 8S instead.

## Price:

6 GB RAM + 64 GB storage

₹16,999

6 GB RAM + 128 GB storage

₹17,999

8 GB RAM + 128 GB storage

₹19,999

Rating: ★★★★★★★★☆☆



# Realme GT Neo 2



## Features:

- 6.62 inch AMOLED display
- Qualcomm Snapdragon 870 processor
- 8 GB RAM + 128 GB storage
- 64 MP + 8 MP + 2 MP rear camera
- 16 MP front camera
- 5000 mAh battery
- Android 11

## Plus:

- 120 Hz display
- Good gaming performance
- 65W charging
- Great battery life

## Minus:

- Camera is not as expected

## One-line review:

It introduces itself as a gaming mobile, but it's not a good option. We have a dedicated gaming-centered Poco F3 GT. This one is not an all-rounder as it lacks camera performance. As of now, this one is a good mobile but not with this price tag. Definitely Not value for money.

## Price:

8 GB RAM + 128 GB storage

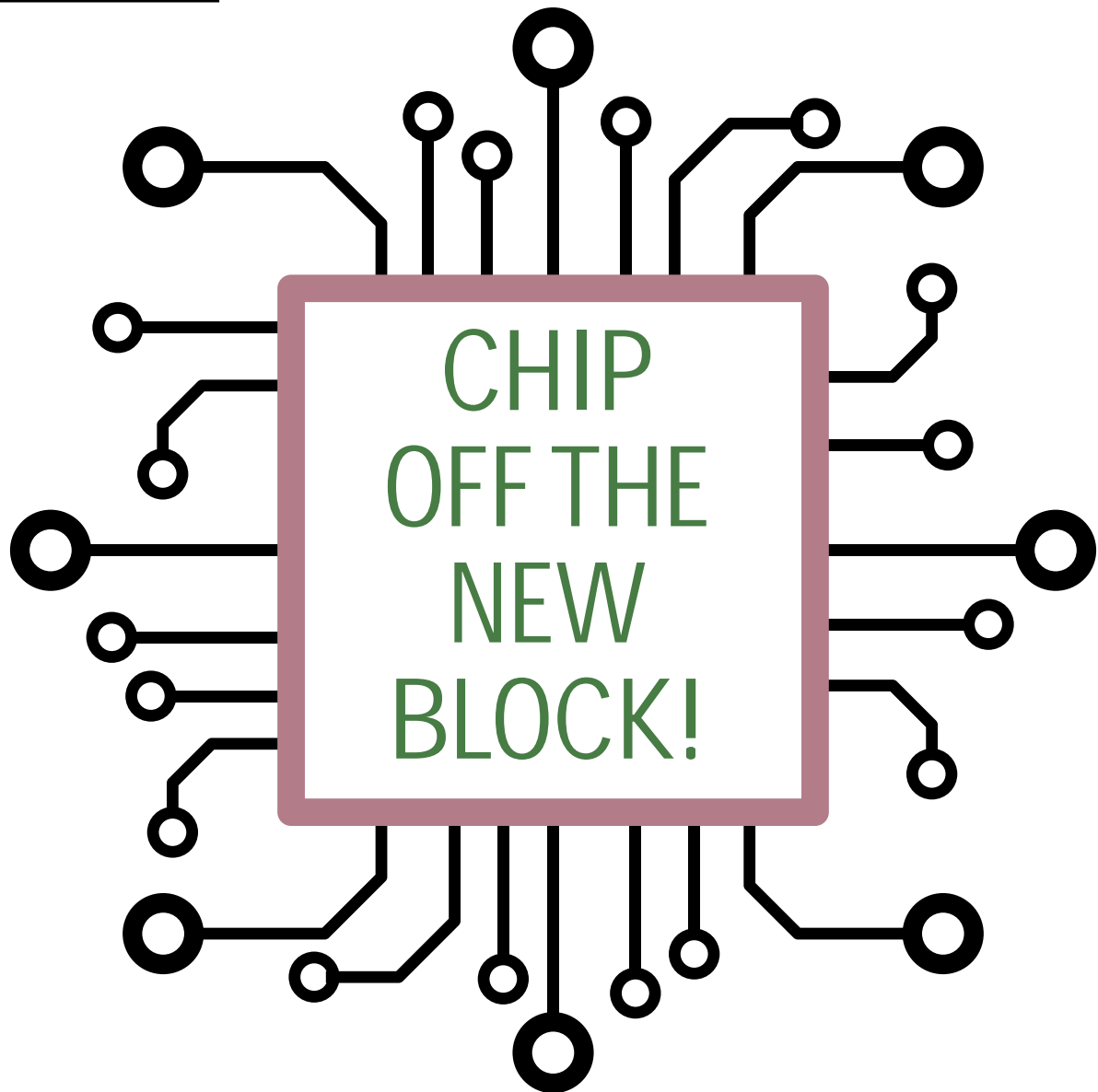
₹31,999

12 GB RAM + 256 GB storage

₹ 35,999

Rating: ★★★★★★★★☆☆





One of the leading chip manufacturers of the world, Qualcomm, launched its latest flagship mobile chip at the end of November. What features does this processor have? What is this processor capable of? Let's have a look.

The first question that arises in our minds is, why do I need to know about this mobile processor? That's a genuine question. A mobile processor is one of the key features we need to look at while purchasing

a smartphone. Smartphones have invaded our households during the pandemic period, with or without our knowledge. The pandemic made every person in India use a smartphone for various purposes, especially for studies. Many parents bought new smartphones for the studies of their children. In the future smartphones are going to be one of the basic needs of our life in the developing digital economy. So, picking a smartphone according to our needs is also important. For that, we need to

learn what a smartphone is made up of.

First, let's have a look at this flagship processor of Qualcomm. The company named its new processor 'Snapdragon 8 Gen 1'. The company switched from the 'Number Naming' system to the 'Generation Naming' system from its new processor (Qualcomm's previous chip name is Snapdragon 888+). 5 important updates we noticed in the new processor are connectivity, camera, AI, sound, and security.





Using the LE Audio, we can broadcast our audio, share the same Bluetooth with multiple devices for audio and we will have better audio quality. In terms of security, this is the first processor to use the Android Ready SE feature, which is used for digital car keys, digital documents, etc.

For connectivity, in terms of hardware, the new processor is equipped with 4th gen Snapdragon X65 5G Modem-RF System. And the new processor also has the Qualcomm FastConnect 6900 Mobile Connectivity System. With the help of the above systems, the smartphone equipped with this processor can download at a speed of 10 Gbps and the mobile can utilize Wi-Fi speed up to 3.6 Gbps. Practically speaking, mobile networks can't provide that much download speed currently. There are possibilities in the future. Qualcomm is upgrading at a faster pace.

