Robotics In Academics
Soham Academy of Human Excellence

3rd Annual
ROBOTICS EXHIBITION
2023-24
Special Edition

OUR MISSION

Promote innovation and develop a sustained scientific temperament among students.

| 1 | Students complete 21 activities in a day long workshop. | 2 | Students will be provided with curriculum books. |

| 3 | All the participants will be given course completion certificates. | 4 | Robotics Club is formed in the school. |

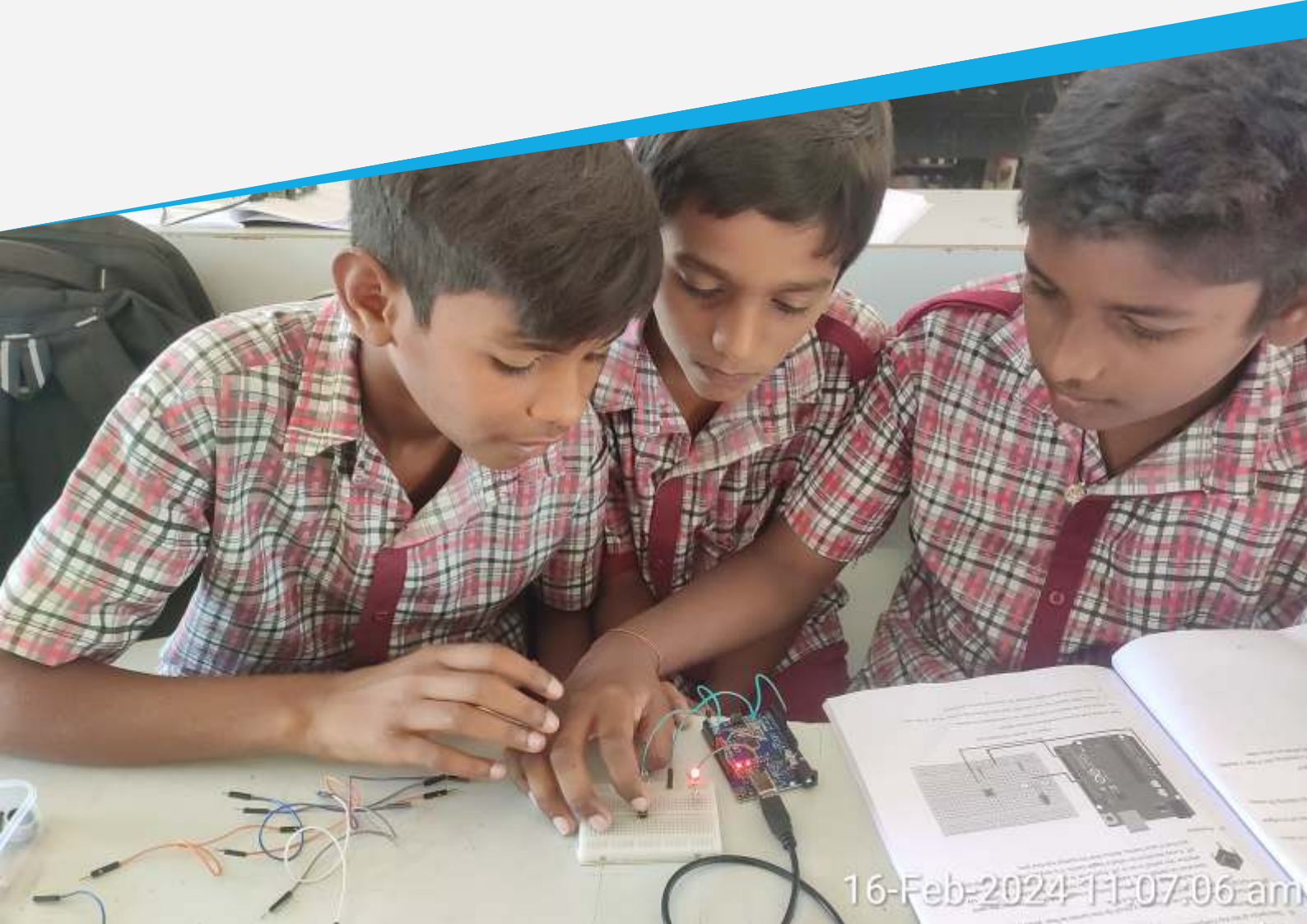| 5 | School gets full fledged robotics innovation kits. | 6 | Club members join our special online meetings. |

