

Annual Report : 2021-2022

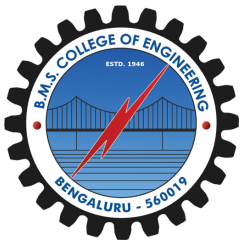
Bullz Racing SAE

Propel Lab IV

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ACHIEVEMENTS & OUTCOMES

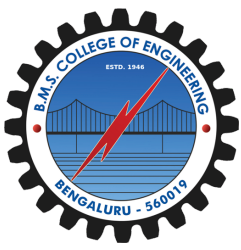
The team has had an eventful year. Various activities were carried out that allowed team members to further their technical and managerial skills. The following are the work done by the team over the past year:



The

Formula Bharat Virtuals (FBV 21-22)

team took part in the virtual event of Formula



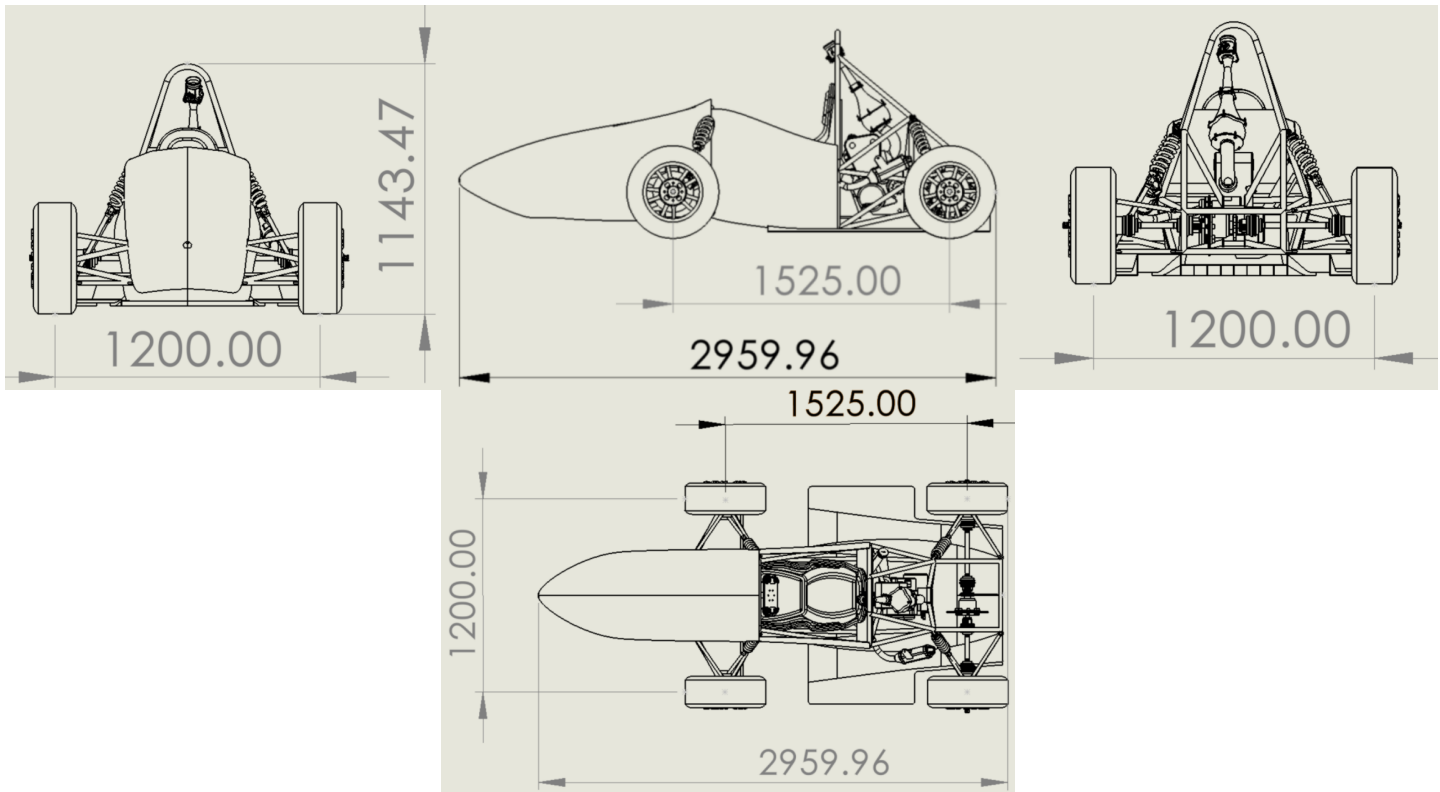
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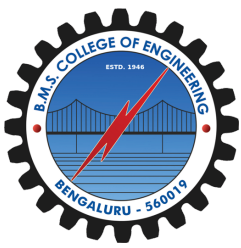


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Bharat, owing to the lockdown due to the second wave of the COVID-19 pandemic. A new car, the BZR-02 was designed, the successor to the BZR-01. Judges' feedback from the January 2021 Formula Bharat was taken into account as well as guidance from team alumni currently working in the automotive industry in various companies across the world.

