6024

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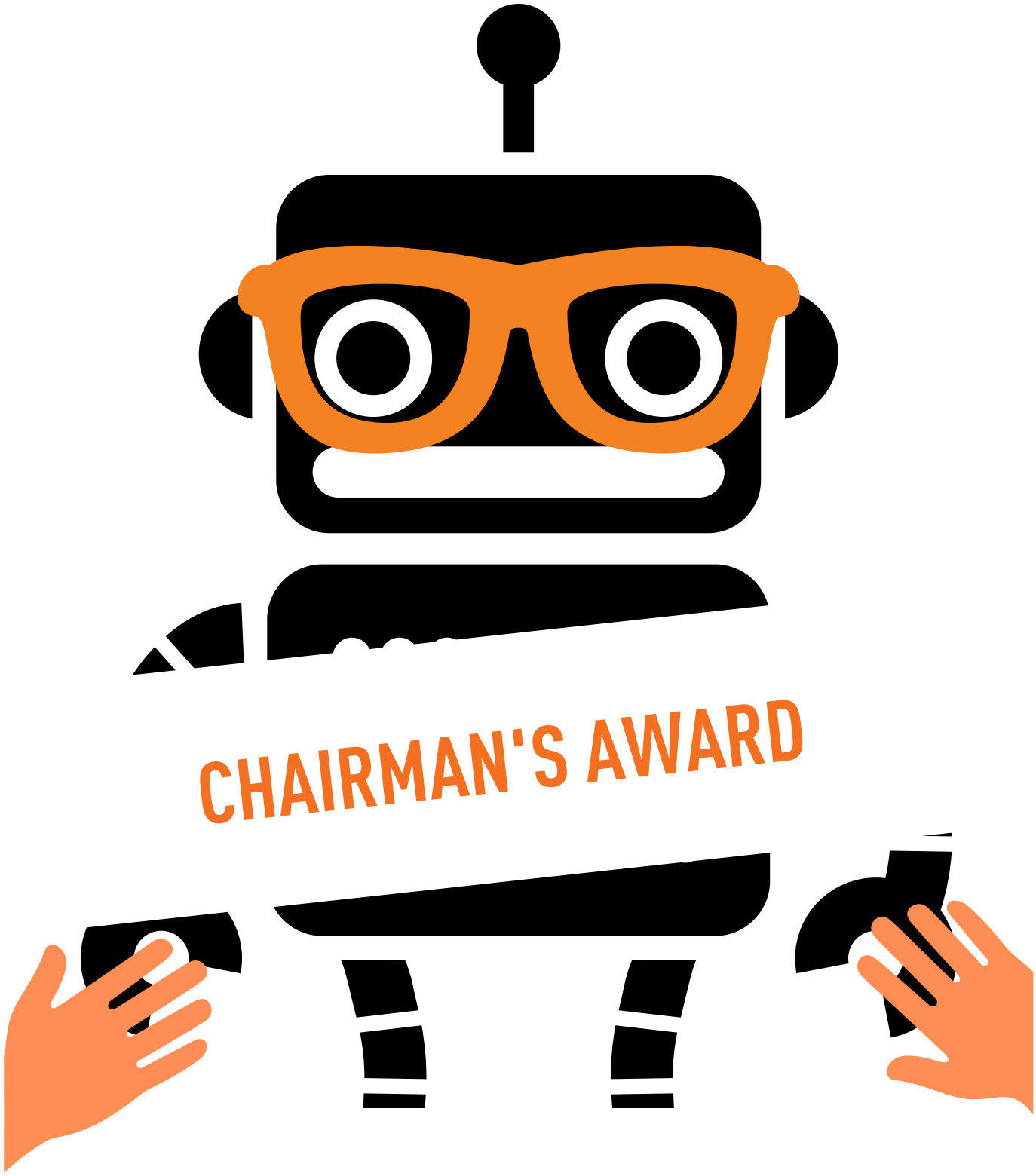


CHAIRMAN'S AWARD

MARCH, 2018
FREE FOR CIRCULATION IN FRC

CHAIRMAN'S AWARD APPLICATION

BELIEVE. ACHIEVE. INSPIRE.

Team Number: 6024

Team Name/Nickname: Team R Factor

Briefly describe the impact of the FIRST program on team participants with special emphasis on the current season and the preceding two to five years

Thanks to FIRST, students of team 6024 are sensitized to global problems and use STEM to solve them. Some members have filed patents on their FLL research projects. They have discovered a passion for STEM and won 44 national and international STEM awards of which 18 are from FIRST. 100% team alumni are pursuing STEM in reputed colleges. Team members display a "Can do" attitude, confidence, perseverance, communication and time management skills. They have been felicitated by their schools for their roles in FRC.

