

Blockchain & Emerging Technology Promotion Council of Robotics and Automation in short TPCRA World



Who We Are

Blockchain & Emerging Technology Promotion Council of Robotics and Automation in short TPCRA World

(TPCRA World) is the not for profit apex body representing Robotics and Automation and Information Technology sector. TPCRA is recognized by both the Government, as well as the industry, for its role in the growth and development of the Robotics and Automation and Information Technology sector. At TPCRA, we believe that technology is the primary contributor of economic growth and with our consistent policy advocacy efforts, we have emerged as a strong and effective industry mouthpiece, within government corridors.

Headquartered in New Delhi, and with key affiliates across the globe, TPCRA offers a wide range of programs and services to Robotics and Automation Sector as well as the entire ICT industry across the Globe. These initiatives include organizing various exhibitions, conferences, seminars, training sessions, and workshops; policy representation; domestic & international marketing support; technology initiatives; publishing industry related information in targeted publications; networking opportunities; and many other industry-directed services.



Vision & Mission

Vision

To be the leading hub for knowledge in the application of Automation, IoT and Robotics (AIR) technologies, catalyzing adoption to enhance business value in the region.

Mission

- ❖ Upgrade Robotics, IOT and AI skills to international standards through significant industry involvement and develop necessary frameworks for standards, curriculum and quality assurance.
- ❖ Enhance, support and coordinate private sector initiatives for technical skill development through appropriate engagement models; strive for significant operational and marketing involvement.
- ❖ Creating demand by bringing financing, particularly in sectors where market mechanisms are ineffective or missing.
- ❖ Establish India as a hub for Robotics and Automation, innovation, products and technology start-ups.
- ❖ Be an industry platform for sharing and building best practices and collaborative engagement.



Focus Areas

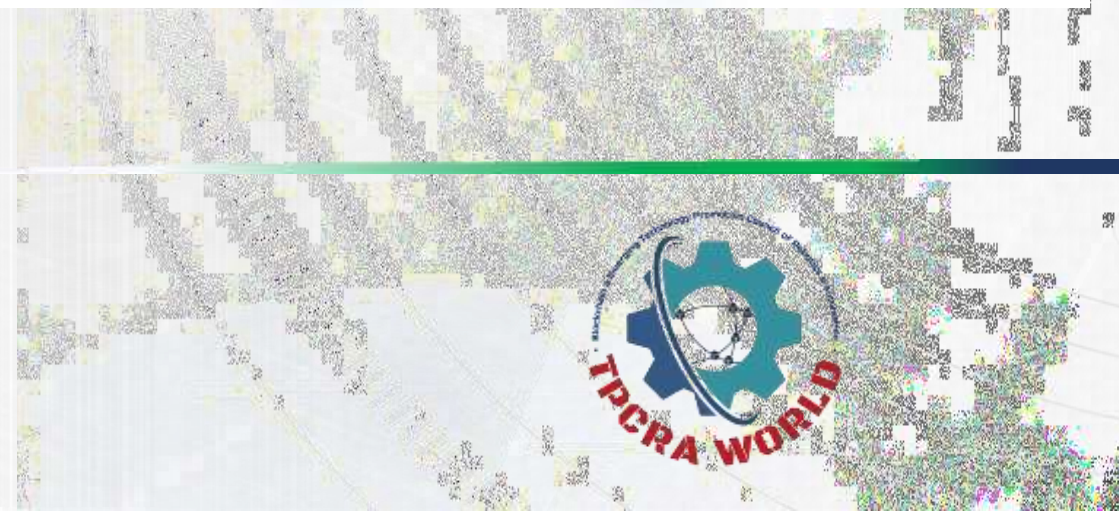


- ❖ **International Trade Management**
- ❖ **Channel Development**
- ❖ **Demand Generation**
- ❖ **Community Development**
- ❖ **Research and Policy Advocacy**



Stakeholders

- ❖ **Start-ups**
- ❖ **SMEs**
- ❖ **Scale ups**
- ❖ **Corporates**
- ❖ **Institutions (Schools, Colleges, Universities)**
- ❖ **Industry Organisations**
- ❖ **Business Development Service (BDS) Providers**



TPCRA Initiatives



Promoting Robotics and Automation and Information Technology, Innovation business development and growth of Innovative enterprises, innovation community engagement are at the core of TPCRA Initiatives.

