

WORKBENCH PROJECTS

was founded in
DECEMBER OF 2013

by



— **ANUPAMA & PAVAN** —

It is the world's very first Hyper-space with operations currently in Bangalore. It is a unique platform for the serious change-maker to toy with ideas, tinker with tools, prototype their concepts and innovate responsibly and nurture sustainable enterprises for the future. Having reclaimed a public space through a tendering process with the Bangalore Metro Rail Corporation (BMRCL), WP is the first of its kind to model a productive hyperspace ecosystem in a metro station in the world. WP works at the intersection of design, software and hardware driving towards innovation and entrepreneur-ship.



MISSION

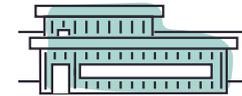
- + To create a state-of-the-art facility and ecosystem that enables exploration of ideas from conception to realization.
- + To build a hub for maker-preneurs, innovators, entrepreneurs, inventors and creative problem solvers.
- + To build a hub for innovators and creative problem solvers.
- + To nurture the DIY (do-it-yourself) culture in the community through directed self learning processes.
- + To facilitate dialogue for multidisciplinary collaboration in the spirit of co-creation.
- + To work as a platform for ideators to transform to entrepreneurs through incubation and acceleration from idea to market.
- + To become a channel to connect corporates, governments, startups, MSME's, community and individuals from the lens of responsible innovation.

OUR PHILOSOPHY



WP IS A COMPANY FOR NURTURING THE MAKER-ENTREPRENEURSHIP SPIRIT TOWARDS 'RESPONSIBLE INNOVATION'.

WORKBENCH PROJECTS SNAPSHOT



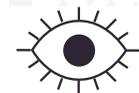
WHAT IS IT ?

Makerspace & a FabLab, a space for co-working, prototyping, event, skilling and design, hardware innovation hub, and more...



FAB LAB BANGALORE

VISION



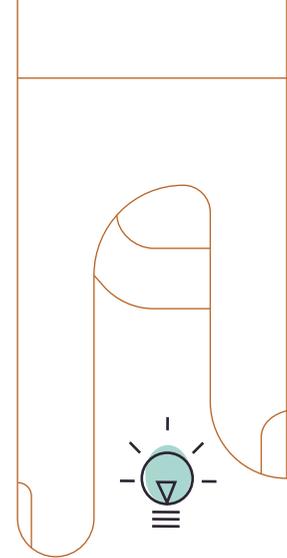
WHY ?

TO PUT THE POWER OF RESONSIBLE INNOVATION IN EVERY HAND



WHAT NEXT ?

By 2020 to become the leading hardware incubator & accelerator in India with a hub of makerspaces-fablab to bring innovative significant, sustainable, new products to the Market.



PROMOTING RESPONSIBLE INNOVATION

As a responsible makerspace/ Fablab, WP affirms the role of a facilitator */ interlocutor and a driver creating right conditions for true engineering innovation to provide solutions to local problems with education and sustainability at its core.

*DIFFERENCE BETWEEN

TEACHER

- Teacher takes charge of the learning environment
- The teacher is responsible for creating lesson plans that direct the course of study students follow
- Evaluation is often in the form of tests, but the teacher may use other measurement tools to determine if the student met the teacher's learning objectives.
- Method employed is ppt presentation, lectures
- Involves direct control of class and activity

FACILITATOR

- Facilitators create a discussion environment
- A facilitator can quickly determine what the group knows so the group can proceed to build on that knowledge
- The facilitator helps the group evaluate what group members learned from their activities.
- Method employed is handouts, scenarios, etc
Combination of various products and process.
- Involves indirect control of class and activity

**DIFFERENCE BETWEEN

INNOVATION

- The act of innovating; the introduction of something new. Steve Jobs was an innovator.
- Set of marketing, technical and strategic skills.
- Limited to R & D department.
- Single product or process.

INVENTION

- The act of inventing something. Eg. Thomas Edison invented bulb, here, Edison was an inventor and bulb is his invention
- Scientific skills is required
- Spread across the organisation.
- Combination of various products and process.

^DIFFERENCE BETWEEN

ENTREPRENEUR

- Entrepreneur refers to a person who set up his own business with a new idea or concept.
- An entrepreneur is intuitive in nature.
- An entrepreneur uses his own resources, i.e. man, machine, money, etc.
- An entrepreneur raises capital himself.
- An entrepreneur works in a newly established company.
- The entrepreneur works hard to enter the market successfully and create a place subsequently

INTRAPRENEUR

- Intrapreneur refers to an employee of organization who is in charge of undertaking innovations in product, service, process etc.
- An intrapreneur is restorative in nature.
- An intrapreneur the resources are readily available, as they are provided to him by the company.
- An intrapreneur does not need to raise funds himself; rather it is provided by the company
- An intrapreneur is part of an existing organisation
- Intrapreneur works for organization-wide change to bring innovation, creativity and productivity.