Describe the impact of the FIRST program on your community with special emphasis on the current season and the preceding two to five years

We displayed our robots at 50+ schools inspiring 30,000+ students to pursue STEM. Our FLL projects were endorsed by industry heads, municipal corporations. We started 3 FLL teams – 1 all girls team and 2 teams of underprivileged students this year, one of which reached the FLL nationals. Our inter-school competition won a STEM scholarship for a student from the slums and took a blind student to the WRO. Some members implemented impactful waste and water management projects in their community.

Describe the team's innovative or creative method to spread the FIRST message

We ran 8 FLL kickoffs to showcase FIRST, with 20+ schools at each event. We run after school robotics programs in 31 schools across India, reaching 7000+ students. We will be displaying our robot and playfield at Kidzania (daily footfalls of over 1000). Through Maker Faire and IIT Techfest we reached an audience of 50000+. We displayed our robots to industry leaders, scientists and elected officials. We received aid from 200+ donors via crowd funding. We have an active social media presence.

Describe examples of how your team members act as role models and inspire other FIRST team members to emulate

A team member, who learnt coding on the FRC robot itself, is now amongst the top 10 coders of India and mentors our team in coding. Our students are role models for gracious professionalism. We inspired 3 other girls to join our team and formed 2 all-girls FLL teams. The admission of our alumni in top US universities, with full scholarships, inspired many to follow FIRST. Our team members regularly work with children from the slums, teaching them math and science, and raising funds for them.

Team's initiatives to help start or form other FIRST Robotics Competition teams

We motivated the American School of Bombay to start FRC team 6813. We are currently mentoring them, in all technical and logistical aspects of FRC. Of the over 50 + schools we made presentations to, 3 have pledged that they would start FRC teams next year. We are actively assisting rookie team 7272 in their FRC journey. We aspire to be a resource for rookie teams for which we are organizing rookie nights and have documented our technical, fundraising and outreach processes.

Describe the team's initiatives to help start or form other FIRST teams (including FIRST LEGO League Jr., FIRST LEGO League, & FIRST Tech Challenge)

We ran 3 FLL regionals, several FLL kickoffs and interschool competitions in Mumbai. To overcome a shortage of mentors, we trained 9 engineering students for FLL so that they could travel across Mumbai city to mentor students. We have an online FLL manual to help new teams. We started 3 FLL teams and mentored 1 FRC team, 2 FTC teams, 10 Jr. FLL teams and 8 FLL teams- 2 of which were from underprivileged schools, and 2 all-girls teams.

Describe the team's initiatives on assisting other FIRST teams (including FIRST LEGO League Jr., FIRST LEGO League, & FIRST Tech Challenge) with progressing through the FIRST program

Our team provides ongoing assistance to 1 FRC, 2 FTC, 8 FLL and 10 Jr. FLL teams. We have led multiple sessions with Team 6813, the rookie team we started, on mechanical, electrical and safety aspects. Further, we have opened our practice field to them. Mentors trained by us have travelled across Mumbai to train rookie FLL teams. We have recruited 11 FLL/ FTC students into our FRC team this season thus providing them progression through the FIRST program.

Describe how your team works with other FIRST teams to serve as mentors to younger or less experienced FIRST teams (including FIRST LEGO League Jr., FIRST LEGO League, & FIRST Tech Challenge)

In collaboration with team 6813, we held an FLL kickoff at the American School of Bombay, attended by 40+ school teams and 2 underprivileged ones. We mentored 8 FLL & 2 FTC teams this year. They help these teams right from project selection to robot design in FLL & adaption to construction with metal pieces to drilling & cutting & coding with android studio in FTC. Our mentors have written simplified books for STEM and robotics application, which have received appreciation from TUFTS and NYU.

Describe your Corporate/University Sponsors

Our lead sponsor is Infosys, the pioneer of technology business in India with a market cap of USD 50bn. The other sponsors are Parle Products, world's largest selling biscuit brand, Larsen &Toubro, India's largest engineering and construction company with a market cap of USD 30bn, Narotam Sekhsaria, Chairman of India's second largest cement maker, ENAM and JM Financial, the 2 most reputed investment bankers and Axis Bank and Yes bank which are among the top 10 banks in India.

