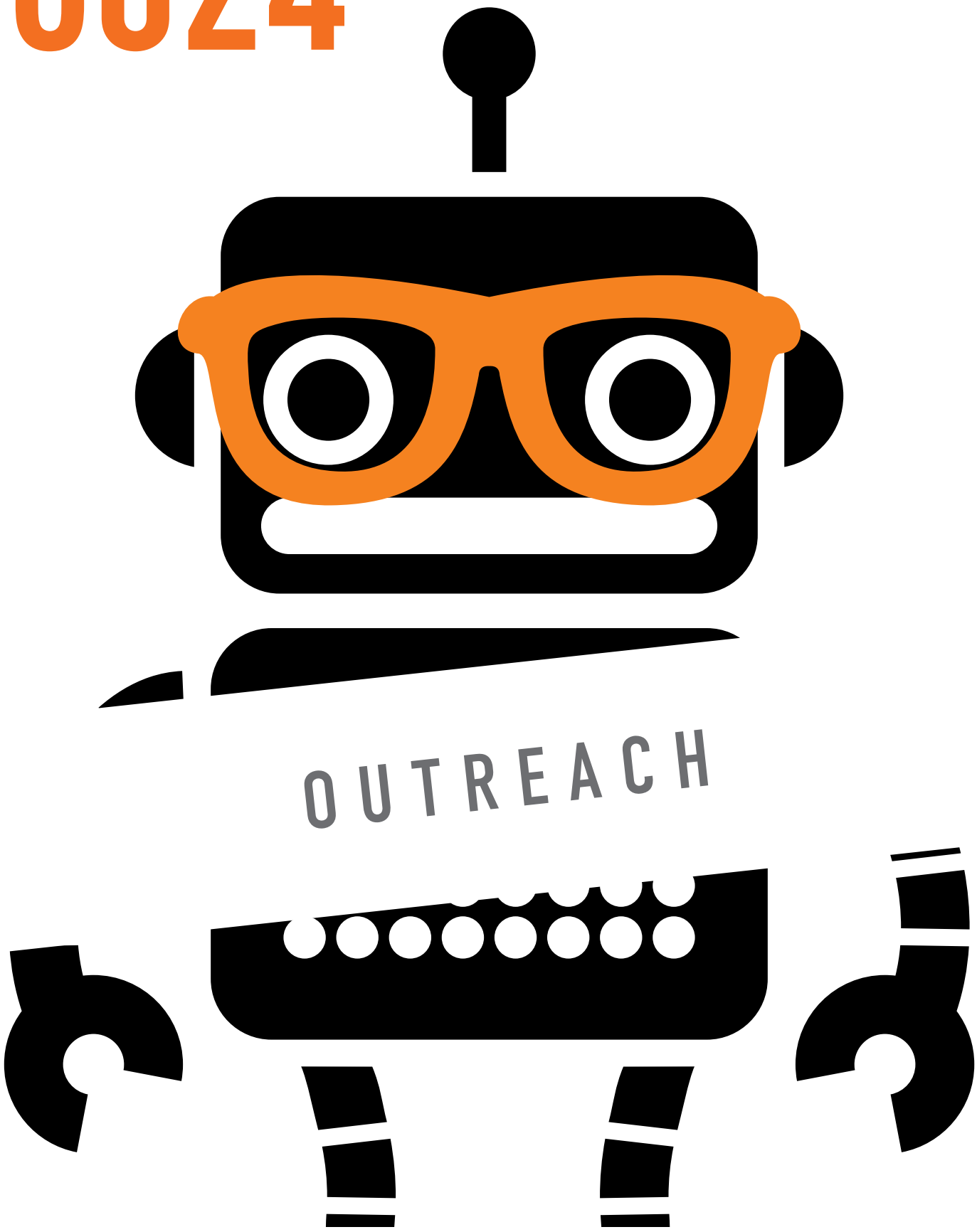
6024

MARCH 2018
ISSUE No.: 01 FREE



OUTREACH

MARCH, 2018
FREE FOR CIRCULATION IN FRC

To inspire STEM education in our community

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To inspire other FIRST teams

•

To build sustanibility for FIRST in India

“Winning hearts with winning efforts.”

2017-18

DEMONSTRATIONS

FLL KICKOFFS

FLL REGIONALS

PRESENTATIONS

RECOGNITIONS

MEDIA

OUTREACH

FRC has been a magical journey for us and we want to spread the magic - the magic of STEM - the magic of FIRST - to inspire young minds and support STEM.