Camera, Qualcomm specifically gave some importance to the

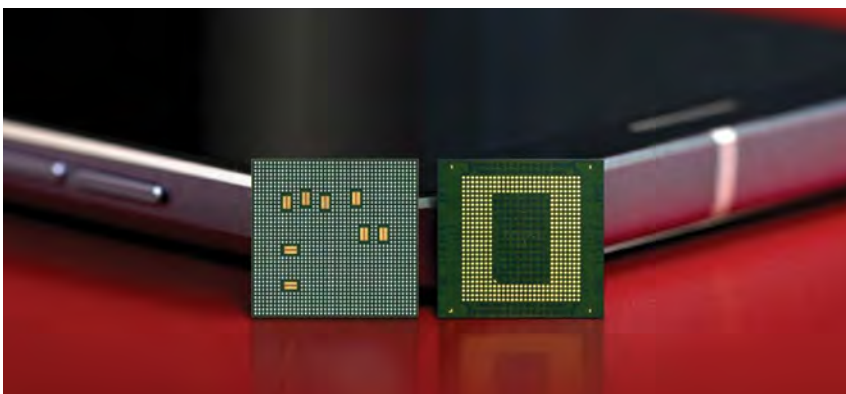
camera segment in this processor. Its new Snapdragon sight technology, which is the first technology Qualcomm specifically uses for camera aspects. It says, if the smartphone camera using this processor is capable, it can process 3.2 Gb of data per second. We can shoot 8k videos on mobile, and the bokeh effect can be used in the video too.

AI, the processor's AI capabilities are upgraded a bit compared to the previous processor. Qualcomm is working with Sonde Health, to make its AI usable for health benefits. The smartphone with this processor can analyze the vocal patterns to predict some health conditions or diseases and

take action accordingly which the company hasn't disclosed as yet.

For a better audio experience, this processor uses Qualcomm aptX Lossless Technology and it also has integrated Bluetooth 5.2. This processor also supports the LE Audio feature which is going to be the next best experience we are going to have with Bluetooth. Using the LE Audio, we can broadcast our audio, share the same Bluetooth with multiple devices for audio and we will have better audio quality. In terms of security, this is the first processor to use the Android Ready SE feature, which is used for digital car keys, digital documents, etc. The new processor supports iSIM too, which eliminates the usage of a traditional physical sim.

This new Snapdragon 8 Gen 1 is an upgraded version in all aspects than its predecessor. Still, there is a long way to go for Qualcomm to compete with Google's Tensor chip and Apple's M series chips. But Qualcomm is making progress, that's the important thing.











# EICMA 2021: What The World Saw!

Every year, the motorcycle junta of the world congregates at the gates of motorcycle heaven in Italy. EICMA, the Italian motorcycle expo has the biggest, best, quirkiest and more on display. 2021 was slightly different from the norm. With the previous year's expo having been cancelled because of the pandemic, this year was a bit of a mixed bag. There were some notable manufacturers missing in action, including the home hero, Ducati. BMW and KTM also followed suit and chose to avoid this iteration of the expo.

With these big names not present, it was different from the regular. Nonetheless, there were some tasty reveals and surprises for motorcycle enthusiasts the world over. Including, those of us wringing our hands and the throttle in India!

## *Royal Enfield SG650 Concept*

The motorcycle which piqued our interest the most was the Royal Enfield SG650 Concept. A bobber styled concept motorcycle showcased by the Indian company at EICMA. This concept shows off the transition that the brand is going through, marrying the traditional with the futuristic. The bike is the logical direction that you would expect the company to move towards with their 650 twins.





Visually, it gets the LED treatment in the headlamp, tail lamp and turn indicators. It also comes equipped with a 4-step adjustable windscreen. The bike also gets a 2-step Traction Control and a digital instrument cluster.

The SG650 has a tank that has been CNC billet machined from a solid block of aluminium, clearly a work of art. The wheel rims also got the same treatment. We believe, this bike is a smooth flow from the retro to the modern, and we would love to see a production motorcycle hit Indian roads.

### *Honda CBR1000RR-R Fireblade 30th Anniversary Edition*

New paint schemes aren't generally a highlight for us. Except when it comes with a full dose of history behind it! The 30th Anniversary Edition Fireblade gets a paint scheme inspired by the original bike launched in 1992. Even more incredibly, the designer of the original and this special edition is the same Hiraoki Tsukui.

This limited-edition motorcycle other than the gorgeous paint gets a cool 'Ring of Fire' animation on the dashboard when you start the bike. The 30th Anniversary Edition also finds its way on the fuel tank cover, key fob, Akrapovic exhaust and with a serial number etched into the fork's top yolk. Prices for this beauty wasn't revealed, but we would love to see a few trickling into India.

### *Benelli TRK 800*

Another interesting motorcycle to be unwrapped for the world was the Benelli TRK 800. Building on the success of the TRK502, the Chinese owned Italian brand

has decided to up the ante with the new 800.

The 754cc motor produces 75 bhp and 67 Nm, a respectable number, though it is slightly heavy at 221 kg dry. Suspension duties are taken care of by Marzocchi forks and brakes by Brembo. With LED headlights and a TFT dashboard, this motorcycle is equipped to be a solid performing mid-capacity adventure tourer. Its off-road credentials should be helped with the 21-inch wheel at the front and 19-inch at the rear. This bike will be available globally in the second half of 2022 and it should reach Indian shores by festival season.

### *MV Agusta Lucky Explorer 5.5 & 9.5ADV*

Italian marque MV Agusta unveiled its foray into the adventure segment with the 5.5 & 9.5 siblings. The former has been developed in conjunction with QJ Motors, the parent company of Benelli. While the latter uses a motor from the Italian stable itself.

The bikes are styled around the Cagiva Elefant Dakar motorcycle and are distinctly adventurous. But surprisingly show little traces of MV in the styling. The 9.5 runs a 931cc motor from the Brutale and comes packed with top-notch components and electronics. The 5.5 gets a 554cc twin-cylinder engine, KYB suspension and Brembo brakes. Both the motorcycles run 19- and 17-inch wheel configurations. Prices for the two motorcycles were not revealed, neither was the launch date. But considering MV Agusta is not currently in India, we aren't waiting here with bated breath!

### *Kawasaki Versys 650 & H2 SX SE*





Of special interest to Indian tourers is the Versys 650 which was updated and showcased at EICMA 2021. The bike doesn't get a major overhaul, but bits and bobs have been updated. Structurally the motorcycle remains unchanged. Visually, it gets the LED treatment in the headlamp, tail lamp and turn indicators. It also comes equipped with a 4-step adjustable windscreen. The bike also gets a 2-step Traction Control and a digital instrument cluster. A more touring-oriented Versys LT was also revealed, with more luggage space, handguards and fog lights as standard equipment.