Describe the strength of your partnership with your sponsors with special emphasis on the current season and the preceding two to five years

This is our third year at FRC and our previous years' sponsors continue to sponsor us. Infosys invited our team for the Infosys Prize ceremony (much like the Nobel prize) on the Infosys Science foundation day, where our team members had an opportunity to interact with Nobel Laureate Dr. Kip Thorne. Parle Products gave us a space to build the robot. MESCO Springs helps the team on our requirement for springs and other components.

Describe how your team would explain what FIRST is to someone who has never heard of it

FIRST is a journey – allowing us to explore, celebrate and enjoy STEM, while incorporating the core values of gracious professionalism and coopertition, always. FIRST, through its hands - on an experiences, empowers us to transform lives. We have learnt to work in teams to build, code, create, think, communicate, inspire, innovate and aspire to be future leaders.

Briefly describe other matters of interest to the FIRST Judges, if any

We have reached out to and received support for FIRST awareness from the Chief Minister of Maharashtra, several Members of the Parliament and several business leaders including the regional Chairman of the Confederation of Indian Industries. We have established idea exchange platforms with 20+ teams participating with us at the Sydney regionals. Team 6024 has become a close-knit family with 42 people from India travelling to Sydney to cheer us. Our Sydney embassy has assured assistance to us.

Chairman's Award

"IT'S KIND OF FUN TO DO THE IMPOSSIBLE" – WALT DISNEY

We were on an airplane, travelling back 10,000 kilometres from Sydney after attending our first FRC Regional Championship, when the amazement of it all sunk in. At first, all we saw were disjointed pieces of a puzzle: the **pre-season** where we learnt to communicate confidently with sponsors and how to influence people through our outreach; the long build hours during the season where we learnt new skills, met new people, and forged friendships for life; and the competition itself – the blinding lights and cheering crowds, acceptance and support, the electric atmosphere that lets you be part of something so much bigger than yourself. It was when these pieces came together that they formed a picture and blew us away. **We knew that our lives had been forever changed by FIRST.**

Two years later, we - 25 students from 9 schools in Mumbai, India and our mentors are an evergrowing family.

public static void flashpoint (int opportunity, int friendship, int fun, int learning)

*int frc_for_life = fun*friendship;*

int achievement = opportunity + learning;

Our year starts off with weekend training sessions from August to December. As the senior team members graduate, new students from younger grades take their place. Our team functions like a well-run organization. The broad tasks are categorized into two main functions- Engineering and Operations. These are further sub divided into construction, electrical, programming, safety and strategy; and marketing, outreach, animation, web designing, social media, sponsorship and finance, respectively. The team members choose one or more teams from these tasks thereby getting trained on the different aspects of FIRST. Being a part of both the Engineering and Operations streams, team members develop key skills that they use throughout their life. During the season, we meet post school every day to work on our robot; we bond over late night pizza and jokes; making hilarious STEM parodies of songs. As a student led, student run organization, we develop leadership, time management, financial and public speaking skills. We have a common passion, a common dream, and we realize it every day as ambassadors of FIRST in India.

Every single member on our team has, completely and irrevocably, fallen in love with robotics and FIRST. The Team members, among themselves have over 44 international and national awards in STEM. 4 of our students presented at the Intel Science Fair in the USA and several have received awards at the Indian and World Robotics Olympiads (IRO and WRO). One of our students learnt programming on our FRC robot and is now among the top 10 programmers in India. 100% of our alumni pursue STEM degrees. Our alumni attend prestigious schools such as Stanford, UC Berkeley, Princeton, Yale, USC etc. Each year our alumni return to visit us, volunteer at competitions, and even mentor the team. FIRST has made us entrepreneurs, innovators and leaders. With accomplishments ranging from being captains of the school, to receiving the Young Entrepreneur Award, introducing coding clubs in schools and making an impact with their patents, our team members are leaving their indelible mark on our community.

public static void growth (boolean passion, double lives_touched)

If passiON == true

lives_touched = 30,000+;

Our endeavour is to share our learnings and an experience with as many people as we can. We have displayed our robots at 50+ schools and to over 30000 students to cultivate an appreciation for STEM in schools and in our community. As a result of these efforts, we now run an in-school and after school robotics program in 31 schools across India (in cities like Mumbai, Ahmedabad, Rajkot, Surat, Chennai etc.) giving STEM education to over 7000 students a year. The Nehru Science Centre, a Government body and the largest interactive science centre in India, invited us to display our robot at the National Science Day. This event was attended by students from over 70 schools across Mumbai.