To make this magic sustainable, we have adopted the "momentum wheel" that comprises Outreach, Relationships and Infrastructure. When outreach gathers momentum, it builds relationships which in turn gather momentum to build infrastructure. The addition of new participants, relationships and infrastructure makes the model sustainable. India is a country whose cultural manifesto focuses on STEM and with over half a billion young people we sure have the potential to make the model sustainable. And we are driving this sustainability.

To create opportunities for children to participate in FIRST, we organized 12 new outreach events this year and a total of 23 in the last three years. One of the proudest moments for our team was when we were invited by Nehru Science Centre, a Government of India initiative and the largest interactive science museum in the country to display our robots as part of the National Science Day celebrations. The event saw participation of children from over 70 schools across Mumbai. We spent over 2000 hours on community outreach and displayed our robots at 50+ schools and to over 30000 students to cultivate an appreciation for STEM in schools and in our community.

Our one-day interschool robotics learn and compete programs, STIR, WiSTEM and CFC aimed at creating a love for science and technology, spreading awareness of STEM fields among women and promoting important safety practices saw huge participation. It was immensly gratifying to see children enjoying themselves while playing with lego, building creating and innovating at these competitions has been intensely gratifying. Because of these efforts, our mentors and students now run in and after school robotics programs in 31 schools across India (in metros like Mumbai, Ahmedabad, Chennai as well as tier 2 cities like Surat and Rajkot) imparting STEM education to over 7000 students a year. The number of girls on our team quadrupled. Also, some students have started coding clubs in their schools to get children interested in programming. In one of the schools the coding club agenda is to host an FLL kickoff in the summers.

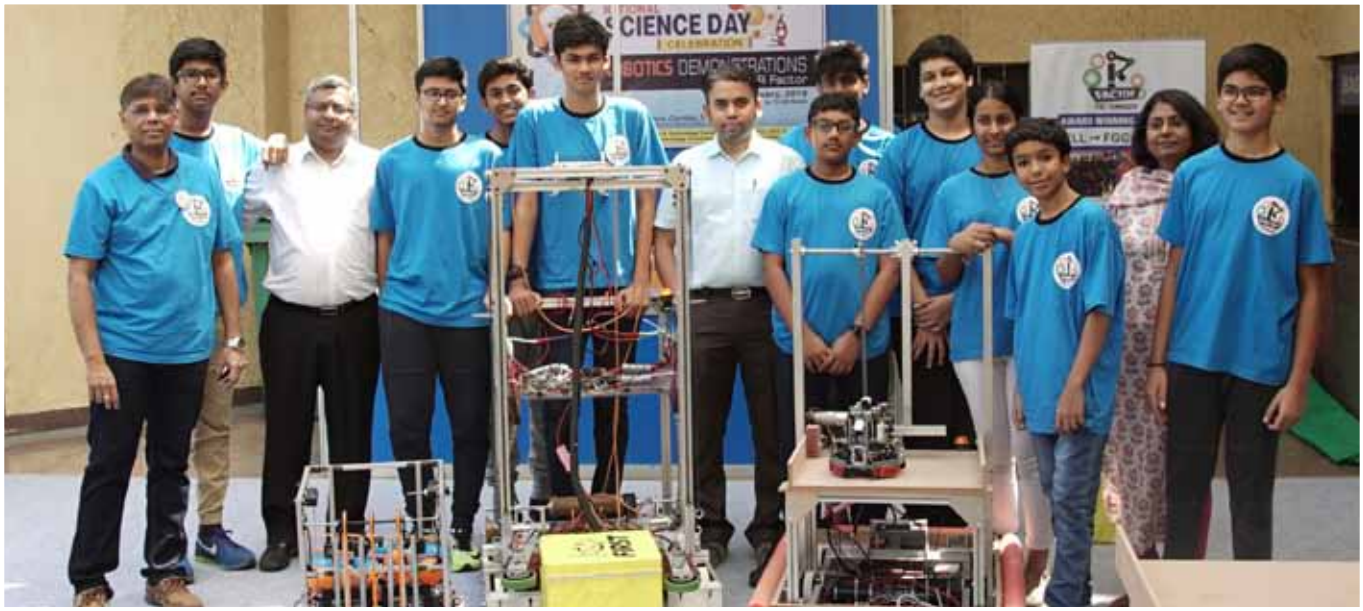
We firmly believe that children across backgrounds, capabilities and social circumstances should be equipped with technology skills to address the world's toughest challenges. Towards this, we demonstrated our robots at various institutions for the underprivileged children and had 2 teams participate in the FLL competition. Our initiatives to help GEMS or Girls in Engineering, Mathematics and Science, are a source of pride for us. At our FLL kickoffs this year we worked hard to ensure that 50% of the participants were girls. We mentored and raised monies for 2 all-girls FLL teams to participate in the FLL regionals.