Discover more about our initiatives and campaigns and connect to know more and join hands



Technology Entrepreneur Group

We see every challenge as an opportunity, and this initiative helps us ensure that our partners are better prepared to manage the unique situations they find themselves in. We have invested in an innovative approach that empowers our community and delivers the support they need, when they need it.



Research & Policy Advocacy

Undertaking Research and Policy Advocacy initiatives including

- ❖ Comparative assessment of Robotics & Automation and Information Technology Industry support and promotion paradigms based on primary and secondary research
- ❖ Field programs for Robotics and Automation and Information Technology Industry network development and learning therefrom



Conferences & Exhibition



Most of our efforts pertaining to our program involve studying new approaches and developing innovative ways to implement them.

We evaluate our success in this field by organizing various Conferences based on latest technologies, Seminars, Workshops, Exhibitions, International Delegation, Trade Fairs, Customized Events etc to Promote Robotics & Automation and Information Technology Industry



Professional Services

- ❖ Partnering for Trade promotion events
- ❖ Undertaking road shows
- ❖ Facilitating business meets
- ❖ Marketing, promoting Business collaboration, partnerships, co-creation, merger and acquisition.
- ❖ Start-up incubation, investment promotion



TPCRA Partnered Services (Universities)

- ❖ Artificial Intelligence Lab
- ❖ IoT Lab
- ❖ Telecommunication Lab
- ❖ Robotics Lab
- ❖ 3D Print Lab
- ❖ Big Data Analytics Lab
- ❖ RFID Lab
- ❖ Virtual Reality Lab
- ❖ Accreditation



Exclusive Partner



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Implementation Partners



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Artificial Intelligence Lab

The CoE enlighten the students with knowledge base in Data Structures, Computer Networks, Compiler Design & its application in Problem solving using advance tools and Techniques. Students are offered access to both offline and online services.

Artificial Intelligence Lab provides a wide approach in programming and enables to apply knowledge in latest computer algorithms, Compiler Design, Computer Networks, and Artificial Intelligence. Guidance is provided to the students by a team of faculty experts and lab programmer.

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Internet of Things Lab



The Internet of Things (IoT) lab the focus is on research and development on business-led use cases and build reusable assets in the IoT space.

We simulate, design, develop and test industrial use cases that include the Operational Technology (OT) component, Information Technology (IT) component, security and visualisation. Our capabilities of OT include Supervisory Control And Data Acquisition (SCADA), Programmable Logic Controller (PLC), Human Machine Interface (HMI) technologies, Radio Frequency Identification (RFID) technology, camera-based image identification, analysis and Optical Character Recognition (OCR), industrial sensors, and support the standard integration and communication protocols for industrial automation.

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Telecommunication Lab

The purpose of the Telecommunication Lab is primarily to offer hands-on experience to students for training and research by providing them scope for practical demonstrations and enabling exercises for courses in communications. This lab is equipped with electronic test equipment used to support Communication Systems by using different analog and digital communication trainers such as AM & FM Transmitters & Receivers, ASK, FSK & PSK Modulation & Demodulation.

The lab also contains microwave trainers, DSP trainers, cellular mobile trainers, analog communication trainers, PCM switching system, digital communication trainers and optical fiber communication trainers



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Robotics Lab



The robotics Lab is focused on interdisciplinary research applied to the state of the art autonomous intelligent robotics and human-robot interaction.

The research includes cross-disciplinary investigations in several areas such as biologically inspired algorithms, evolutionary algorithms, swarm intelligence, psychology, machine learning, data mining, computational neuroscience and cognitive science, among others.