To make the FIRST ecosystem sustainable,

- We started with getting children interested in Jr. FLL and FLL and then scale them up to FRC.
- We offered a workshop for over 20 FLL and robotics program coaches from across Maharashtra and Gujarat (2 of the biggest states in India), communicating strategies on how to manifest successful learning experiences for FIRST.
- Along with our coaches, our team then held 8 FLL kick-offs at schools and apartment societies in Mumbai.
- One of the biggest FLL kick-offs was held at the American School of Bombay. We had over 200 kids participating in this, of which around 8 teams registered for the FLL regionals.
- Mentors trained by us coached these teams. These mentors travelled across Mumbai to help these FLL teams in a hub and spoke model.
- We have created an easy to follow FLL manual online to help new FLL teams.
- We conducted a FLL kick-off season in Rajkot (a prominent city in Gujarat) along with the Rajkot Municipal Corporation, where we got 100 children to pledge participation in FLL for the next season.
- Totally, we started 3 FLL teams and mentored 8 FLL teams, 10 Jr. FLL teams and 2 FTC teams this season.
- Our team hosted and assisted 3 FLL regional competitions, the FTC national competition and the FLL national competition across India, serving as judges, referees and timekeepers as well as building field models.

In the past year, we've completed 2000+ hours of community service through teaching elementary school teams, running robotics events, teaching Math and Science in schools for the underprivileged. We have started 3 FLL teams - 1 all girls team and 2 teams for the underprivileged – that we fully sponsored to take part in FLL competitions. The Candlelight Project, a team of underprivileged children, started by us got the best project award for their innovative idea at the FLL regionals and reached the FLL nationals this year. Additionally, our team raised over $20,000 for the education of underprivileged children and girls in particular. Our team has successfully implemented solid waste management programs in various housing societies thereby reducing solid waste going to the landfills.

We also held four theme-based robotics competitions across Mumbai - STIR (Science Technology Innovation and Robotics), WiSTEM (Women in STEM), CFC (Children for Change), and MindSplash, where we taught children who had never seen robots before to build robots and fly drones. At these competitions we also held Ideathons – events where the students could create innovative solutions to any problem of their choice around sustainability. We demonstrated our robot at schools for the underprivileged and the hearing impaired students. The competitions held at these places allowed two underprivileged students to win STEM scholarships, and took a blind student to the World Robot Olympiads.

Over the past two years, we have been trying to set up more FRC teams. Our presentations at schools have got both the school boards and children enthusiastic about FRC. We managed to convince the American School of Bombay to start their FRC team (Team 6813) this season and have three teams that have pledged to start FRC next season. Mentoring Team 6813 through the design, construction, programming and electrical aspects has been a wonderful learning experience for us. We also share our play field with Team 6813 and look forward to having them with us at the Sydney regional championship. We meticulously document our processes, fundraising, outreach, time management and sourcing, which can be emulated by other teams. We assisted rookie Team 7272 with their electricals and skyped with Team 6619 to both learn from and help them. We already have friends in the Sydney regionals thanks to our skype sessions - in fact Team 3008 from Australia has invited us to have lunch with them during upcoming Sydney FRC Regional championship.

public static boolean impact (int commitment, double perseverance)

while (commitment == 100%)