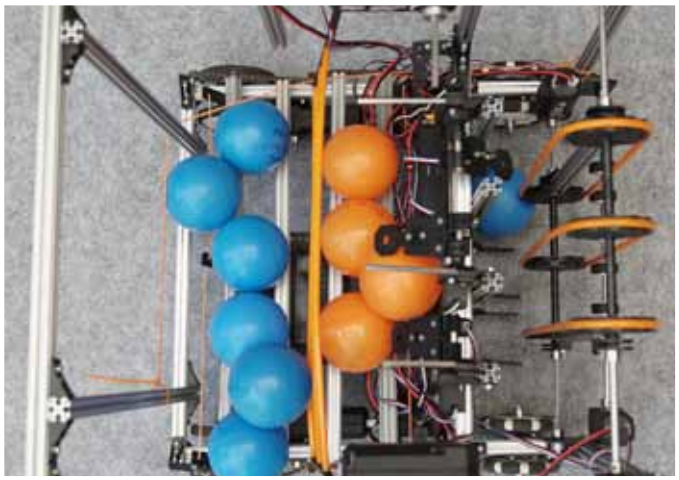
Through the various outreach events we organized this year we know we have started a revolution of change, a revolution of STEM, a revolution of FIRST in India. It is just a matter of time before we move from saying that we are one of the 2 teams representing India at FRC to saying we are one of several thousand teams from India representing the country at FRC.

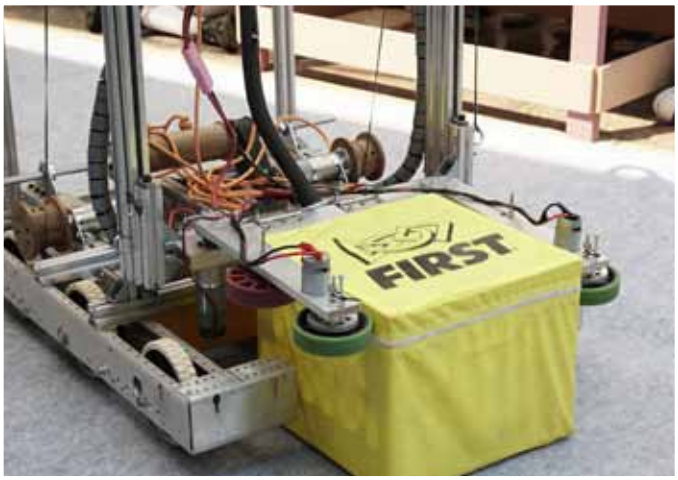
FIRST, here we come!

DEMONSTRATIONS

NEHRU SCIENCE CENTRE







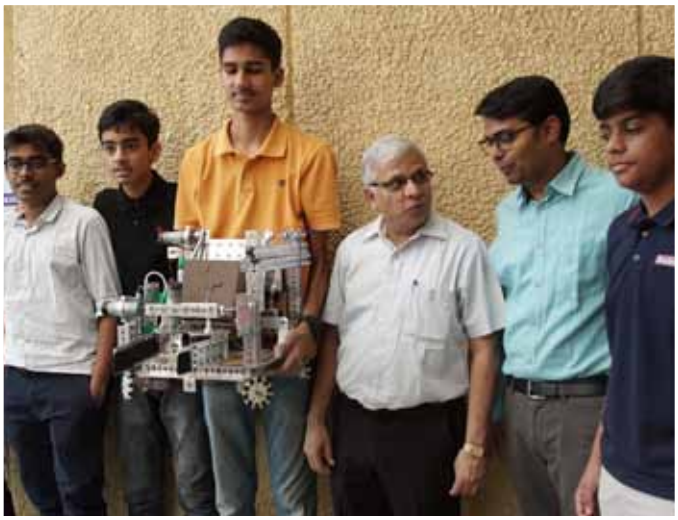
NEHRU SCIENCE CENTRE

NEHRU SCIENCE CENTRE

Team 6024 was invited to display our FIRST robots at the Nehru Science Centre, India's largest interactive science musuem asa part of the National Science Day celebrations. This event had children from 70 schools across Mumbai coming to watch the demonstrations.