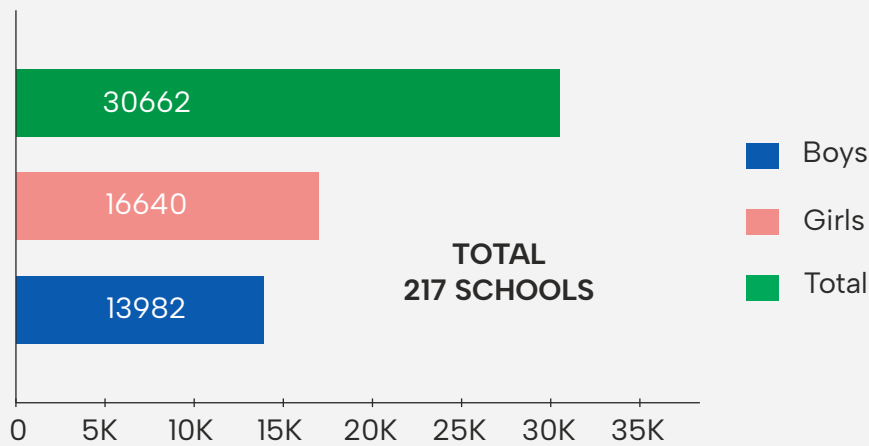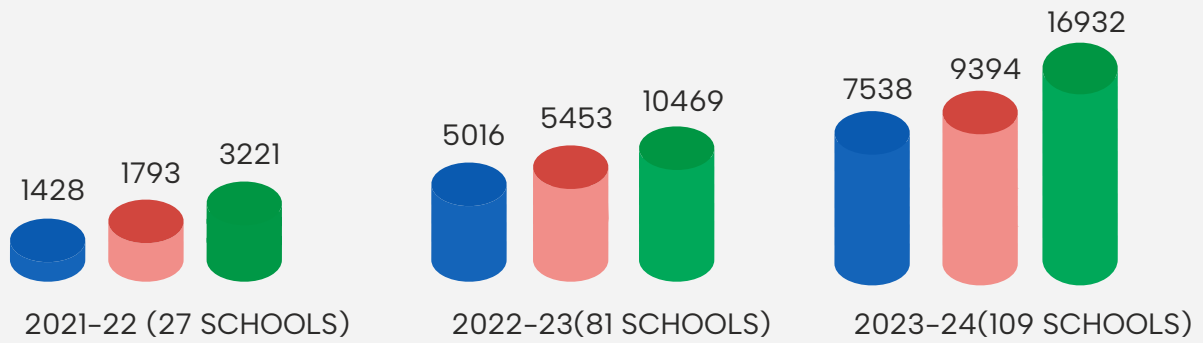| 7 | Clubs must complete 7 challenge levels during the academic year. | 8 | The school gets rewarded for completing the challenges. |

| 9 | School participates in the annual robotics exhibition. | 10 | The program continues year after year with CSR partner support. |

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OUR WORK SO FAR

Students who have benefited so far from the program.

	2021–22 (27 SCHOOLS)	2022–23 (81 SCHOOLS)	2023–24 (109 SCHOOLS)
Boys	1428	5016	7538
Girls	1793	5453	9394
Total	3221	10469	16932