OUR DISCLAIMERS:

Not all innovators are inventors.
Not all makers are innovators or inventors.
Not all makers, innovators, inventors are entrepreneurs.

WORKBENCH PROJECTS

PERFORMANCE



RESIDENT
MAKERS



10,000+
STUDENTS
ENGAGEMENT



40,000+
FOOTFALL

07
STATE
GOVERNMENTS

15+
PRODUCTS
TO MARKET



OPERATIONS AT
HALASURU METRO
STATION

4YRS
AND COUNTING



FUNDRAISED FOR
PROJECTS, PROGRAMS
AND EVENTS



COLLEGE
& SCHOOL
CONSULTANCY

20+

DESIGN
PROJECTS &
CORPORATE R&D

100+

TRAINING &
WORKSHOPS

15+

LARGE FORMAT
HACKATHONS

40+

STARTUPS
ENGAGED

100+

INNOVATIONS
SUPPORTED

50+

ADVISORS &
MENTORS



1000+

STRONG COMMUNITY



75+

CORPORATE
ENGAGEMENTS



175+

PROGRAMS
AND EVENTS

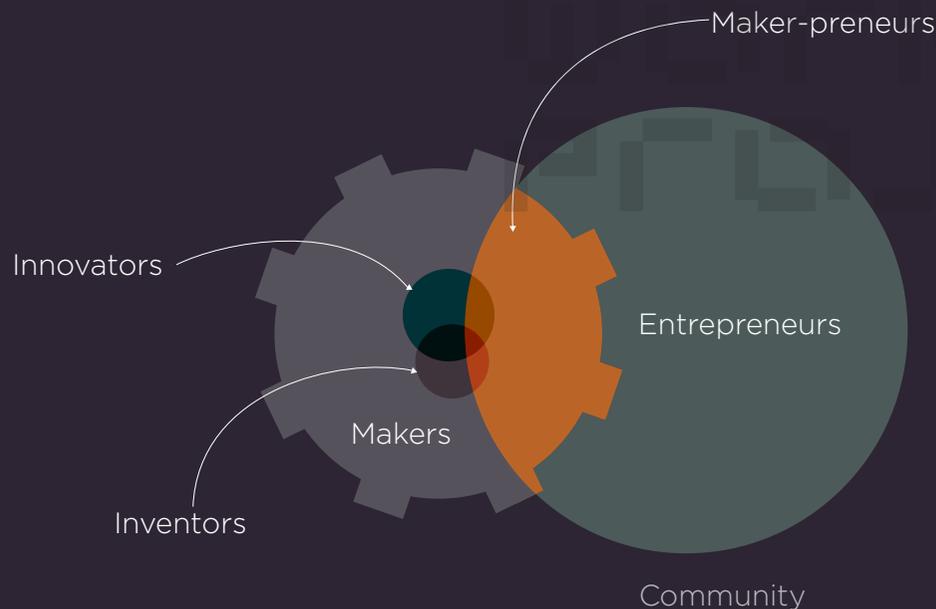


250+

CUSTOMERS,
PARTNERS
& COLLABORATORS

WHY DOES WORKBENCH PROJECTS EXIST?

We exist to support the community, the Makers, Innovators, Inventors & Entrepreneurs, but most importantly to provide bespoke support to the maker-preneurs who are a good mix of all of them.



MAKER

MEANING

a person who makes or produces something

SYNONYMS

creator, manufacturer, builder, constructor, producer, architect, designer, inventor etc.

ENTREPRENEUR^

MEANING

a person who sets up a business or businesses, taking on financial risks in the hope of profit.

SYNONYMS

businessman, businesswomen, business person, business executive

INNOVATOR**

MEANING

a person who introduces new methods, ideas, or products.

SYNONYMS

pioneer, developer, groundbreaker, trailblazer, pathfinder, progressive, reform, etc.

INVENTOR**

MEANING

a person who invented a particular process or device or who invents things as an occupation.

SYNONYMS

originator, developer, mastermind, scientist, discoverer etc.

COMMUNITY

MEANING

a group of people living in the same place or having a particular characteristic in common.

SYNONYMS

group, section, body, company, set, circle, gang, bunch etc.

MAKER-PRENEUR

MEANING

A person who makes or produces something and sets up a business or businesses to market the made thing in the hope of being impactful, profitable & sustainable. Simply put, a maker who is also an entrepreneur.