DEMONSTRATIONS

NEHRU SCIENCE CENTRE



DEMONSTRATIONS

NEHRU SCIENCE CENTRE

IIT TECHFEST

IIT TECHFEST
Team 6024 showcased our robots at the IIT Techfest. This Techfest at IIT Bombay is Asia's Largest Science and Technology Festival, a footfall of more that 1,60,000 (comprising students, academia, corporates, scientists) annually and a reach of over 2500+ Indian colleges and over 500+ colleges abroad. Members of our team won the 1st prize in the Innovation Challenge at the Techfest.

DEMONSTRATIONS

IIT PACE

IIT PACE
A FIRST presentation to high school students at IIT PACE.

MUMBAI MARATHONS

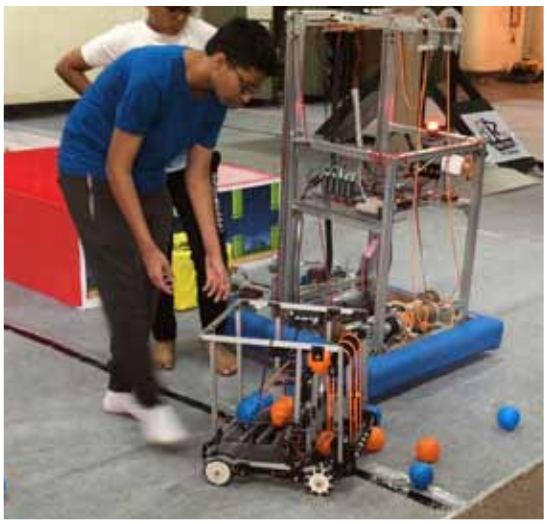
MUMBAI MARATHON
The Mumbai Marathon, the largest marathon in Asia, is an annual international marathon held in Mumbai. Our team distributed water bottles at the event while spreading awareness around road safety.

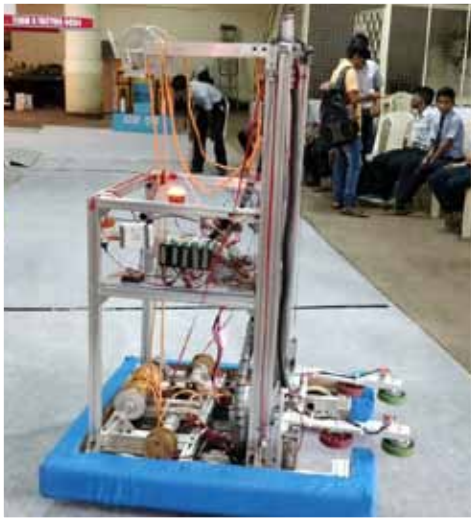
DEMONSTRATIONS

EQUAL STREETS

EQUAL STREETS
To create an excitement of STEM and FIRST we demonstrated our robots at Equal Streets, a Citizens' Movement in Mumbai which saw participation of thousands of people.

GOVERNMENT SCHOOL DEMOS





GOVERNMENT SCHOOL DEMOS
The children of the Dixit Road BMC School, a municipal school were excited to see our robot.

FLL KICKOFFS

MINDSPLASH

MINDSPLASH
Team 6024's FLL Kickoff which was done jointly with the American School of Mumbai's FRC team 6813. This event had over 200 children participating with over 50% girls.
Our team funded two teams - an all girls team and a team from Asha Foundation from this kickoff for participation in the FLL competition.

FLL KICKOFFS

MINDSPLASH

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MINDSPLASH

FLL KICKOFFS

BEAUMONDE

BEAUMONDE
Our team conducted an FLL Kickoff at Beaumonde Housing Society and this event saw a big turnout.It was intensely gratifying to see children enjoying themselves while playing with lego, building, creating and innovating at these competitions.

CHILDREN FOR CHANGE

CHILDREN FOR CHANGE
This was a theme based competition we conducted to spread awareness of, STEM, Robotics and Safety. Over 300 children between the ages of six to sixteen worked on innovative ideas or projects they might have to improve our community. The competition comprised a logic test, an ideathon, a robot build session, and a drone challenge. CFC not only tested students' knowledge but also their creativity, tenacity and sheer nerve.

FLL KICKOFFS

WiSTEM

WiSTEM
Is a theme based robotic competition with a focus on getting more girls to participate.

WRO REGIONAL

WRO REGIONALS
At the WRO regionals that our team hosted, we spread the message of FIRST. The event was attended by over 300 students from 35 schools.