Out of 31 teams participating in the competition, Bullz Racing secured the **11th rank in the Engineering Design** event and the **19th rank in the Business Plan** event. **Overall, the team secured the 13th rank** in the event.





The team's performance improved by leaps and bounds from the previous competition and this was reflected in the team's scores:

SCORES

Category	Overall Points	SCORE
Overall Vehicle Concept - DSS	4	2.70
Overall Vehicle Concept - Engineering Team Management	8	2.10
Overall Vehicle Concept - Manufacturability / Servicability	6	2.10
Overall Vehicle Concept - P/A/V/R	12	5.90
Vehicle Dynamics	30	18.00
Mechanical / Structural Engineering	20	9.90
Powertrain	30	9.70
LV – Electrics / Electronics / Hardware	10	3.03
Driver Interface - Driver Interface	15	6.34
Presentation - Organization	5	3.29
Presentation - Visual Aids	5	3.18
Presentation - Delivery	5	3.58
Q&A Session	50	20.10
TOTAL	200	89.92

Engineering Design event scores:

Left - Formula Bharat 2021 (January)

Right - Formula Bharat Virtuals 2021-22 (November)

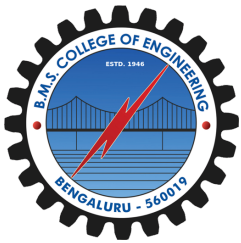
SCORES

Category	Overall Points	SCORE
Overall Vehicle Concept - DSS	4	3.31
Overall Vehicle Concept - Engineering Team Management	8	5.20
Overall Vehicle Concept - Manufacturability / Servicability	6	4.50
Overall Vehicle Concept - Process - Analysis - Validation - Resources	12	8.58
Vehicle Dynamics	30	22.50
Mechanical / Structural Engineering	20	13.50
Powertrain	30	22.50
LV – Electrics / Electronics / Hardware	10	4.50
Driver Interface	15	10.10
Presentation - Organization	5	3.73
Presentation - Visual Aids	5	4.00
Presentation - Delivery	5	4.02
Q&A Session	50	34.50
TOTAL	200	140.93

The



team is currently using the feedback from the judges to refine the design for BZR-02. The car would be manufactured as the successor to the BZR-01.



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SCORES

Category	Overall Points	SCORE
Pitch Deck	15	11.65
Novelty	10	7.52
Content	20	13.37
Finances	15	8.88
Demonstration and Str	15	11.28
Delivery	10	7.99
Questions	10	6.85
General Impression	5	3.66
TOTAL	100	71.19

Business Plan event scores:

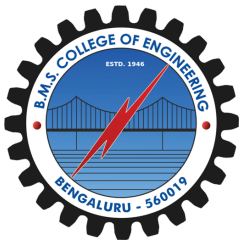
Left - Formula Bharat 2021 (January)

Right - Formula Bharat Virtuals 2021-22 (November)

SCORES

Category	Overall Points	SCORE
Pitch Deck - Visual Design	5	4.05
Pitch Deck - Problem Statement	1	0.52
Pitch Deck - Solution	1	0.55
Pitch Deck - Milestones	1	0.66
Pitch Deck - Market Size	1	0.28
Pitch Deck - Product	1	0.85
Pitch Deck - Team	1	0.59
Pitch Deck - Competition	1	0.26
Pitch Deck - Go-To-Market Strategy	1	0.60
Pitch Deck - Finances	1	0.56
Pitch Deck - Amount Being Raised	1	0.54
Novelty	10	7.00
Content	20	14.00
Financials	15	9.75
Demonstration and Structure	15	9.00
Delivery	10	7.00
Questions	10	5.50
General Impression	5	3.00
TOTAL	100	64.70





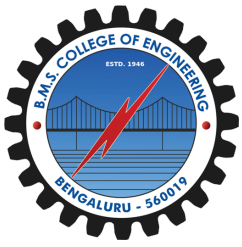
Welding Training

The team underwent a week-long welding training programme, under the guidance of Mr. Giriraj Gaur from 27th September to 3rd October 2021. Training was conducted for 7 hours every day. 25 team members completed the training.

Students were taught the working of Gas Cutting, Gas Welding, MIG and TIG Welding equipment, as well as servicing and repairs. Team Members serviced and repaired the existing equipment on their own, under the guidance of Mr. Gaur.

Over the course of the week, students learned how to weld and made models to showcase their new skills.