	Total
Total	30662
Girls	16640
Boys	13982

TOTAL 217 SCHOOLS

Legend:
- Boys
- Girls
- Total

X-axis: 0, 5K, 10K, 15K, 20K, 25K, 30K, 35K

Innovation Challenges

Schools that completed their challenges

Bronze 181

Silver 143

Gold 84

Platinum 20

Diamond 14

Masters 10

Grand Masters 7

Grand Masters
Masters
Diamond
Platinum
Gold
Silver
Bronze

Innovation Melas

Innovation Melas, started in 2023, help children in completing their innovation challenges. Children complete their robotics models that attempt to solve real–life problems.
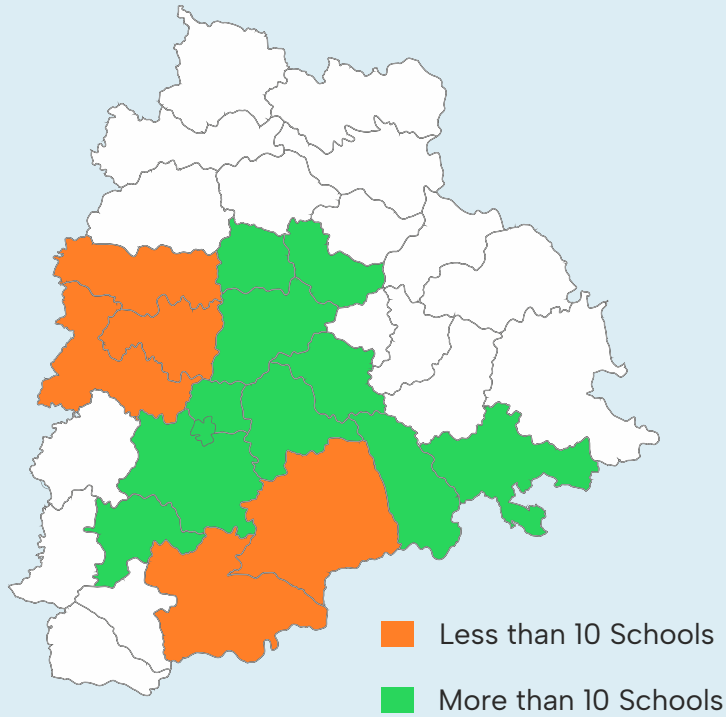
2023

103
Interactions

206
Projects

2024

239
Interactions

665
Projects

District Wise Schools Data

Less than 10 Schools

More than 10 Schools

1 Medak, TS	**2** Eluru, AP
2 Sanga Reddy, TS	**3** Nagar Kurnool, TS
4 Kamareddy, TS	**5** Nalgonda, TS

11 YDD – Bhongir, TS	**12** Suryapet, TS	**12** Siddipet, TS	**12** Karimnagar, TS	**15** Khammam, TS

16 Ranga Reddy, TS	**21** Mahabubnagar, TS	**46** Medchal–Malkajgiri, TS	**55** Hyderabad, TS

Robotics Exhibitions

Our Robotics Exhibitions offer a platform for innovators to showcase their innovations.

2022
- Annual Robotics Exhibition
- IETE, Osmania University
- Exhibition at Synchrony

2023
- Annual Robotics Exhibition
- Exhibition at Synchrony
- Exhibition at NTT DATA
- Exhibition in Mahabubnagar

2024
- Annual Robotics Exhibition
- Hackathon at Synchrony
- Exhibition at NTT DATA

COLLABORATIONS

Our collaborations facilitate the expansion of our program to various districts and schools.

OUR TEAM

Our Core Team

Komaragiri Sahadev
Program Director

Maddala Ganitha
Program Coordinator

Boravelli Jeshwanth
Program Coordinator

Nimma Spandana
Robotics Engineer

Yata Anusha
Robotics Engineer

Kondapur Rahul
Robotics Engineer

Mupparapu Ramya
Clubs Coordinator

Our Top Trainers & Innovation Coaches

P. V. Shiva Sai
Innovation Coach

M. Amruthesh
Innovation Coach

P. Pavan Kumar
Innovation Coach

R. Varshitha
Innovation Coach

K. Pavani
Innovation Coach

N. Sarika
Innovation Coach

K. Saketh Reddy
Innovation Coach

N. Jeshwanth
Innovation Coach

M. Srikanth
Innovation Coach

P. Ganesh
Innovation Coach

G. Rohith
Innovation Coach

M. Praharsha
Innovation Coach

K. Siri Priya
Innovation Coach

P. Sri Sai Varsha
Innovation Coach

M. Koushil
Innovation Coach

V. Hrushikesh
Innovation Coach

A. Vikas Reddy
Innovation Coach

A. Krishna
Innovation Coach

N. Narendra Kumar
Innovation Coach

V. Bhadra
Innovation Coach

K. Raghavi
Innovation Coach

V. Anvith Kumar
Innovation Coach

D. Purnachandra Rao
Innovation Coach

T. Swetha
Innovation Coach

G. Ramya
Innovation Coach

Mirza Atif Ali Baig
Innovation Coach

T. Harshitha
Innovation Coach

S. Vinay Reddy
Innovation Coach

D. Ajay
Innovation Coach

Our collaborations facilitate the expansion of our program to various districts and schools.