ASHA FOR EDUCATION

ASHA FOR EDUCATION
We had a STEM and FIRST awareness camp at Asha Foundation, an organization which works with the underprivileged children. We started and mentored one team from the foundation to participate in the FLL regionals. Their eagerness to learn about STEM and to try different things was a very humbling experience for us.

CANDLELIGHT PROJECT

CANDLELIGHT
The team of underprivileged children we started, won the Best Project award at FLL regionals and went to the Nationals.

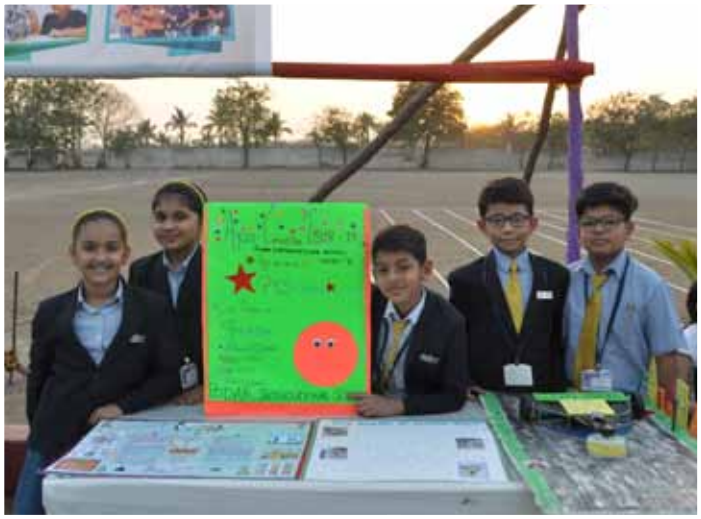
FLL KICKOFFS

SANKALP

SANKALP
Demonstration of robot to the differently abled children of Sankalp Shiskshan Sanstha.

FLL KICKOFFS

AGHAM



AGHAM
During the competition, it was amazing to see the enthusiasm, knowledge and teamwork of the FLL and Junior FLL teams. One could see future scientists at work.

One of the coaches had this to say of the FLL competition "The activities are interactive; students are taught FIRST core values of teamwork; being effective and efficient; the joy of being inspired; the value of discovery; having team spirit; and being inclusive, respectful and cooperative when working with others."

FLL REGIONAL

FLL REGIONAL

Team 6024 hosted and volunteered at FLL (First Lego League) and Junior FLL Mumbai Regionals. This year's challenge was "Hydro Dynamics". At the regionals, Team 6024 provided lunch as well as snacks for the parents and the teams. More than 300 students from Mumbai participated in this event. Volunteers from Team 6024 spent the day facilitating the event, doing everything from set-up, gate check-in, to scoring and time keeping, team runners, referees, judges, registration, cheering the teams among a host of other roles.

Overall, this event was a fun learning experience for all members of 6024 and we're happy to have had an opportunity to inspire FLL students to continue in their interest in STEM fields.

FLL REGIONAL

FLL REGIONAL

FLL REGIONAL

MEETINGS WITH SPONSORS

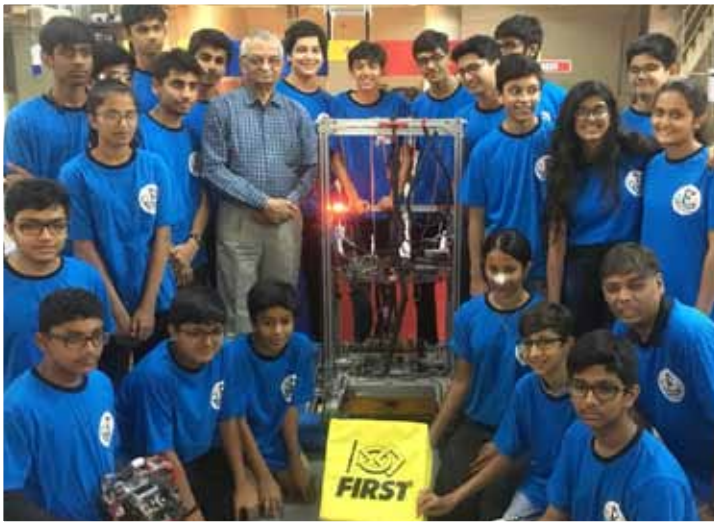
SPONSORS
Our Sponsors have encouraged and supported our FIRST venture.

INFOSYS FOUNDATION DAY

INFOSYS FOUNDATION DAY
It was truly inspiring tointeract with Nobel Laureate Dr. Kip Thorne at the Infosys Foundation Day.