{horizons expand, ripples spread, we make a difference;}

Chairman's Award

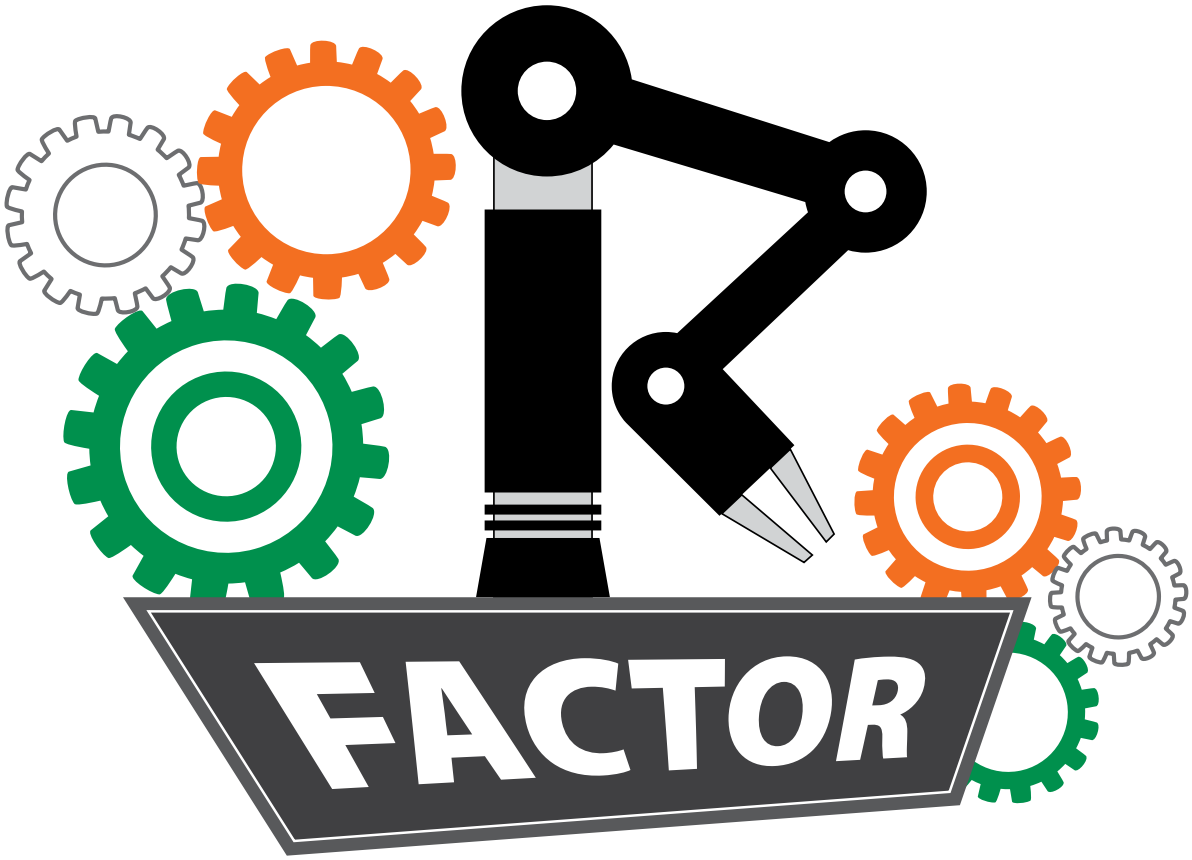
To ensure that we create a larger movement, we met several elected officials and business leaders including the Chief Minister of Maharashtra, Members of Parliament and the regional Chairman of Confederation of Indian Industries (CII). Post our interactions, they realised how life-changing FIRST robotics could be and have offered us support and a platform where we could reach out to a wider audience.

Over the years, **Team 6024** has been covered by various media. We have featured in various newspapers as a role model team. We have also shared our story live on FM radio. We have a strong social media presence - our website, Facebook and Instagram accounts allow us to connect with other teams from all over the world. We have already established regular contact with teams 457, 3008, 3390, 3739, 6429, 5846, 6449, 3940 and 1721, whom we expect to meet in Sydney. We have received donations of over US$15,000 via crowd funding from friends who want to see us succeed.

Our lead sponsor, **Infosys**, a global leader in technology services & consulting has been associated with us for past two years. Our team is inspired and motivated by interactions with the Infosys Founder, Mr Narayan Murthy, whose message for the team is to keep going, no matter how many hurdles we are faced with. Infosys Foundation invited our team on its Foundation Day this year to interact with 2017 Nobel Laureate Dr. Kip Thorne. This was a dream fulfilled for many of us. Dr. Thorne impressed upon us the importance and scope of science and learning. Continued support from the other sponsors like the Parle Group – a large FMCG Company and Axis Bank – one of India's largest private sector banks has helped us significantly in our journey.

"Anything is possible, you only have to try."

Three years ago, when we started our FRC journey, we couldn't have even imagined we would come this far. Overcoming the challenges we faced with determination and hard work has made each one of confident. This program has given us a direction and it is our endeavour to sustain it. We are determined more than ever to continue our mission of inspiring STEM by adhering to FIRST values and providing new opportunities to future teams of FIRST students. Being a successful robotics team is important to us, but equally important is paying it forward so others can have the same learning experience. When we started, we never realized the team we would become. Now, we're looking forward to seeing the team we WILL become. We have promises to keep and miles to go before we sleep!



FRC TEAM 6024

“Believe. Achieve. Inspire.”