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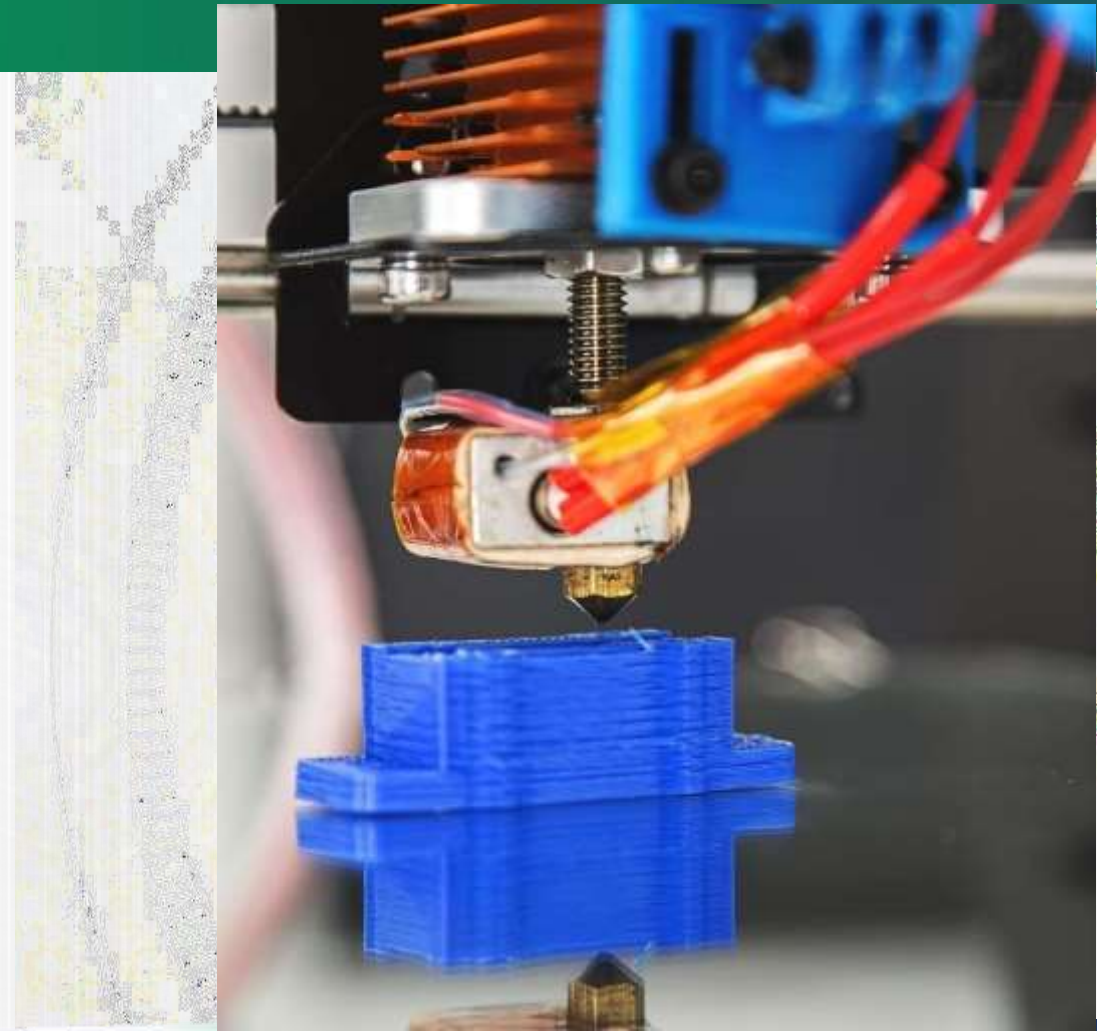
3D Print Lab

The 3D Print Lab is where students can come to submit 3D prints, 3D model, and 3D scan. This Lab will host several 3D printers and 3D scanners including a 3D Systems Sense scanner and a FARO arm Edge.

computers would be for designing including Windows machines, and Macs. These computers host many 3D design software options, including SolidWorks, Blender, MeshMixer, MeshLab, CloudCompare, Sculpt3, ZBrush, Sketchup, Slicer, and more.

We will deploy several slicing options including Simplify3D, Makerbot Desktop, Matter Control, and Cura.