INTERACTION WITH CHANGE MAKERS

INTERACTION WITH CHANGE MAKERS
We interacted with members of parliament, scientists and corporate leaders to spread our message of FIRST.



RECOGNITIONS

RECOGNITION
School and Corporates felicitated us for our achievement at FIRST.

MEDIA

Mumbai team 'R FACTOR' gets ready to represents India at 'First Robotic Competition 2016'

India Infoline News Service | Mumbai | March 18, 2016 12:14 IST

A very talented team from Mumbai is all set to participate in this year's **'First Robotic Competition (FRC)'** which will be held on 17th March at the Sydney Olympic Park, Australia. It is the very first time that a rookie team from India has qualified to be a part of this competition.

The Indian team **'R FACTOR'**, sponsored by **The Narotam Sekhsaria Foundation, Parle-G, Juliet and Challenge,** has 16 boys and girls aged 14 to 17 years from Mumbai schools **(Dhirubhai Ambani, Jamnabai Narsee International School, Ecole Mondiale World Schooland others)**. They are being mentored by Asha Sundararajan of Childrens Technology Workshop in Juhu. The competition is a culmination of six weeks of teamwork that includes designing, building and programming robots to enter the event.

Combining the excitement of sport with the rigors of science and technology, First Robotic Competition is said to be the biggest robot building contest with nearly 50 teams from across the world, including U.S.A., China, Taiwan

Indian team shines at robotics mee

Seven students worked together to win awards in two categories

PRESS TRUST OF INDIA
WASHINGTON

A group of seven Indian students has bagged two awards at the first global robotics Olympiad where 157 countries participated.

The students, who hail from Mumbai, won gold in the Zhang Heng Engineering Design Award category and bronze in the Global Challenge category at the event organised by FIRST Global in Washington.

The Global Challenge award is presented to three

Top tacticians: The Indian team at the robotics meet in Washington. ▪EMBASSY OF INDIA, WASHINGTON DC

Challenge 2017," th
said on its Facebook

Afghan girls hono
The three-day even
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the all-girl team fr
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denied twice by
State department.
due to a last-minu
vention by U.S.
Donald Trump, t
able to arrive over
end to participat
competition.

Mexico City w

Team R Factor

(L-R) Aakarsh, Shrey, Arvind, Sundararajan, Armaan, Amay & Daneesh

A group of six Mumbai-based students, aged between nine-16 have been awarded the Gold Championship of the FIRST (For Inspiration and Recognition of Science and Technology) Lego League (FLL) Asia Pacific Championship, a global engineering and robotics competition held in Sydney, Australia, between July 4-6. The only Indian team to have won an FLL championship, Team R Factor, comprising students from top-ranked Mumbai schools, bested 35 teams from 17 countries with their invention chris-tened Saffron, an electro-mechanical, user-friendly sensor-based robotic system designed to prevent mishaps during the process of food preparation. Team R engineered Saffron in line with the theme of "senior solutions" — designed for routine problems faced by senior citizens — adopted by FLL.

"During interactions with grand-parents we became acutely aware that they suffer mishaps in the kitchen due to failing memory and/or sensory perception.This prompted us to invent Saffron, which is a robotic panel that records the heat of kitchen appliances. It sounds an alarm when an appliance is left unattended to beyond a safe period of time, and switches off the appliance automatically if there is no response," explains Amay Saxena

Mumbai Teenage Tech Sensations Set To Sizzle In Sydney

Apr 19, 2015, 06:45 IST | Shreya Bhandary

Nine Teens, Set To Leave For Sydney, Australia On July 12 For The FIRST Tech Challenge (FTC), Prefer To Focus On The Challenge Rather Than The Final Prize -- A Scholarship Worth Over USD 13.5 M

At a workshop in Juhu, nine heads pour over a robot that can help them win a scholarship of over $13.5 million. They are preparing to compete against over 3,50,000 students from across the globe at the FIRST Tech Challenge (FTC) to be held in Sydney, Australia from July 12-14.

MEDIA

What does it take to win?