The other update from Team Green was the Ninja H2 SX SE. The revamped motorcycle gets a host of new electronics geared towards rider safety, along with minor gearing tweaks. The bike now gets Adaptive Cruise Control, Forward Collision Warning and Blind Spot Detection. The bike also gets a Tyre Pressure Monitoring System, LED headlights, heated grips, wider seats for rider and pillion and a USB port!

#### 2022 Suzuki Katana

The retro-inspired Katana, got an overhaul from the inside, leaving the outside mostly unchanged. The 2022 bike will now use the engine from the 2021 GSX-S1000, gets a minor increase in power, becomes compliant to new emission norms and has a broader spread of mid-range torque. The Katana also gets a ride-by-wire throttle. Styling-wise, the bike remains mostly unchanged, as it is difficult to redo a retro bike!

#### Aprilia SR GT

The Italian company ramped up its scooter line-up with the



Aprilia SR GT with 125 and 200cc engines. This foray into the adventure scooter segment is quite interesting for the buyer and overall market. The 125cc engine produces 15 PS and 12 Nm of power and torque respectively, while the 200cc punchier engine puts out 17.6 PS and 16.5 Nm. The whacked-out styling for the duo is sure to make heads turn, which is in no small part aided by the dual-purpose rubber which the two have been shod with. India isn't exactly ripe for such a vehicle, but we would love to see Aprilia bring it here to test the waters...

#### Bimota KB4

Bespoke motorcycle brand, Bimota, showcased the production-ready KB4, which the company had originally shown two years ago at EICMA 2019 as a concept. The bike comes equipped with a carbon fibre frame, which houses an engine borrowed from the Kawasaki Ninja 1000SX, which produces 140 bhp. Styling for the bike is decidedly retro, taking inspiration from Bimota's machines of the 70s and 80s. The bike gets a billet aluminium swingarm, with suspension from Ohlins and brakes by Brembo. We can't stop drooling over this gorgeous machine.

#### Moto Guzzi V100 Mandello

Leaving the best for last, here's

the most gorgeous motorcycle at EICMA 2021, as per our opinion of course! The V100 Mandello is Moto Guzzi's newest kid on the block. The bike features some new for the company tech and also the stuff that is new to the industry. At the heart of the bike is a 1042cc twin-cylinder engine which is water-cooled and more compact than the previous block. The mill whips out a decent 113 bhp, and its torque opens the tap at 90% of full chat at just 3500 rpm. Adding to the prettiness of this bike is the aluminium single-sided swingarm.

But the sweetest bit on this pretty motorcycle is the aerodynamics. On the side of the fuel tank is a pair of adaptive wind deflectors, which move outwards and provide more protection from the wind, as bigger touring bikes would. It also gets top-notch electronics, Ohlins semi-active suspension, a quick shifter, heated grips and more. This motorcycle did cause many a heart to beat harder in Italy!

#### RoundUp

EICMA 2021 might not have been the biggest and most flamboyant we have ever seen, but it was good to see motorcycles back, after last year's setback. We can only see the industry growing from here forth.





**T**he 2021 Formula One season is over and we've seen a new world champion in town. The championship was decided on the last lap of the season in a dramatic and controversial fashion. There is no need for us now to debate the FIA director's decision. The season is well and truly over and the teams have moved on towards the next season. We have seen one of the best races in recent memory and were fortunate to witness many incredible performances from the drivers. Here's a small report on the 21 drivers who participated in this 22-race season.

# F1 2021: GLORIOUS SEASON WRAP!







# MAX VERSTAPPEN

Rank 1 - 395.5 points

The world champion was incredible throughout the season. We cannot bring the Abu Dhabi drama to take away any credit from him. The young dutchman gave his heart in every single race and became the first ever Dutch to win the Formula 1 World Championship. He won the title with a record 18 podiums to his name and 10 wins are also a commendable feat. Of the four races in which he didn't stand on the podium, 2 were early retirements, one was a puncture (where he should've won the race in Azerbaijan) and one was when he drove with a damaged car in Hungary after Valtteri Bottas took down quite a few drivers including him. The only one that can be branded as his mistake is the Fast & Furious type stunt in Monza. Of all other races, he was either 1 or 2, not even 3. This shows how dominant he was on track. He achieved the Grand Slam feat in the Australian Open by taking pole, leading every single lap, winning the race and also the fastest lap point. Quite magnificent, isn't it!

Race Starts - 22

Wins - 10

Total Podiums - 18

Poles won - 10

DNF - 2

Best Finish - 1 (10 Races)

Driver of the Day - 3

# LEWIS HAMILTON

Rank 2 - 389.5 points

It will be heartbreaking for Lewis to lose out on the championship in the last lap of the last race. But, when you look at the previous two second place finishes, the difference is much closer. His loss to teammate Nico Roseberg in 2016 by 5 points & lost the title in his rookie year to Kimi by a single point. So, Hamilton has seen all kinds of heartbreaks with what happened in Abu Dhabi. Nevertheless, he showed his class on more than one occasion this season. Winning the British GP despite getting the penalty, winning the Sao Paulo GP while starting way behind, the masterful driving in Spanish GP - they were all proof that the vintage Lewis is still

there. The race in Brazil is definitely one of his best and that's a lesson to the younger generation. He tied with Max for the most points won from the fastest laps (6). The comeback he staged after Sao Paulo was full of character and we hope he shows the same in 2022.

Race Starts - 22

Wins - 8

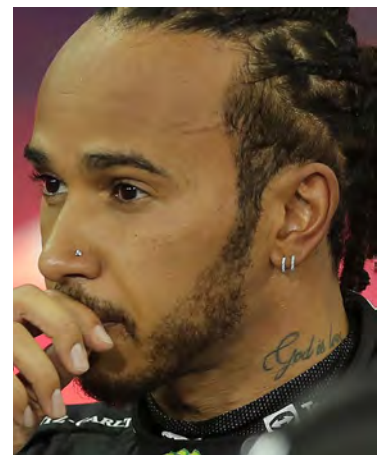
Total Podiums - 17

Poles won - 5

DNF - 2

Best Finish - 1 (8 Races)

Driver of the Day - 2







# VALTTERI BOTTAS

Rank 3 - 226 points

The final season with Mercedes turned out to be a bit of a disappointment for Bottas. He couldn't even fight for the top spot as he had to fight with the likes of Sergio Perez. The four races that he didn't finish cost him quite a few points and it turned about to be his worst season with Mercedes in terms of points. He failed to finish only 5 races before that in the previous four seasons! His performances on Saturdays weren't up to the mark either, as Mercedes won one less pole than Red Bull (Max Verstappen actually)! Even though, the Finn remained a good teammate for Lewis, helping

him to keep up in the title race with Verstappen. His last race with the Silver Arrows doesn't go as planned, but he completed the chapter by giving what was expected of him.