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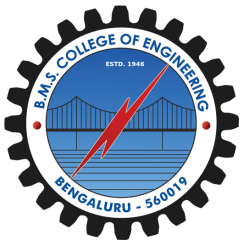


BZR-01 Manufacturing

The manufacturing of the team's first Formula Student car, the BZR-01, has resumed after college reopening in October. The rolling chassis was completed in January 2022. The car is expected to be running by April.

The car will be taken to the Supra 2022 competition, originally scheduled for June 2022 but has since been postponed after the third wave of the pandemic. The new dates for the event are yet to be confirmed.





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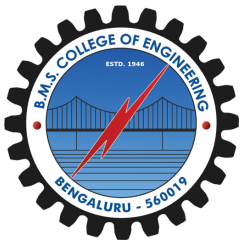
The team intends to extensively test the car to make sure it is reliable and also to understand



for improvement in the next car's design.

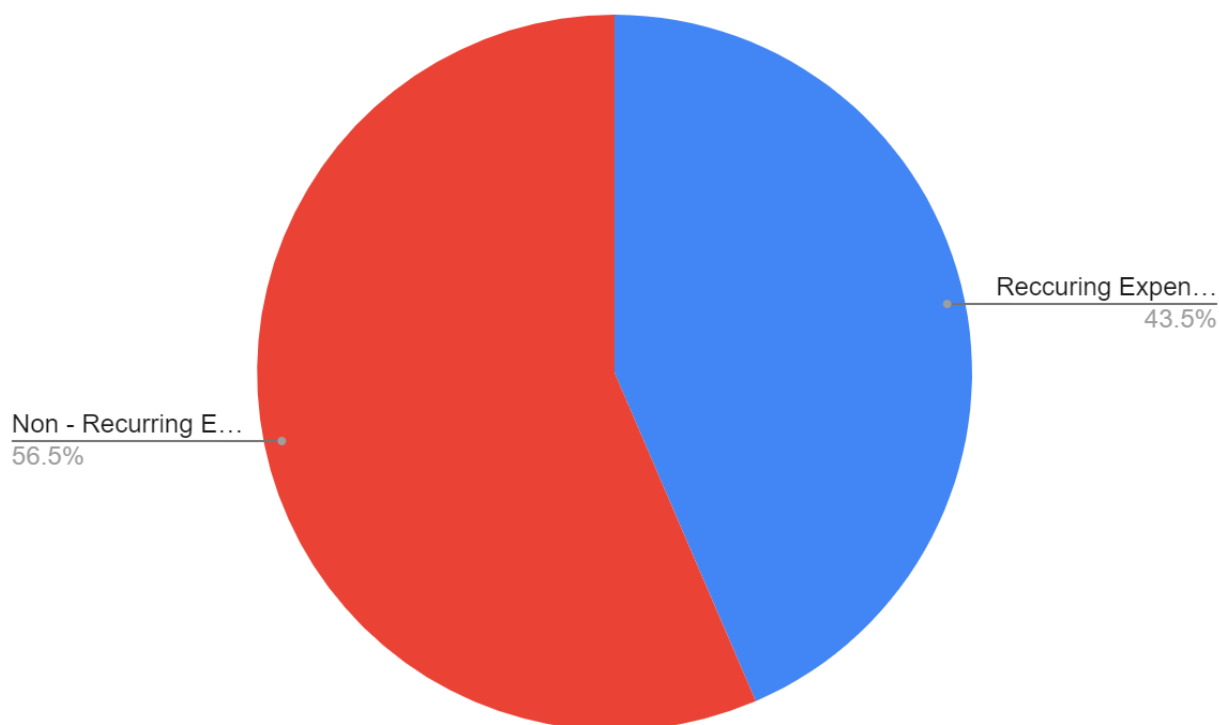


Bullz Racing's first Formula Student car - The BZR-01



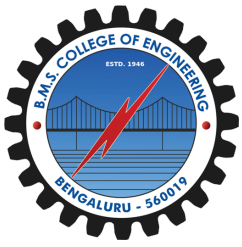
Expenditure - Financial Year 2021-2022

We have spent **Three Lakh Fifty-Two Thousand Four Hundred Thirty Nine Rupees Only (3,52,439/-)** as of 2nd March 2022.



The Breakup of the Expenditure is as below -





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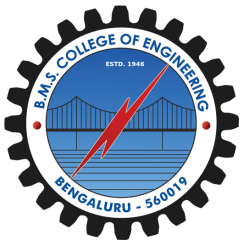
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PhaseShift

The team organized 3 events as part of PhaseShift 2022:

- Introduction to FEA (Workshop), by team alumnus Santosh Bhonsle S
- Perfect Pitstop
- Motocross





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