The winners of the Asia Pacific Invitational First Tech Challenge, Australia; the 2015 CIMA Global Business Challenge, India and the Global James McGolrick Business Plan Competition 2015, USA, share their strategies with

Put your heads together for Team R Factor—Anuy Saxena and Mihir Shah (Dhirubhai Ambani International School), Shrey Turakhia, Rhiy Shah, Anant Kochhi and Raghav Bingolia (Jamnabai Narsee School), Sribalaji Panda (RN Podar School), Aaryaman Sen (Bombay Scottish) and Arvind Ranganathan (Ryan Mandale)— who trumped 30 countries to win the IS-SPIRE award (overall championship) at the Asia Pacific Invitational 2015—First Tech Challenge (FTC) in Sydney. The nine young nerds, tech and programming whizkids, have previously represented India as two or three-member teams at the World Robot Olympiad and other competitions, but this is the first time they worked together. Clearly, they did something right. "Our hardwork into the wee hours of the morning paid off," believes Rhiy, the team's CAD master. All nine are members of the Children's Technology Workshop (CTW) run by Asha Sundararajan. CTW is their common, their laboratory and their stepping stone to bigger things. "Asha taught us everything we know," shares Mihir.

We're told that Aaryaman, the team's Head Programmer, though new to robotics is a genius when it comes to programming the robot for its first 30 seconds of autonomous movement. Sribalaji, who is also new to robotics, is the wiring guru. Anant, who is part of the construction team, also helps with programming. Mihir, who drove the team's sponsorship efforts with Aaryaman, is also the main controller of the robot in the arena during the tele-operational phase of matches. Shrey, aka Driver 2, the mind behind the scissor lift (the heart of their winning robot), is the one who makes their constructions robust. Arvind, is the "really really cube" team captain and lead constructor, who strategises, theorises and translates all the physics and the math the team uses into cohesive concepts for their journal. While Raghav, a constructor par excellence, managed the wiring and specialised Mecanum wheels., Anuy is the "thinker"., brainstorming here, programming there.

Their robot has been about a year in the making, with several reiterations. It needed to navigate an obstacle course, collect up to two hundred balls of varying sizes and deposit them into goals 1, 2, 3 and 4 feet in height. They could use any material they wanted, but had to restrict its size to 18 inches in each direction whilst engaging it to reach up to four feet; hence, the scissor lift. Mecanum wheels meant it could move in practically any direction without having to take a U-turn. A dual-collector mechanism meant faster ball collection than other bots on the field. Of course, their creation stood out when it came to design and in matches against other robots, but the competition isn't just about engineering and innovation. They had to find sponsors, run community outreach programmes and maintain a detailed journal. All of which is far more difficult than it sounds.

Besides, the FTC winning team must be 'role-model global citizens', inspiring other teams and acting with 'gracious

dna of education

Before, Inspire & Influence

04.08.2015

Aussie challenge for city's robotics geeks

25 students will unveil a robot conceptualised and built by them in the city tomorrow; to participate in the Sydney competition in March

PALLAVI SMART

A GROUP of 25 students, aged between 12 and 17 years, is all set to present a robot they conceptualised, programmed and built from scratch, at an exhibition at the Nehru Science Centre tomorrow. After wooing the city audience at the science week, the group, which calls itself the 'R factor', will take off to Australia to participate in the prestigious robotics competition, FIRST (For Inspiration and Recognition of Science and Technology) to be held at the Sydney Olympic Park in March. The group started working on this project barely three years ago after a hobby class on robotics intrigued them.

The team of school kids that will unveil their robot at the Nehru Science Centre

The group comprises students from eight city schools. Adityan Jekatesa, a Std XI student who heads the programming segment of the project, said, "Building robots started off as a hobby, but now, we devote all our free time to our robot. We also visit schools to encourage more students to take up robotics."

While the students have received sponsorship from various business houses, they operate out of a small workshop inside the Parle factory at Vile Parle.

The 50-kg robot

According to Sekaria, their 50-kg creation is all set to take up robotic challenges. "The challenge is to pick up blocks spread across a field, which may be the size of a basketball ground. At the end of the challenge, the robot needs to climb a bar, one foot above the ground," said Aswini Majumder, a Std XI student who heads the electricals segment.

3 No. of years ago they started the project

Chief mentor of the group Nilesh Shah, who also happens to be the father of one of the members, said, "These children work after their school hours and during the weekends. During long weekends, we organise special sessions for new joiners. We are firm believers on hands-on training, and even our robotics manual is a pictorial."