Race Starts - 22

Wins - 1

Total Podiums - 11

Poles won - 4

DNF - 4

Best Finish - 1 (Turkish GP)

Driver of the Day - 0



# SERGIO PEREZ

Rank 4 - 190 points



Red Bull should be expecting more from their second driver. 5 podium finishes in a 22-race season is definitely not enough to win the constructors championship. It took Perez 6 races to stand on the podium and a punctured tyre for Verstappen & a 'magical' mistake from Hamilton presented him his second ever victory in Formula 1, first with Red Bull. But he drove some brilliant races in his very first season with Red Bull, which won him 4 Driver of the Day awards. With 115 overtakes throughout the season, better performance in qualifying would have helped him take the third spot in the driver's standing. Also, his points tally

towards the end provides a positive picture about the Mexican, as he came up with 5 consecutive top 4 finishes. The job he did in Abu Dhabi, first by towing Max in Q3 and defending Lewis in the race has already made him a proper Red Bull driver!

Race Starts - 22

Wins - 1

Total Podiums - 5

Poles won - 0

DNF - 2

Best Finish - 2 (Azerbaijan GP)

Driver of the Day - 4

## **CARLOS SAINZ**

Rank 5 - 164.5 points

Carlos Sainz had a good start to his Ferrari career. He scored points in 20 of the 22 races, joined with Lewis Hamilton & Lando Norris. The consistency he showed this season is a positive sign for Ferrari who could definitely expect more from a driver who is improving his points tally every year. The fact that he's the only driver to finish all the races shows his level headedness & what's in store for the future. He maintained his brilliant qualifying performance in Monaco that gave him his best Formula 1 result, a second placed finish. Calling himself a 'smooth operator', Sainz once again proved that he's very good in grabbing opportunities. His 3 other podiums of the season came in races where there was too much confusion & calamities either at the start or the end - Hungary, Russia & Abu Dhabi. With Bottas moving to Alfa Romeo next season, he will definitely put himself in the fight for third place.



Race Starts - 22

Wins - 0

Total Podiums - 4

Poles won - 0

DNF - 0

Best Finish - 2 (Monaco GP)

Driver of the Day - 1

## **LANDO NORRIS**

Rank 6 - 160 points



What should've been an incredible season turned out to be just good for Lando Norris. The young Brit started the season with flying colours, finishing 9 out of the first 11 races in top 5. But he squeezed into the top 5 only once in the last 11 races. Despite an average end to the season, there are many positives to think about for Norris and McLaren. Sochi could still be a nightmare for Norris, as he surrendered his first F1 victory to Hamilton. His decision to stay with slick tyres in the rain was debated, but the composure and respect he showed in Monza showed his real face. He could've easily taken teammate Daniel Ricciardo and

clinched the victory that day, but he respected his team's decision. His overtake of Charles Leclerc on the same track would be among one of the best moments of the season. If not for the Bottas accident in Hungary & the rain in Belgium, Norris would have scored in all 22 races.

Race Starts - 22

Wins - 0

Total Podiums - 4

Poles won - 1

DNF - 1

Best Finish - 2 (Italian GP)

Driver of the Day - 3



# CHARLES LECLERC

Rank 7 - 159 points

Starting on a strong note, Leclerc lost the momentum midway. In his third season with a team like Ferrari, he should have stood on the podium more than just once. The overall points tally should be hurting him, if not finishing behind his teammate Carlos Sainz. But he had some great moments along the season. The Styrian GP comeback after an early pitstop and British GP finish was his high moments. After good qualifiers in Monaco & Baku, he failed to capitalise on them. His name was written on the Monaco track all the way, only for him to crash out of the race in Q3. He reclaimed pole position

immediately in Azerbaijan but lost the podium places just inside 8 laps. Ferrari will be expecting more from Leclerc if they want to compete with the likes of Mercedes and Red Bull instead of McLaren.

Race Starts - 21

Wins - 0

Total Podiums - 1

Poles won - 2

DNF - 1

Best Finish - 2 (British GP)

Driver of the Day - 2



# DANIEL RICCIARDO

Rank 8 - 115 points



Not the ideal start for someone who's looking for stability after leaving Red Bull. But, a victory after 65 races is something the Australian would be happy about. The drama between Max Verstappen and Lewis Hamilton in Monza, took the limelight off Ricciardo. He had a great start and snatched the lead from Verstappen on lap 1 and maintained it till the end. Ricciardo not only maintained his lead that day, but he also managed his tyres extremely well to clock the fastest lap with 30 lap old tyres. He took away 27 points from Italy and that should be a concern for him as almost one fourth of his points came in a single race. He ended without points in 9 races and a little more consistency would help him and his team next time.

Race Starts - 22

Wins - 1

Total Podiums - 1

Poles won - 0

DNF - 1

Best Finish - 1 (Italian GP)

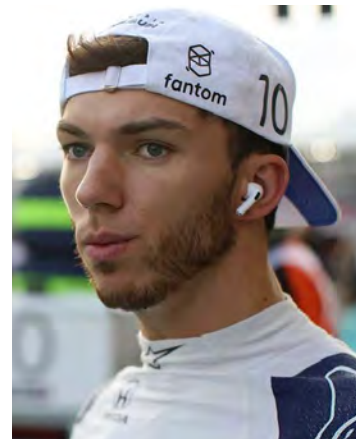
Driver of the Day - 1

# PIERRE GASLY

Rank 9 - 110 points

Pierre Gasly had the best season of his Formula 1 career and also the best individual season for AlphaTauri/Toro Rosso. He became their first driver to cross the 100 points mark. Gasly performed well above his team's weight in qualifying all season, and five top 5 finishes are something to be proud of. He had a great race in Azerbaijan and fought off the threat of Leclerc & Norris to finish third. If he could avoid the occasional crashes, the points tally would be healthier.

Race Starts - 22  
Wins - 0  
Total Podiums - 1  
Poles won - 0  
DNF - 3  
Best Finish - 3 (Azerbaijan GP)  
Driver of the Day - 0



# FERNANDO ALONSO

Rank 10 - 160 points



An incredible comeback by a legend, just incredible! This is his best season after leaving Ferrari in 2014. He started his return slowly but got into the groove in the second half. The podium in Qatar that came after almost 7 years reminded the Formula 1 fans how good he was. The laps he held Lewis Hamilton in Hungary should be among the best moments of the season. Alpine benefitted from his incredible defending and tyre management skills and he'll be hoping to replicate it the next time.