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Big Data Analytics Lab



The Big Data Analytics Lab are interdisciplinary research labs that focuses on large-scale data analytics problems that arise in different application domains and disciplines.

One of the primary focus of our lab is to investigate an alternative computational paradigm that involves "humans-in-the-loop" for large-scale analytics problems.

These problems arise at different stages in a traditional data science pipeline (e.g., data cleaning, query answering, ad-hoc data exploration, or predictive modeling), as well as from emerging applications

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RFID Lab

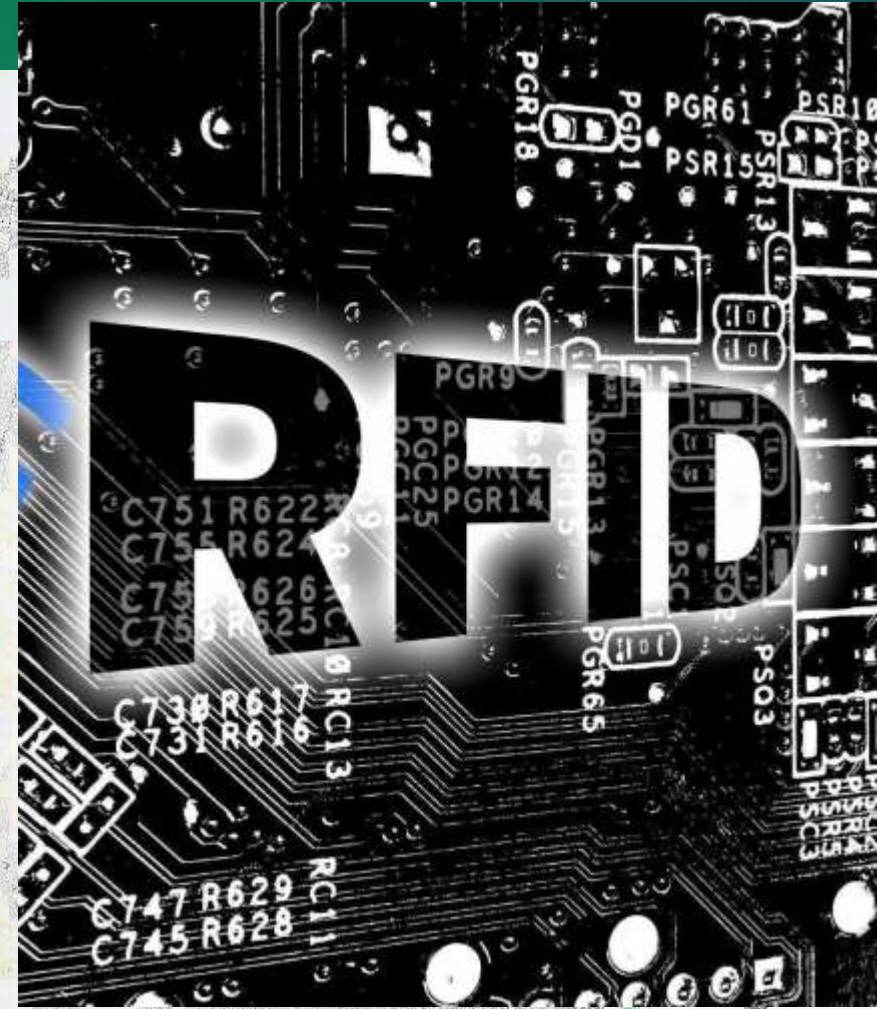
As radio frequency identification (RFID) technology expands and improves, researchers should be advancing with it.

The RFID Center of Excellence will serve as an international resource to academics and members of the business community.

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Virtual Reality Lab



Virtual Reality Labs serves as a research and testing grounds for faculty and students interested in exploring the educational potential of existing VR experiences, or in developing and testing their own VR content.

Programs in 3D computer vision and perception, object recognition, graphics, game science and education, distributed computing, stream processing, databases and computer architecture, and privacy and security.