OUR CSR PARTNERS

We extend enduring gratitude to all our Corporate Social Responsibility (CSR) partners for their invaluable support for our Robotics in Academics program.

synchrony	AMD together we advance_
NTT DATA	NCC — NCC Limited
L&T Technology Services	KRITI working with the urban poor
Coforge	snp technologies inc.
COLOSSEUM GROUP	Schrödinger

OUR JOURNEY

2018–19
- Trained just 20 students for the first time on a pilot basis.
- Models developed were used in a science day exhibition in a school.

2019–20
- The program launched in 10 schools in Hyderabad. 300 students got trained.
- Introduced a full-fledged curriculum with a book launch.
- Received our first-ever generous corporate support from Colosseum group.
- Our first-ever exhibition was organized for five schools.

2020–21
- Introduced program in 2 orphanages.
- Relative lull in program due to COVID pandemic.
- 60 students trained.

2021–22
- Launched a newly redesigned Robotics in Academics program.
- Support from CSR Companies started. Synchrony is the first company to support. NCC Limited and SNP Technologies joined.
- Started collaborating with colleges. KMICS is the first college.
- Program launched in 27 schools. Trained 3,221 students.
- ria.sohamacademy.org website launched.
- Our 1st ever Annual Robotics Exhibition was launched. 27 schools participated.

2022–23
- Program expanded to Siddipet and Bhuvanagiri–Yadadri districts.
- Program launched in another 81 schools. Trained 10,469 students.
- Collaborating colleges expanded to 9.
- Started establishing Robotics labs in schools and colleges. Established two labs.
- NTT DATA and Kriti Social Initiatives started supporting our program.
- Multiple partnering institutions emerged in multiple districts.
- Introduced Innovation Challenges and launched Online Robotics Club sessions.
- Our 2nd Annual Robotics Exhibition attracted 79 schools and 2 colleges.

2023–24
- The program expanded to Mahabubnagar, Khammam, Karimnagar, Suryapet and Nalgonda Districts.
- Established labs in 3 districts.
- Collaborating colleges number expanded to 23.
- Synchrony, NTT DATA and NCC Limited continued their support. AMD and L&T Technology Services started supporting us.
- The program launched in another 109 schools. Trained 16,640 students taking the cumulative total to 30,622.
- Presence in 14 Telangana districts.
- Launched Innovation Melas and started organizing hackathons.
- Participated in First Tech Challenge.
- The 3rd Annual Robotics Exhibition attracted over 150 schools.

SUPPORTED SCHOOLS AND COLLEGES

1. Hyderabad
- Government High Schools – 41
- Telangana State Residential Schools – 2
- Tribal Welfare Ashram Schools – 2
- Aided & Budget Schools – 7
- Government Polytechnics – 3
- Collaborating Institutions – 3

2. Medchal–Malkajgiri
- Zilla Parishad High Schools – 41
- Government High Schools – 3
- Upper Primary Schools – 1
- Aided & Budget Schools – 1
- Collaborating Institutions – 3

3. Mahabubnagar
- Government High Schools – 4
- Zilla Parishad High Schools – 14
- Telangana State Model Schools – 1
- Kasturba Gandhi Balikala Vidyalayam – 2
- Collaborating Institutions – 2

4. Ranga Reddy
- Zilla Parishad High Schools – 16
- Collaborating Institutions – 1

5. Khammam
- Government High Schools – 7
- Zilla Parishad High Schools – 4
- Kasturba Gandhi Balikala Vidyalayam – 1
- Tribal Welfare Ashram Schools – 1
- Telangana State Welfare Residential Schools – 1
- MJP BC Welfare Residential School – 1
- Collaborating Institutions – 2