Race Starts - 22  
Wins - 0  
Total Podiums - 1  
Poles won - 0  
DNF - 2  
Best Finish - 3 (Qatar GP)  
Driver of the Day - 2

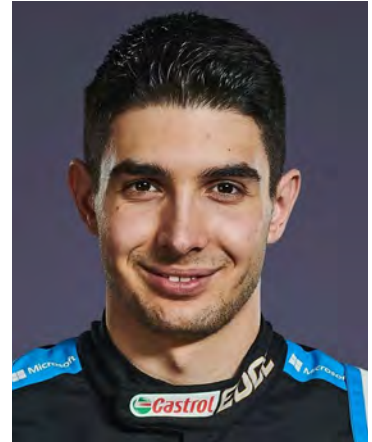


## ESTEBAN OCON

Rank 11 - 74 points

He would remember the season forever for winning his first race in Formula 1. With teammate Alonso's help, he registered his first victory in the Hungaroring. The Frenchman was so cool that day and it increased the expectations from him. Considering his last season, 2021 doesn't seem to be an improvement. 49 points in 21 other races aren't huge and he should be targeting at least a top 6 finish regularly.

Race Starts - 22  
Wins - 1  
Total Podiums - 1  
Poles won - 0  
DNF - 2  
Best Finish - 1 (Hungarian GP)  
Driver of the Day - 0



## SEBASTIAN VETTEL

Rank 12 - 43 points



Four-time former champion had an okayish start with the mid table Aston Martin. He started off badly with no points from his first four races, but two strong finishes in Monaco & Azerbaijan brought him on track. He proved his class in drama filled Baku and get onto his first podium in 20 races. Hungary should have accounted as his second podium, but he was disqualified as his car failed the fuel requirement test. Point finishes in only 7 races isn't a good return for someone like Vettel. Anyway, he comes first in the overtaking chart, with 132 overtakes in this season.

Race Starts - 22  
Wins - 0  
Total Podiums - 1  
Poles won - 0  
DNF - 2  
Disqualified - 1  
Best Finish - 2 (Azerbaijan GP)  
Driver of the Day - 2

## LANCE STROLL

Rank 13 - 34 points

Consistency seems to be a huge issue for Stroll, as he dropped points on quite a few occasions when it's expected of him. His best finish came almost at the end of the season in Qatar, where he finished P6. If not for that race, he would've ended up with zero points in his last 6 races. Azerbaijan could've been a better result if not for that left rear tyre puncture, but nothing matters now. He should be stepping up, at least to beat his teammate.

Race Starts - 22

Wins - 0

Total Podiums - 0

Poles won - 0

DNF - 3

Best Finish - 6 (Qatar GP)

Driver of the Day - 0



## YUKI TSUNODA

Rank 14 - 32 points



Ended up as rookie of the year, Tsunoda has a mixed season with AlphaTauri. The Japanese showed promise in a few races, while turned out to be a disaster in some. His defending was too good that he turned out to be a headache even for a champion like Lewis Hamilton. While attacking in the corners, he goes too aggressively and ends up hitting someone. The result in Abu Dhabi can be a huge boost for him to maintain that level next season.

Race Starts - 21

Wins - 0

Total Podiums - 0

Poles won - 0

DNF - 3

Best Finish - 4 (Abu Dhabi GP)

Driver of the Day - 0

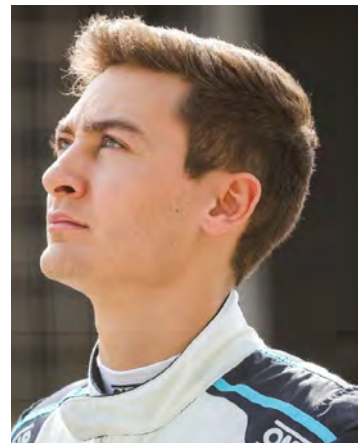


## **GEORGE RUSSELL**

Rank 15 - 16 points

George Russell did what he could with Williams. He even won them a podium! We cannot count out his heroics at Spa, just because the race was washed out because of the rain. His heroics on Saturday is something that put him in that place, and he should be appreciated for that commendable performance. He had a few good races from Hungary to Russia & ended up with points on 4 out of those 5 races. That phase earned him a seat with Mercedes too!

Race Starts - 22  
Wins - 0  
Total Podiums - 1  
Poles won - 0  
DNF - 4  
Best Finish - 2 (Belgian GP)  
Driver of the Day - 0



## **KIMI RAIKKONEN**

Rank 16 - 10 points



The driver with most Formula 1 race starts is now retired! Kimi Raikkonen, the legend says goodbye to the tracks thus ending the 20-year association with the sports. When he started racing, Jos Verstappen was driving in Formula 1 and now his son became the World Champion. That is some time, isn't it! He had to miss two races because of COVID, and finished with points in 4 races out of the remaining 16. It's a shame that his last race was recorded as DNF, but at least he'll be happy that he doesn't have to attend pressers anymore. We'll leave you alone now, Kimi!

Race Starts - 20  
Wins - 0  
Total Podiums - 0  
Poles won - 0  
DNF - 2  
Best Finish - 8  
(Russian GP & Mexican GP)  
Driver of the Day - 1

# NICHOLAS LATIFI

Rank 17 - 7 points

Two consecutive races in Hungary & Belgium helped Williams so much. Not only, George Russell took a podium, his teammate Latifi's point finishes came in those races. His 7th place finish in the Hungaroring was the first time he scored a point in Formula 1. But, anyway, he'll be known for the incident in Abu Dhabi, where he crashed and brought the safety car into play which resulted in Verstappen winning the title.

Race Starts - 22  
Wins - 0  
Total Podiums - 0  
Poles won - 0  
DNF - 3  
Best Finish - 7 (Hungarian GP)  
Driver of the Day - 0



# ANTONIO GIOVINAZZI

Rank 18 - 3 points



What to say about the not so good & not too bad Italian! His last season turned out to be his worst season in Formula 1, in terms of points. But we cannot just blame him for that as he was always in the fight for points. He ended up in 11th place on four occasions this season & three of them were consecutive finishes. If not for the retirement in the last race of the season, he would've been the only driver in this season to end up with zero DNF. A decent achievement missed!

Race Starts - 22  
Wins - 0  
Total Podiums - 0  
Poles won - 0  
DNF - 1  
Best Finish - 9  
(Saudi Arabian GP)  
Driver of the Day - 0



# MICK SCHUMACHER

Rank 19 - 0 points

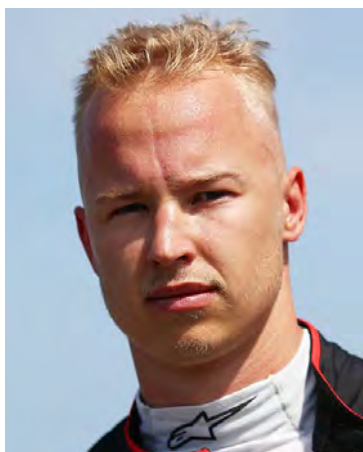
Not a start Mick would've wanted in his Formula 1 career. But you can't expect more with what Haas provides. Considering the ability of the car, Mick's performance shouldn't be considered bad. Even Haas's boss Guenther Steiner praised the legendary driver's son for his performance towards the end of the season. Mick was clearly pushing his car to its limits & which should encourage the team to give the young German the support he deserves.