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Accreditation

Our STEM Educational Research™'s trustmarks have been extensively and continuously used, marketed, advertised and promoted globally acquiring distinctiveness and secondary meaning since early 2012.

We benchmark STEM best practices in the following:

STEM Curriculum

STEM Teachers

STEM Products & Solutions

STEM Software STEM Impavt STEM Facilitators STEM Labs



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TPCRA Partnered Services (Schools)

- ❖ STEAMSTART
- ❖ STEAMSCHOOL
- ❖ DISCOVERY EDUCATION
- ❖ CLOUD LABS
- ❖ STEMIE BY HENRY FORD
- ❖ STEM & STEAM KITS
- ❖ SCIENCE KITS
- ❖ ROCKET LABS
- ❖ SPACE LABS
- ❖ MANGA MATHS
- ❖ PREBOO CODING
- ❖ 3D AUGMENTED REALITY
- ❖ VIRTUAL REALITY
- ❖ STEM WORKSHOPS
- ❖ STEM TOURS
- ❖ STEM CERTIFICATION

Exclusive Partner



Implementation Partners



STEM START

India's only K-2 STEM (Pre School) Curriculum (Age 3-6 yrs.)

Introduce students to the world of true project based learning and cultivate a love of learning STEM concepts from the very start.

Young children use core skills in aesthetically beautiful challenges. Design process and fabrication of scale models develops logical decision-making. Students build spatial awareness; use math skills in real world challenges; develop problem-solving tools; increase manual dexterity and focus on attention to detail.

All materials are correlated to Common Core Language Arts, Common Core Mathematics, and Next Generation Science Standards

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STEAM SCHOOL



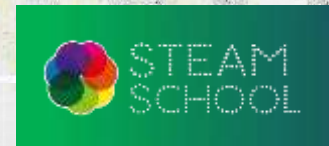
World's First Live STEM Telecast (Age 7-15 Yrs.)

Steam School is the perfect tool for Primary, Secondary, and International schools looking for a way to boost their STEAM curriculum.

The world's first live streaming series, we bring STEM straight to your classrooms. Every week! With easy-to-access content aimed at young learners – and interviews with some of the biggest and most inspirational names in tech, Steam School gives endless inspiration and real-world examples to support their wider learning.

Students get to "meet" the best STEM Experts, scientists and STEM educators week after week and get enriched with real life STEM applications.

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DISCOVERY EDUCATION

Best STEM Education Curriculum (Age 5-17 Yrs.)

Discovery Education is the global leader in standards-based digital curriculum resources for K–12 classrooms worldwide.

Discovery is the home to award-winning digital textbooks, multimedia content, and the largest professional development community of its kind.

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CLOUD Lab



World's First Virtual Science Lab –All Science (Age 5-17 yrs.)

CloudLabs® is a virtual learning environment focused on STEM education (Science, Technology, Engineering, Mathematics) composed of simulators which provide access to over 200 laboratory practices with supporting curriculum content, and a management system for teachers and students,

Cloud Labs Academy a teacher community, as well as an effective methodology including challenges, decision making and problem solving.

Works online and offline! More than 300 Projects and activities.

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STEMIE by HENRY FORD

STEM + Innovation+ Entrepreneurship Program (Age 5-15 yrs.)

Our Mission statement is to have every child in every school in India become an inventor and/or entrepreneur, once, better twice, and instill problem-identification, problem-solving, entrepreneurship, and creativity skills for life - through inventing, innovating, and entrepreneurial activities.

The STEM Entrepreneur Program, besides core STEM skills equips you with 21st century skills like Critical thinking, Creativity, Collaboration, Communication, Information literacy, Media literacy, Technology literacy, Flexibility, Leadership Initiative, Productivity and Social skills.



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STEMIE
COALITION



STEM & STEAM Kits



Largest Variety of World Class STEM Kits (Age 7-17 yrs.)

Aavishkar Lab's mission is to foster Innovation Culture in the school students by introducing the missing dimension of 'Learning by Tinkering' and 'Learning by Doing' in the school education and going beyond the 'Activity Based Learning'

e-STEEM based Aavishkar lab aims to develop a new learning dimension in our existing school education system, by combining creativity and innovation to implement the 21st Century Technological Pedagogy. It intends to encourage the students to learn by 'Tinkering', 'Making' and 'Doing' to develop their skills.