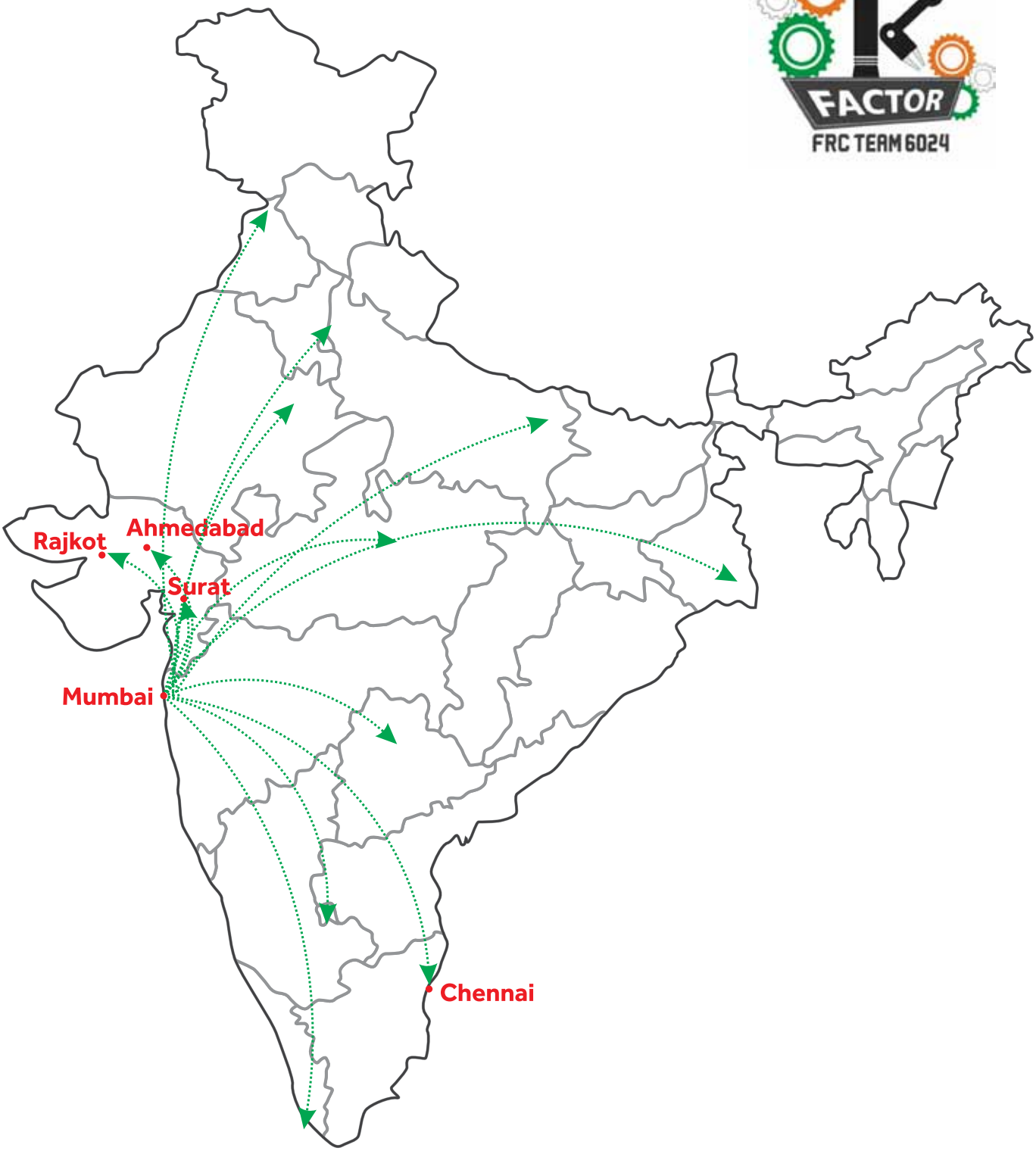
Ambassadors of Robotics

A bunch of bright Mumbai students is building a robot to participate in the First Robotics Competition in Australia Team 6024. "R Factor" - a group of 25 students from 9 different schools in Mumbai are invited to display their robots at the Nehru Science Centre as part of the National Science Day Celebrations on 21 Feb, 2018. These students have emerged as ambassadors to spread the importance of robotics in day-to-day needs and business applications.

Currently this team preparing to participate in the First Robotics Competition to be held in Australia at Sydney Olympic Park in March 2018. They operate out of the Parle Factory. These students, who are part of the global community programme FIRST (For Inspiration and Recognition of Science and Technology) have taken the initiative to showcase robots at over 50 schools in Mumbai, inspiring several students to pursue STEM (Science, Technology, Engineering & Mathematics)

Edited excerpts from an interview with Nilesh Shah, Mentor - Team R Factor with Financial Chronicle

SOCIAL MEDIA



FIRST, here we come!

NOTES

“Winning hearts with winning efforts.”