6. Siddipet
- Government High Schools – 4
- Zilla Parishad High Schools – 4
- Kasturba Gandhi Balikala Vidyalayam – 3
- Telangana State Residential Schools – 1
- Collaborating Institutions – 1

7. Karimnagar
- Government High Schools – 5
- Zilla Parishad High Schools – 5
- Kasturba Gandhi Balikala Vidyalayam – 2
- Collaborating Institutions – 2

8. Yadadri – Bhuvanagiri
- Government High Schools – 2
- Zilla Parishad High Schools – 6
- Telangana State Residential Schools – 1
- Telangana State Model Schools – 2
- Collaborating Institutions – 1

9. Suryapet
- Government High Schools – 4
- Zilla Parishad High Schools – 6
- Kasturba Gandhi Balikala Vidyalayam – 1
- Mandal Parishad Upper Primary Schools – 1
- Collaborating Institutions – 1

10. Nalgonda
- Kasturba Gandhi Balikala Vidyalayam – 3
- Telangana State Model Schools – 1
- Government High Schools – 1
- Collaborating Institutions – 1

10. Other Districts
- Zilla Parishad High Schools – 7
- Government High Schools – 2
- Telangana State Residential Schools – 1
- Aided & Budget Schools – 2

FIRST TECH CHALLENGE

In January 2024, Soham Academy participated in the First Tech Challenge as part of the Goa International Robotics Festival. Ours is the only team that is represented by the students of government schools. There were only two teams from Telangana and we are proud to be one of them.

This participation enabled our students to collaborate with robotics teams in the cities of Houston and Cincinnati, USA led by Srividya Komaragiri and Arnav Komaragiri respectively. It was heartening to see our students demonstrate their FTC bot in several government schools and engineering colleges.

ROBOTICS HACKATHONS

In another first, 15 boys and 15 girls from 7th and 8th grades from 10 government schools of Hyderabad, Siddipet, Mahabubnagar and Yadadri–Bhuvanagari districts participated in a two–day hackathon at Synchrony. They were required to demonstrate at least 3 functions and each function must use a combination of one or more sensors, displays, motors and other electronic components. The students made extensive use of 3D printed components, glue guns, acrylic sheets and foamboards. They also took detailed engineering notes and developed wonderful innovation models. This hackathon, initiated by Synchrony, opened a new door for promoting innovation in schools. We certainly believe that this hackathon idea can be replicated with the aid of all our CSR partners.

VOLUNTEERING OPPORTUNITIES

Volunteering opportunities revolve around innovation training and assessments. We work with 100s of schools. We receive 100s of innovation models in response to the seven innovation challenges that we give. Volunteers can help in using the following tools that we are developing in promoting innovation as well as assessing the progress the students are making in their learning.

Innovation Edge is a book that we would like to bring out in the next academic year. Using this book the students will be able to
- Identify and name several key electronic components like sensors, motors and displays.
- Gain in–depth knowledge on the electronic components that are used in most typical electronics projects.
- Understand the basic concepts of mechanical design of robotics models, especially gears, levers and pulleys.
- Demonstrate the understanding and use of key tools such as glue guns, soldering machines, and cutting and etching accessories.
- Develop a good understanding of electronic circuit design.

We will be introducing *Innovation Sabhas* from the next academic year. Majority of these *Sabhas* will be in an online format.
Innovation Sabhas provide the opportunities for students to:
- Learn from industry experts on innovative design and modelling.
- Interact with the students and faculty of established robotics labs around the world.
- Understand the latest trends in robotics engineering.
- Participate in quiz programs that are designed using the Innovation Edge book mentioned above.
- Make detailed presentations on their own innovative projects that they developed.

We will be introducing the *Innovation Assessment Service (IAS)* from the next academic year. This service is especially useful for volunteers who would like to give their time to promote innovation in schools.
Through **IAS,** the volunteers will be able to:
- Assess and award points to the robotics models developed by the students.
- Take up the role of an innovation coach and mentor students in building better robotics models.
- Create and conduct quiz programs using the Innovation Edge book mentioned above.
- Design and develop new assessment models to bring in efficiency and effectiveness to the programs.

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FCRA

Awaiting Approval

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