Formula IUT: The team that aims high

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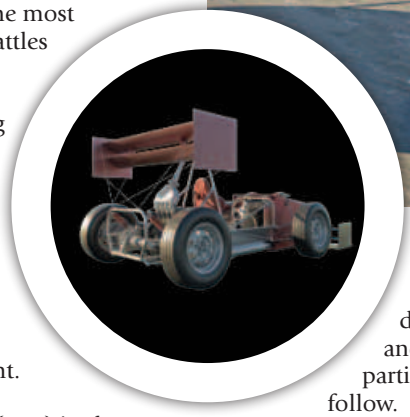
Suspense, spectacle and speed, for all that glue our eyes to the screens, Formula One got it all. Behind the curtain of this thrilling experience, Formula student competitions are the events that gather the best minds to originate the marvel that Formula One has to offer. And owing to Formula One's popularity, it is no surprise that Formula student competitions are one of the most competitive yet entitled battles for students around the world. Every year, student teams take the challenging path of this testing ground to prove their knowledge and gain experience.



The story of Formula IUT, the team that secured the third position in Class 1 of Formula Bharat 2023, is no different. Representing the Islamic University of Technology (IUT) in the global platform, Formula IUT's story also started with the dream of carving its place in the global community. Starting back in 2021, the team, alongside currently operating sub-teams, has been a place of motorsport enthusiast students from the institution for over two years. Recently, as the only team from Bangladesh participating in class 1 of Formula Bharat 2023, the team has witnessed their first major win.

Formula Bharat, which is an engineering design competition focusing on the manufacturing and operability of a formula-style vehicle designed by students, is arranged every year at Kari Motor Speedway of India. The competition judges the teams in terms of engineering design, overall cost, marketability and the dynamic performance metrics that the teams offer. Formula Bharat mainly offers two different classes in terms of competition metrics - Class 1 and Class 2. Although the event, organised in India, aligns with the judging criteria and points of global

Formula Student standards, the competition has some distinct sets of rules and regulations that the participating teams must follow.

Out of the two classes, participants under Class 1 are judged on their vehicle's conceptual design stage. The teams do not require a physical prototype, while Class 2 requires a completed prototype to compete. In both classes, combustion and electric vehicles are judged under different categories. The teams in both categories are assessed over their car's concept, goal and management procedures along with detailed business plans.

As a novice team in the arena and previously a finalist of FSUK 2022, the win has been a big achievement for the IUT team. The team, being a class 1 participant in the combustion vehicle category, has ranked fifth in the Cost, Goals & Management (CGM) event and fourth in Business Plan Presentation (BPP) event separately. The results from these two events contributed to the team's overall position of being third only to two other Indian teams. Although joined by Team Swapnojan from Ahsanullah University of Science and Technology (AUST) and Team Automaestro from BUET in this season of Formula Bharat, Formula IUT was the only participant in Class 1 while the other two with their prototypes opted for class 2.

"As a previous finalist in FSUK 2022, we already had experience in configuring the process of international competitions. But Formula Bharat required additional submissions and the event format was different from the traditional European and SAE competitions, so the team had to be extra cautious to avoid penalties," said Farhan Shahriar, the team lead of Formula IUT. According to him, the cautiousness and feedback from FSUK helped them identify their mistakes and revise accordingly.

However, the team has yet to build their own Formula Student vehicle. When asked about the manufacturing progress, the team's Technical Team Lead Hasin Ahmad Zafir mentioned their plans, "Though we are late to manufacturing, we have already finished our designing phase and our imported products are on the way."

Usually, an FSAE vehicle takes up to four months of manufacturing time followed by an extensive testing phase. But as the team is manufacturing for the first time, their target is to complete all the phases before the next targeted competition. With this goal, they plan to start manufacturing this month.

In addition to manufacturing, checking all the criteria is important for such a huge project to run smoothly. "Currently, the biggest goal is to get the car built and running reliably. Formula Student competitions constrain the design with very stringent rules for fair competition and the safety of the driver. This means we have to ensure strict manufacturing tolerances and safe manufacturing practices to pass scrutiny," added Hamedur Rahman, Engine & Drivetrain lead of the team.

But with greater purposes comes greater challenges. Manufacturing a formula-style vehicle is a complex process, especially when the outcomes largely depend on sourcing and manufacturing practices that are unavailable in the given context. And the financial cost of running the huge project only adds up to the challenge. Even apart from the huge support that it requires, the local vehicle manufacturing scenario is not yet friendly enough to undergo such a large-scale procedure. Hamedur adds, "Currently, the engine that we are using for our vehicle's powertrain is the KTM Duke 390, which is not available in our country due to the 165cc displacement limit set on motorcycle engines. Furthermore, there is a limited selection of alloy steel available which hampers the construction of the tubular spaceframe chassis. In addition, we have to repurpose many car parts for the suspension, braking and drivetrain systems."

However, the team believes it is the continuous effort to overcome challenges that make the whole experience worthwhile. Their next plan is to represent Bangladesh in IMechE Formula Student 2023 and Formula Student Germany 2023 for the coming year. But the team does not dream of being confined only to attending competitions. With the help of other Bangladeshi teams, Formula IUT dreams of building a more accessible and enriched motorsport community that traces the name of Bangladesh higher on the maps.