An India STEM Alliance initiative along with Dr. Vijay Bhatkar - Padma Bhushan Awardee and the Father of "PARAM", India's first super computer

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SCIENCE Kits

Science Kits for all ages (NCERTAligned)

We are promoting culture of hands-on education. For that we have developed number of innovative kits. These kits are based on principle of 'Learning by Doing'. Every kit is designed in simple way, yet it is serving as a powerful tool for self learning.

While designing these kits we have gone through school curriculum of all major boards. This mapping of scientific activities with school syllabus will strengthen the impact. Box of Science kits are also serving as a science project. Children are using our kits for further exploration of science and technology. Every kit serves as a tool for science models and science experiments for kids.

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ROCKET Lab



India's first solid fuel Rocket Lab

India's first solid fuel powered model rocket kit manufacturer, supplying kits to schools, colleges and rocket enthusiasts across the country.

RockIT also provides turnkey educational solutions incorporating experiential learning based STEM education using scientifically designed curriculum, experiments and projects to students and educational institutions across the country.

Set up Rocket Labs as well for schools and colleges

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ROCKET LABS



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SPACE Lab

India's only Complete Curriculum and Lab

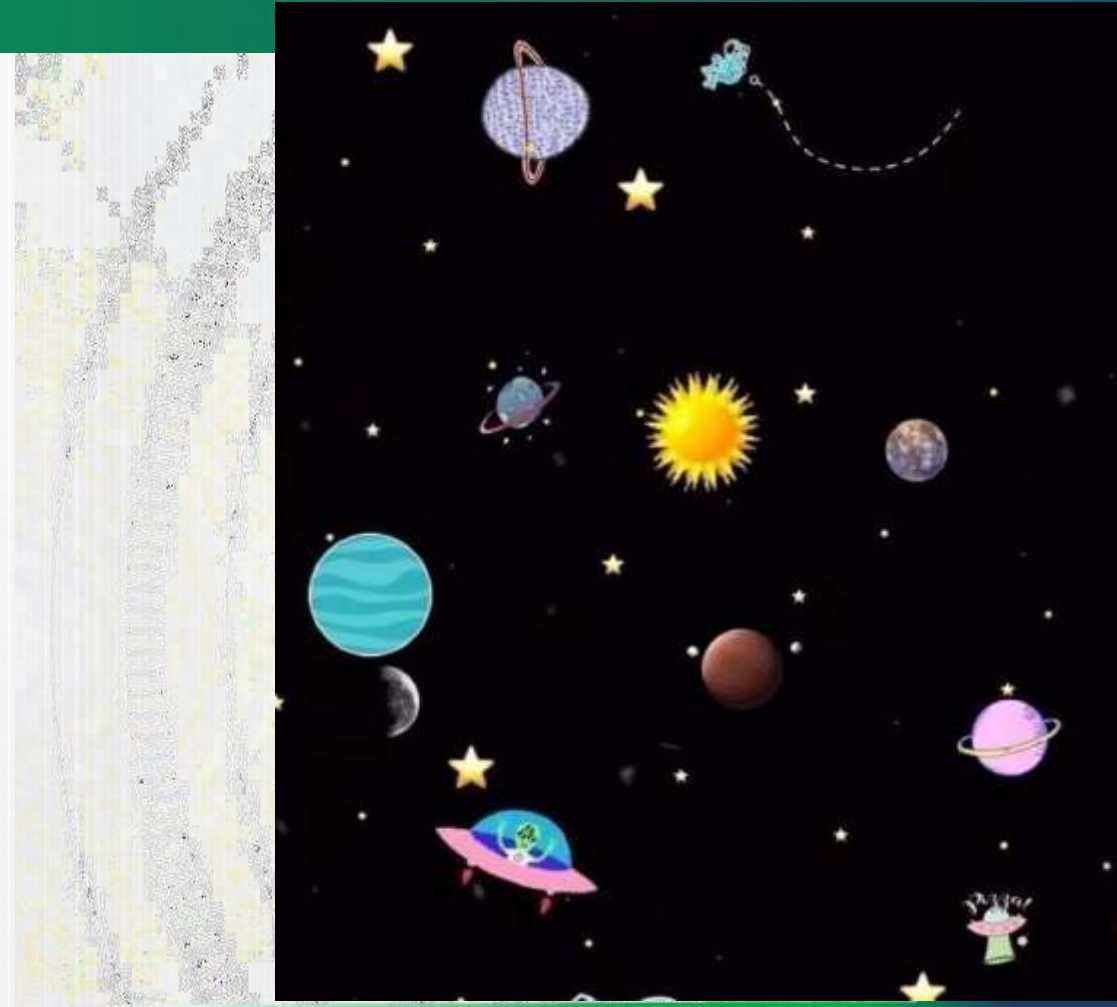
Explore the wonder world of space, astronomy and aerospace.

