

Formula Manipal's Newsletter

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In This Issue:

At Formula Bharat 2020

02

Our Sponsors

06

At Formula Bharat 2020

Over the few months preceding Formula Bharat 2020, Formula Manipal worked relentlessly in preparation towards this upcoming national competition. Striving for excellence, our team put forth every ounce of effort to ensure we put our best foot forward in both the static as well as dynamic events of the competition. Formula Bharat hosted 52 participating teams from the 22nd to the 26th of January, spanning 5 days over which all the inspection, tests and events would be completed. Our team arrived in Coimbatore a day prior to the competition in order to prepare ourselves for the next few days. Formula Bharat 2020 would see Formula Manipal presenting not one but two cars, both a combustion vehicle (CV) and an electric vehicle (EV), at the competition. This was something that only Formula Manipal was attempting and would certainly prove to be a challenge for us, but we aimed to give it our all and push our limits to the very edge.

- **On Day 0**, we completed registration for both the combustion and electric team.
- **On Day 1** of the competition. Our combustion team started with the mechanical inspection and our car was subjected to intense scrutiny from the technical inspectors. These inspectors examined the car carefully and pointed out some changes to be made but these alterations were minor, and our car cleared the mechanical inspection. Meanwhile, our electric team spent the first day working on the car to make some improvements.



The FM20 competing in the Endurance event at FB2020.



- **On Day 2**, our combustion vehicle cleared the tilt test as well as the noise test. We also completed three static events for the combustion vehicle: the cost event, the business plan presentation event and the engineering design event. The cost event evaluated the team's understanding of the manufacturing processes and the costs associated with the construction of a prototype race car. The business event tested the team's ability to develop and deliver a comprehensive



The electric team of Formula Manipal at the EV pits.



At Formula Bharat 2020

business model which demonstrated that their prototype race car could become a rewarding business opportunity. Finally, the design event evaluated the student's engineering process and effort that went into the design of the vehicle to meet the intent of the competition. Our electric vehicle wasn't too far behind as it too completed its two scheduled static events for the day, the cost and the business event.



- **Day 3** required the combustion team to do some fine tuning to this year's new addition, the Brake System Plausibility Device (BSPD) circuit but with some effort, the team managed to clear the brake test. On the other hand, the technical inspectors gave positive feedback to our electric team that had taken the electric car and its accumulator to the inspection bay for examination. In fact, the team cleared the electrical inspection for the car, which was done without the accumulator. The electric team also presented its design report at the static design event.



After clearing all the elaborate tests and passing all required inspections, our combustion team was looking forward to competing in the dynamic events that were scheduled for Day 4.

- **On Day 4** however, things did not go as planned. An issue with the battery of the combustion vehicle stop-ped us from competing in the acceleration and skid-pad events. This setback was a heavy blow, but the team managed to clarify the issue with enough time to compete in the autocross event.



At Formula Bharat 2020

Our team set the benchmark in this event with the best time of 92.4244 seconds, which was a much needed boost on a difficult day. Meanwhile, our electric team faced some bad luck too as they managed to clear all the accumulator inspection points and lined up for the live test but couldn't clear the accumulator inspection due to component failure.



The FM20 competing in the Endurance event at FB2020.

- **Day 5** was meant for the endurance event for our combustion vehicle. Our car was one of the last two that were scheduled to make the endurance run. We got off to a solid start in this event but during the second lap itself, the engine started overheating. We had to proceed carefully as the issue was a sensitive and tricky one to manage. Our first driver managed to nurse the engine till the 7th lap, at which point the team is required to make a driver change. However, post the driver change, the engine had suffered enough and the car grinded to a halt in the 8th lap.



Despite all our attempts, we couldn't restart the engine and consequently, could not finish the endurance event. Meanwhile, since Day 5 was entirely meant for dynamic events, the electric teams had little to do, with none managing to clear all the tests and inspections to qualify for any dynamic events.



At Formula Bharat 2020

An award ceremony at the end of Day 5 drew the final curtains to Formula Bharat 2020 as Formula Manipal won the 1st place trophy for the autocross event and finished 3rd in the Electric Vehicle cost event. Our team finally stood 8th overall in the Internal Combustion Vehicle Class and 6th out of 12 teams in the Electric Vehicle Class. Formula Bharat 2020 came with its hurdles as the team faced major setbacks on more than one occasion. Instances such as facing a last minute battery



Formula Manipal alongwith DJS Racing and Team MH-o8 Racing.

our performance at the competition and Formula Manipal is determined to take the opportunity to learn from its past mistakes and perform even better at the next competition we go to. Keeping this same determination in mind, our team appeared for the rulebook tests for various international Formula Student competitions, all of which were held on the 31st of January.

These tests require the combustion and electric teams to appear separately, and our combustion team qualified for Formula Student East and Formula Student Austria, while the electric team was selected for Formula Student Austria only. This led us to make the decision of focusing all our efforts and competing in the Formula Student Austria competition that would be held in July.

Unfortunately, The organizers of the Formula Student Austria 2020 event have announced that the event scheduled from 26th to 30th July 2020, stands cancelled due to the Coronavirus outbreak world wide. We are disappointed that we won't be able to showcase our car at its full potential at FSA 2020. At the same time, we agree that everyone's safety is of utmost importance and support the cause for such drastic decisions. We are following all measures possible to prevent further propagation of the infection. Despite this setback, we are motivated now more than ever to prove our mettle with our cars at Formula Bharat 2021.



Formula Manipal celebrating the 1st place finish in the autocross event.

issue having lined up to run the acceleration event and missing the business event finals by less than a point, can't help but give one the feeling of being so close yet so far. However, failure is nothing more than an opportunity to learn and improve. There were positives to be drawn from



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Page 7