Team Robocon, BITS Pilani

Sponsorship Brochure

2019-20

BITS Pilani

Birla Institute of Technology and Science, Pilani, established 1964, is a premier technical institute and one of the finest and intellectually stimulating institutes amidst Indian academia. It has been ranked consistently among the top educational institutes of India in academics, research, extra-curricular programs, infrastructure and administration.

BITS stands apart from other institutes because of its flexible academic policies and strong alumni network.

Our Team – Who are we?

Team Robocon, BITS Pilani, is a group of passionate students and technology enthusiasts willing to learn new things and make robots for research purposes as well as for attending competitions across the country.

Since our inception in 2008, we have been a regular participant to ABU Robocon, one of the biggest robotics competition in the world, from which we derive our name. Apart from this, we are also into some other major events such as IIT Bombay's Techfest, BITS Pilani's APOGEE and others, which attract college teams from the length and breadth of the nation.

We also conduct a two-day robotics workshop every year which sees participation of 250+ technologically inclined students of BITS Pilani, to promote the robotics community in college.

Our Team – Subsystems

The team is broadly classified into the following subsystems:

Mechanical and Manufacturing: This subsystem takes care of the mechanical structure and layout of the robot, its simulation in industry-grade software such as ANSYS and SolidWorks, and crafting the implements required.

Electronics and Interfacing: This subsystem deals with everything from laying out the circuits to algorithms and coding which instructs the bots what to do.

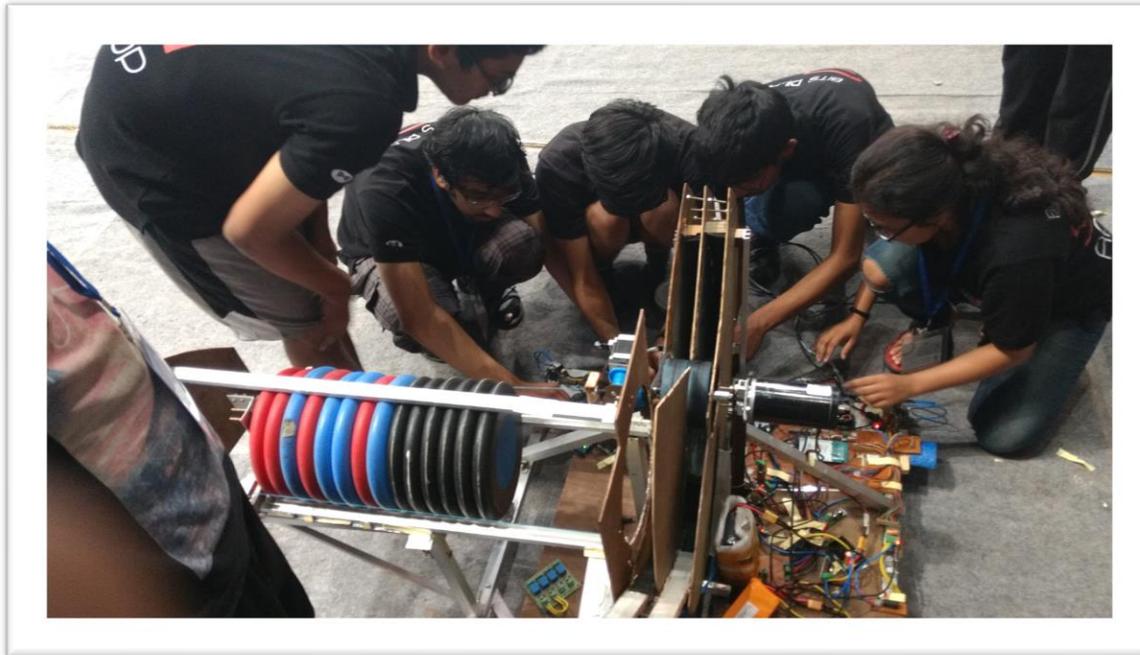Sponsorships and Marketing: This subsystem looks after the finances and outreach of the team.

Past Endeavours

Badminton playing robot, which took part in ABU Robocon, 2015, clinching the 1st position in shuttle serving mechanism and 19th overall.
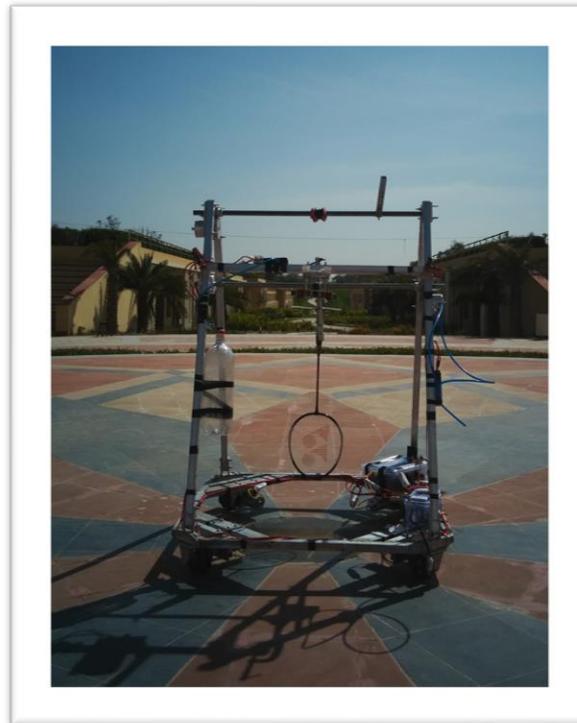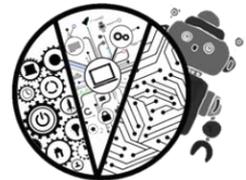
Past Endeavours

Frisbee throwing robot, ABU Robocon 2017.