Race Starts - 22  
Wins - 0  
Total Podiums - 0  
Poles won - 0  
DNF - 3  
Best Finish - 12  
(Hungarian GP)  
Driver of the Day - 0



# NIKITA MAZEPIN

Rank 20 - 0 points



The Russian rookie had the worst possible start to his Formula 1 career. His very first race didn't even last one full lap and that was just a trailer to what followed. Mazepin made too many mistakes in qualifying, in races and has a DNF to his name in 5 out of 21 races he started. He's the driver with most retirements this season. He could beat his teammate only thrice and was the only driver who failed to cross Q1 at least once. Miles to go.

Race Starts - 21  
Wins - 0  
Total Podiums - 0  
Poles won - 0  
DNF - 5  
Best Finish - 14  
(Azerbaijan GP)  
Driver of the Day - 0

# ROBERT KUBICA

Rank 17 - 7 points

Filled in for Raikkonen in Hungary & Italy, when the Finn was suffering from COVID. Drove decent enough came 15th and 14th respectively in those races. Outperforming the two Williams in Hungary is something he could be proud of from those races.

Race Starts - 2

Wins - 0

Total Podiums - 0

Poles won - 0

DNF - 0

Best Finish - 14 (Italian GP)

Driver of the Day - 0







# MotoGP 2022 Season Preview

**T**he MotoGP 2022 season has begun! If not the racing, at least the preparation has. Riders spend the off-season working on their fitness to be ready for the season opener in Qatar. Factories spend the off-season working on the bikes, to make it the best overall package on the grid.

Everyone works towards being

the MotoGP World Acrowned...and what do we have in store for 2022?

2021 was a barnstormer of a year, with incredible racing and two young protagonists fighting for the title. Frenchman Fabio Quartararo and Italian Francesco Bagnaia put everything on the line to win, with the former trouncing the latter at the end. With these two fast youngsters, it was a bit of

a changing of the guard, especially compounded with Valentino Rossi retiring.

2022 sees minor variation in the rider line-up, with all the factory seats locked in with two-year contracts. Quartararo will be joined by former teammate, Franco Morbidelli in the Yamaha Factory team. The two have incredible potential for the Iwata based manufacturer.





The big red Ducatis are once again piloted by Bagnaia and Jack Miller. The former has already shown his potential over a single lap and race distance, the latter now has to live up to the expectations. Miller showed speed throughout the last season, but he lacked consistency, he will have to work on that aspect.

Mighty Honda has been a lame

duck for the last two seasons with their star campaigner Marc Marquez not fully fit to race. This off-season has seen further complications with past injuries rearing its ugly head. Nobody knows whether 2022 will see the glorious return of the Marc Marquez, the champion or a half-fit rider being good one day and struggling the next. His teammate Pol Espargaro now has a season's worth of data and experience

under his belt and will be looking to start fighting regularly for the podium. He should be greatly aided by a revised Honda RC213V, which is supposedly radically different and a step in the right direction towards front end grip.

Suzuki will see the 2020 champion, Joan Mir, trying to bounce back after a lacklustre season last year, where he never





looked in the reckoning for the championship. This year without the added pressure of defending his championship, he should be a strong contender. On the other side of the garage, Alex Rins, has been brilliant on the Blue, on his day. Unfortunately, those days have been few and far between, Rins having squandered away many podium opportunities throughout the season. He will be hoping to stay on the bike and finishing more races than he did last year.

Which brings us to the relatively less experienced MotoGP

Espartero on the other hand, will continue in the team with a lot of experience of the bike and will be looking to build on the strong results of last year, which included a first podium for the Noale based team.

factory of KTM. Unlike the other manufacturers, KTM has had an up and down year. Struggling with the new Michelin front at the start of 2021, then finding a breakthrough mid-season, before once again struggling at the end. The brand has owned up to trying out too many solutions too soon. They will look towards taking small steps in the right direction, rather than throwing everything at the problem. KTM has two young and hungry riders in Miguel Oliveira and Brad Binder, both have shown potential and have won MotoGP

races last year. Brand Orange will be hoping to deliver a bike capable of fighting for the podium every week to these lads.

The factory with the smallest budget, Aprilia has made giant strides in the past couple of seasons. 2022 will see them getting a big shot in the arm with the addition of Top Gun, Maverick Vinales, a rider with a proven race winning history. Vinales has oodles of talent but has had multiple mental breakdowns on track in his career. It will be make or break for this temperamental rider, as he can take the Aprilia to the limit, where his teammate Alex Espargaro has been unable so far. Espargaro on the other hand, will continue in the team with a lot of experience of the bike and will be looking to build on the strong results of last year, which included a first podium for the Noale based team.

Among the satellite teams, there are a few fresh faces with the rookies and some seasoned veterans as well.

Andrea Dovizioso for Yamaha and Johann Zarco for Ducati are the 'older' gentlemen left in the class. The two have oodles of experience racing a variety of machinery in MotoGP. Dovizioso will be returning to Yamaha after a lengthy journey with Ducati and will be looking to make amends for his year's sabbatical. Zarco had an incredible first half of the year with Ducati in 2021 before losing his way in the latter half. The Frenchman will be looking to find his mojo again.

The satellite Hondas will be ridden by Alex Marquez and Takaaki Nakagami, the latter being the only Asian in MotoGP. Both now have a lot of experience racing the Honda. Alex has shown podium pace in the past, while Nakagami has repeatedly cracked under pressure. 2022 will need solid results from both riders if they hope to retain their seats for the future in MotoGP.

KTM's satellite efforts sees two new recruits, with Moto2 Champion Remy Gardner joined

by runner-up Raul Fernandez. Both the riders are mercurial talents, with Fernandez expected to hit the ground running, while Gardner is known to gradually build up his speed. There will be no pressure on either of these riders, as 2022 will be a developmental year for both.

Another rookie in the class will be Darryn Binder, who will be joining Dovizioso in the Yamaha satellite effort. He has been promoted to MotoGP directly from the Moto3 class. It will be a massive learning experience for him, as he is only the second rider in history to do so.

The rest of the satellites are a bevy of Ducatis. 6 to be precise! Leading the charge is Jorge Martin, who was brilliant in his rookie season and great things are expected from him in 2022. There will also be Enea Bastianini who was phenomenal at the end of races, dicing and slicing with riders far more experienced than him. Luca Marini will also be hoping to make a big step up this season on his Ducati. The Italian company will have two rookies as well, in the likes of Fabio Di Giannantonio and Marco Bezzecchi.