A complete lab with curriculum and learn about our universe. Also learn about The international Space Station, Chandrayan, Rocket Launchers and so much more. Make and launch your own Chandrayan!

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MANGA Maths



Game Based Maths Learning

Manga is one of the most engaging learning platform for kids helping students of all abilities to learn more effectively using a game based approach.

Curriculum aligned AI driven teaching platform.

By the makers of Candy Crush

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PREBOO Coding

Partnered with

PreBOO



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Pre School Coding with Chhota Singham

A web platform where kids are introduced to the world of programming via games, lessons, puzzles and much more. It encourage kids to become inventors by using technology rather than being mere consumers of the technology. Teaches not just coding but also moral values as that is the pedagogical design of the program.

Learn coding and good moral values along with Chhota Singham



3D Augmented Reality



Award Winning 3D Games and Toys

An interactive way where children can learn in a fun and enjoyable way. This set contains 26 different

Augmented Reality Cards from . With Free OOBEDU App, scan the flashcards to see the character's come Alive

Choose from:

Alphabets
Fruits & Vegetables
Human Body Solar System
Animals

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VIRTUAL Reality

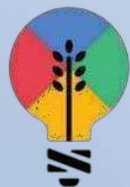
The only NCERT VR Solution in India

Let learners explore abstract ideas in a distraction-free environment, and allow them to connect with these concepts at their own pace.

The VR is a uniquely personal experience and Vative is on a mission to enhance the learning experience of learners everywhere, while also supporting the teaching experience of instructors. In doing so, we are committed to positively influencing engagement, retention, and desire to learn..

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VEATIVE



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STEM Workshops



A series of enriching STEM Workshops for students and educators

The fastest growing careers and highest paying jobs today and in the future are in STEM fields. These careers require a cross section of knowledge combined with creative thinking and problem solving skills.

We offer workshops on various topics such as electronics and circuits, building machines, robotics, drones building, and a variety of construction and general engineering challenges. Our workshops vary from introductory programs to more involved exploration.

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KidsTalk
WORKSHOPS



STEM Tours

Widest Range of STEM International and Domestic Tours

We custom designs STEM tours to link to the Sciences, Technology/ICT, Engineering and Mathematics curricula. Our expertise enables us to develop or identify specific, curriculum-linked, experiential learning activities to engage your students in active learning. A STEM school trip or workshop is a great way you can get your class excited about subjects like maths and science. Finding places that will welcome a school group is not too difficult, but finding somewhere that will really get them inspired, can be a challenge.

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Students learn about Robotics, AI, VR/AR, Marine Biology, and so much more! STEM Tours available for USA, Canada, UK, Europe, Australia, Singapore, India. Many more destinations...



ACCREDITATION



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We benchmark STEM best practices in the following:

- STEM Curriculum
- STEM Teachers
- STEM Products & Solutions
- STEM Software
- STEM Impact
- STEM Facilitators
- STEM Labs

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For Further Enquiry

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THANK YOU



**THANK YOU
FOR YOUR
VALUABLE TIME**