Past Endeavours

Ball shooting robot, ABU Robocon 2018.

Ongoing Projects

Quadruped: A quadruped is a four-legged autonomous robot, capable of object distance and avoidance.

We have currently built a prototype chassis for it and have run simulations for its locomotion.

We plan to add environment mapping capabilities to for surveillance and make the bot run on uneven terrains.

Ongoing Projects

Quadcopter: A quadcopter is a drone on four propellers.

We made the bot capable of achieving path-planned, autonomous motion and now aim to involve obstacle avoidance as well.

The bot is also equipped with an HD action camera, which makes it capable of character recognition.

Ongoing Projects

Micromouse: It is an autonomous maze solving robot. The objective to be achieved is to navigate a 16x16 physical maze and run through its shortest path in the least possible time.
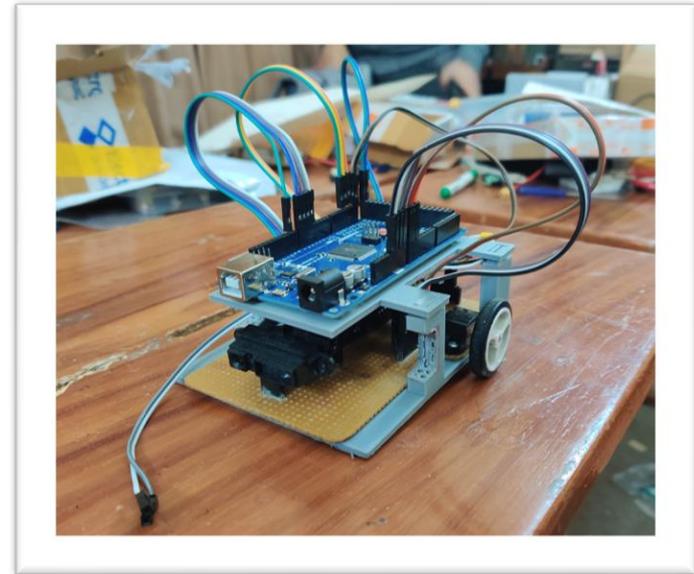
Modes of support

As an aspiring robotics team, we require your support. This can assume the following forms:

1. Monetary sponsorship

2. Support in kind (equipment, software access)

3. Expert advice/technical help

Why sponsor us?

Your support is imperative for us to take part in building technologies which has a world-changing potential. We are directed towards a bigger aim of learning about how robotics can work in conjunction with humanity and make lives simpler and more meaningful.

Why sponsor us?

Besides this, you will receive benefits such as:

Logo displayed on the chassis of our robots and in the Team's apparel, which take in part in competitions and receive *national coverage*.

Publicity on the Team's *social media* handles and websites, which have a strong following of 3500+ followers across Instagram, Facebook and YouTube.

Opportunities to recruit some of the finest engineering graduates of India through Placement and Practice School programs.

Special mention in our *on-campus workshops*, which sees participation of more than 250 students in the college per event.

Cost Breakdown

QUADCOPTER

Sensors	Computer	Communication...	Mechanical...	Power...
Intel T265 RealSense Tracking Camera, ₹ 24,000		GPS Sensor, Telemetry, I2C Extender, ₹ 12,000	Propellers, ₹ 8,000	LiPo batteries, connectors, ₹ 10,000
			Chassis, ₹...	
			Actuators	
Intel Realsense D435, ₹ 11,500	NVIDIA Jetson TX2, ₹ 30,000	RF - TX & RX, ₹ 9,000	Motor, ₹ 8,400	

Total cost estimate:
₹1,65,000

Cost Breakdown

QUADRUPED

Sensors		Actuators	Controller	
			Adapter ₹ 6,000	USB2Dy... ₹ 6,000
	LiDAR Scanner ₹ 11,000		Raspberry Pi 4 ₹ 5,000	
			Power...	Mech...
Depth Camera ₹ 30,000	Binocular Camera...	Dynamixel AX-12A Servos ₹ 42,000	9.6V DC...	3D...

Total cost estimate:
₹1,10,000

Sponsorship Tiers

Benefit	Platinum (₹50,000)	Gold (₹25,000)	Silver (₹10,000)	Bronze (₹5,000)
Display of clickable logo on Team website	Y	Y	Y	Y
Promotion on Team's social media handles	Y	Y	Y	N
Publicity during workshops	Y	Y	N	N
Logo on official Team T-shirt	Large + T-shirt base color	Large	Small	Small
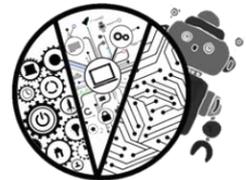
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