2022, will see three sets of brothers racing in MotoGP, with the Marquez, Binder and Espargaro brothers racing each other!

The championship will be fought between Quartararo, Bagnaia, Marquez and Mir. Who will be able to make it stick over the year we wait and see with bated breath? Or will someone else come along and upset the apple cart? With MotoGP it is impossible to predict these days... and that is why we love the sport!





**2022** like every year will start off with a bang for all motorsports fans around the world. The Dakar Rally will once again begin on the 1st day of the new year. As a result, by the time you are reading this article in the Motor Vikatan January issue, the rally would have started and maybe even finished!

**What's special about the Dakar Rally?**

Considered to be the toughest rally in the world, the Paris-Dakar Rally as it was originally called,

started in 1978. Participants started in Paris, France and rode/ drove to Dakar in Senegal, covering around 10000 km. The first iteration saw 182 vehicles at the start line and only 74 managing to finish. As the years passed, the sport first grew in popularity, with the number of participants increasing, before it hit a roadblock due to a myriad of reasons. Foremost of it being the number of deaths of racers and spectators.

The 2008 rally was cancelled due to terrorist threats along the

route in Africa and eventually the rally was shifted to South America from 2009 to 2019. 2020 saw the rally moving to Saudi Arabia and the upcoming edition will be the third in this country.

In recent years, the rally has become tougher, with more investment by manufacturers in the sport and an ever-growing fanbase.

2022 will see top rallyists from around the world participating in the Dakar, where it will start on the 1st of January with a prologue

# DAKAR

# A GRUPELLING

# MASTERPIECE



# DAKAR

stage. It will then be followed by 12 stages around the Saudi Arabian desert covering 7500 km in two weeks and ends at Jeddah. Around 300 racers across categories are going to be at the start line. How many will finish?

As always, the cynosure of all eyes will be the rally cars. This year, there is a major shakeup in the rules for 2-wheel drive and 4-wheel drive vehicles and that is

going to heat up the competition. Especially between Mr. Dakar Stephane Peterhansel, who has won 14 Dakars, including the 2021 iteration and Nasser Al-Attiya, 3-time winner. Carlos Sainz, Sebastian Loeb and Nani Roma will also be strong competition for the win.

Among the cars there will also be the Audi Q e-tron, as the name signifies, this is a step in going fully

electric at the rally. This Audi sports an electric drivetrain and whips out 671 HP and a torque curve starting from the bottom. The vehicle has not yet made a public appearance at this level and we are all keenly interested in seeing how it fares.

The motorcycles see a level playing field, quite unlike the sand dunes they will be riding. The last 5 Dakars have seen different winners, and all those 5 will be racing this







year. We also are delighted to once again have an Indian racing the Dakar. In his third year Harith Noah, will be racing for Sherco TVS. 2021 saw Harith finishing an incredible 20th, he will be hoping to improve this year.

Vying for the win on motorcycles will be 2021 winner Kevin Benavides, Ricky Brabec, Sam Sunderland, Mathias Walkner and Toby Price. Another interesting rider to watch will be Danilo

Petrucci, who just a month back was racing a KTM in MotoGP, he will now be racing the Dakar again on a KTM. With little more than a month of rally training, Petrucci will make for a good yardstick to see the difference in the two disciplines of premiere motorcycle racing.

Besides the cars and bikes, there will also be the quads, side-by-side vehicles, and the completely insane trucks racing at the Dakar.

The brutal Dakar rally is also

unique in the form that men and women compete on equal terms. There are few other sports in the world where this is possible. 2001 had seen Jutta Kleinschmidt, a female German driver, win the Dakar outright. She had previously won stages and even raced motorcycles. The 2022 edition will also see 6 women racing the Dakar on bikes, cars and SSVs.

In the previous two editions of the Dakar at Saudi Arabia, we have seen the most consistent pilots winning. Many a fast athlete, lost time during navigation. This year will see everyone working on their navigation skills to make up time on their rivals.

The Dakar doesn't come with its inherent risks of drivers and riders speeding along the dirt in unknown terrains. 31 competitors over the years have died in various incidents. Most rallyists have crashed multiple times at the Dakar and have had their bodies badly mangled. Yet, they return. They are a testament to the indomitable spirit of humans...





AVINASH NORONHA

# UNDERSTANDING MOTORCYCLE LUBRICANTS

One of the most important things of motorcycle maintenance is changing the engine oil at regular intervals. Do that and the heart of your bike will be happy. Which brings most riders to the question: What Oil!?

There are two options when doing so, riding to the authorised service centre for your bike and paying the bill on the way out. You don't need to think at all! But, since we are all automobile enthusiasts here, who enjoy digging deeper and understanding the intricacies

of our beloved machines, that method doesn't satisfy our soul. We need to know what is the best oil for the bike's heart and our soul, keeping in mind the wallet of course!

Here's a quick guide to understanding motorcycle lubricants...

## The Composition

Motorcycle engine oils made up of two components the base stock and additives. The former is the actual oil component which makes up 80% of the product, while the latter makes up the rest. The additives are a mixture



of detergents for cleaning and dispersants, which ensure the gunk in your engine doesn't settle anywhere.

Engine oils are labelled according to the base stock and go by the names of mineral, semi-synthetic and fully synthetic.

Mineral oils, as the name suggests use natural petroleum oil pumped from mother earth as the base stock. These oils are cheaper, but do not last as long, are as pure or have as wide an operating window as synthetic oils.

Synthetic oils use oils built in a laboratory as the base stock. This is expensive to produce, but the production done under specified conditions, ensures that it is precise as the final product. Synthetic oils will last longer and are better equipped to handle extreme conditions.

Semi-synthetic oils are a blend of the two. With the synthetic

SAE (Society of Automotive Engineers) grades oil on the basis of its viscosity. The first number on the left of the W denotes the minimum air-temperature that the oil can be used in. The W stands for winter. And the number to the right of the W signifies the maximum ambient temperature for the oil to be used in.

component varying between 5-15% from brand to brand. These oils try to offer the best of both worlds, a long-lasting oil at an economical price point.

Which oil should you buy? It depends on your riding style and machine. At one end of the spectrum, we have sedate urban riding on a small capacity motorcycle. For such requirements, mineral oil is perfect. At the other extreme, we have high revving, highly tuned engines for racing on a track at the limit. For these, full synthetic works best. Choose an oil basis where you and your motorcycle fit on this rainbow of oil requirements.

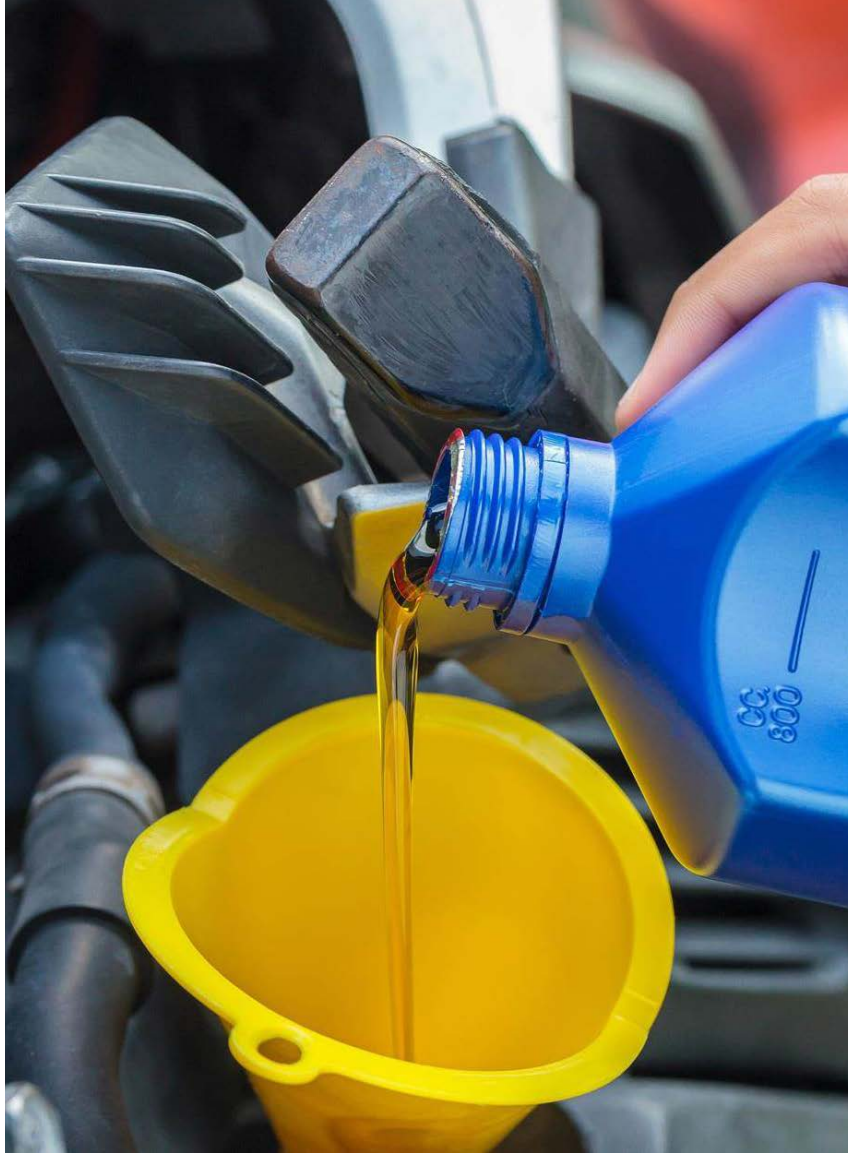
### The W!

On every can of motorcycle oil, you find in the market, you will see a number printed on it. 15W- 50 or 20W-40 or something similar. These numbers are exceptionally important to your motorcycle.

But first let us understand this alpha-numeric code. SAE (Society of Automotive Engineers) grades oil on the basis of its viscosity. The first number on the left of the W denotes the minimum air-temperature that the oil can be used in. The W stands for winter. And the number to the right of the W signifies the maximum ambient temperature for the oil to be used in.

A 10W- 50 oil, suggests that it can be used in temperatures as low as -25 degrees centigrade without a problem. Oil in winter needs to be thin for it work at optimum for your engine. On the other hand, this grade of oil can be used up to 50 degrees centigrade without a problem. For the heat, the oil needs to be more viscous, to work





optimally in your motorcycle's engine.

Now which grade should you choose? The manufacturer of your motorcycle will recommend a certain grade to be used in your bike. They take into account the motorcycle's internals, the nature of the engine and the expected riding conditions. If your riding isn't taking you to any extreme temperatures, then it is prudent to stick to the manufacturer's recommendations. But if you are expecting extreme weather, be it hot or cold, then you can try a slightly higher or lower temperature grade for your machine. To make things even simpler, if you are riding anywhere south of Madhya Pradesh, temperatures are never going to be too cold for the engine

oil. If you are located in north Indian winters of the Himalayas, then you will need specific oils to handle the extreme cold.

#### What's JASO?

Another code you will find printed on the rear label of the oil can is JASO. This code will only be found on oils made specifically for motorcycles. Automobile oils do not meet the specifications of the JASO ratings.

The JASO ratings are based on the friction characteristics of the oil in dynamic and static terms. There are four ratings currently which you will find on oil cans. MA, MA1, MA2 and MB.

MB is used for scooters and other automatics which do not have a wet clutch. MA signifies that

the oil can be used for a machine where the engine, clutch and gearbox use the same oil. MA1 states that it has the properties of MA and has friction modifiers which makes it suitable for wet clutch applications. MA2 oils are made for wet clutch motorcycles with catalytic converters.

Which rating do you need to use? In this case, stick to the recommendation of the manufacturer you find in your owner's manual.

#### Car Oils in Bikes?

Often, we see newer motorcyclists put more easily available car engine oil in their motorcycle. This is sacrilege as far as your motorcycle is concerned. Over the last few decades, engine technology in cars and motorcycles has grown at an exponential pace. Engine oil tech has had to keep up to stay in sync. As such the two worlds gradually diverged. The big differences which make car oils a strict no is below:

Car oils do not run at such high RPMs as motorcycles. Cars have larger surface areas to cool off the oil, as such the oil runs at lower temperatures. Motorcycles always have space constraints, as such bikes don't have this luxury to keep cool. Motorcycles use the same oil for the engine, gearbox and clutch, while cars have separate oils for the transmission and engine. Lastly, car oils have additives to make it slippery, which can cause the clutch to slip in your motorcycle.

For all these reasons, always buy and use motorcycle specific oils for your motorbike.







# WHAT MAKES HIGHNESS A HIGHNESS?

IS IT LEGACY? IS IT THE VOICE? IS IT BEING HIGHLY SELECTIVE? IS IT MOVING  
AROUND WITH THE NOBILITY? IS IT BEING IN TUNE WITH THE TIMES? IS IT JUST  
PURE CLASS? WHAT MAKES HIGHNESS A HIGHNESS?



Powerful 350cc Engine | Honda Selectable Torque Control (HSTC)  
Honda Smartphone Voice Control system (HSVCS) | Assist And Slipper Clutch  
Dual Channel ABS

Creative Visualisation.  
All features and colours may not be a part of all variants.

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