WORKBENCH PROJECTS

OFFERINGS & FOCUS AREA



GOVERNMENT



CORPORATIONS



MSME



STARTUP



NGO



UNIVERSITIES



SCHOOLS



COMMUNITY



INDIVIDUALS

BUZZWORDS — AT — WORKBENCH PROJECTS

Acceleration & Incubation

Business Pitching

Challenge the norm

Design Thinking

Ecosystem

Failure Accepted

Grassroot Level

Hacking Ethically

Innovation

Jobwork

Karma of Work

Labour of Love

Make in India

Niche Ideas

Objective based doing

Passion for POC

Quality v/s Quantity

Responsible Innovation

Startup Culture

Tinker & Try

Unit Economics

VC

Weighted Approach

X Factor

You & us

Zoned out

WORKBENCH PROJECTS JOURNEY

20
13

Incorporation



DEC

20
14

Full Fledged
Garage Operations



MAR

Founders selected
to present work at
FAB10 Barcelona



JULY



AUG

**Public Launch &
Dialogue**

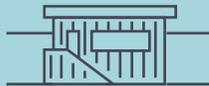
Metro Tender allotted



OCT

20
15

Reclaimed Halasuru
Metro Station and
Space Launch



FEB

FabLab status
(**Bangalore's 1st**)



MAY

Robo Revolution
with **ETH, Zurich
and Swissnex, India**



JUNE

Selected to present
our work at **Fab 11 at
MIT, Boston &
Curated 1st Innofest**



AUG

Hosted India's First
Mini Maker Faire

Maker Faire

OCT

100+ events
milestone achieved



DEC

2016

Enable Makeathon



JAN

Shortlisted as **Bangalore's Best Startup at EO Cares Space Expansion for more Makers & Entrepreneurs**

FEB



GE Edison Challenge



MAR

Fab Educators Program



APR

Selected to present our work and Enable **Makeathon at Fab 12 Shenzhen, China**



AUG

SEP



- Expert Committee of **NITI AAYOG** towards framework for **Atal Tinkering Labs**
- **Robo Revolution - Under 22** with **Madras and Swissnex, India**

OCT

Maker Faire

Bangalore's Most Celebrated **Mini Maker Faire, Bengaluru** Again maker nation series: Idea Currency with **Department of IT, BT and ST, Govt of Karnataka Showcase at Bengaluru ITE.Biz**

NASSCOM

NOV

DEC



Showcase, Curation & Installation at **Innofest 2016**

• **Hyperloop India** team incubated at WP for the pod building to complete at **SpaceX and Hyperloop HQ**

• Collaboration with **Educational Initiatives** for a maker course at **Asset Summer Program**

• Launch of **Enable Makeathon 2 & ARTILAB**

• WP Delegation at **Fabfest, Toulouse, France**

• **Hyperloop Pod Prototyping** completion and shipping to **Space X Facility in California**

• **Team Building Workshop** for **Google Bangalore and SAP Labs**

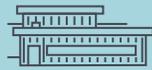
Maker Space Experience Zone for NASSCOM Design Engineering Summit 2017

• **Maker Faire Bengaluru 2017** hosted by Workbench Projects with support from **Blr Tech Summit**

• WP Delegation at the **GES 2017 Summit**

• **SPARTH- 1st and Art Hackathon** association with **Goethe Institut & Srishti Institute of Art**

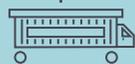
2017



JAN

- Space Sponsors for team **ASTRA Aero** in support for the **UAV Australian Outback**
- **Space Expansion** for more Makers & Entrepreneurs

FEB



Mobile Makerspace for Dell & Learning Links Foundation

Intel supports WP flagship 'Ctrl+Alt+Make' program for alternate learners and students. **Maker Nation series** goes multi-state (Kerala and TN).

MAR

• **UWC Mahindra Students** for a 5 day residential **Project Based Learning Program**

APR

MAY

Space Revamp Maker Faire Bengaluru kick-off with Ministry of IT, BT & Tourism, located at **Bengaluru Tech Summit**

JUN

JUL

NASSCOM

SEP

Maker Faire

NOV

DEC

- Community partners for **Living Talents Masterpiece 2017**
- Hackathon and Experts partners with **Forge Accelerator for Tamil Nadu Innovation Grand Challenge 2017**
- **Enable Makeathon 2:** WP Team (ARICE) gets shortlisted in the top 12 from over 100 worldwide
- **Designathon:** Team conducts specially curated design centred buildathon with over 100 students at **Reva University, with Uni-Gauge.**

2018

- WP Co-Founder Anupama Gowda as panelist for **women entrepreneurship event** hosted by **KEMI, VRUTTI and Jain University**
- Delegation from **Spark Leadership Team, UK**
- Delivered **Project Digniphi** for the **MindTree Foundation**
- **Special Purpose Machine Project** for **Siemens**
- WP delegation to **WPP STREAM Asia Unconference**
- **Hyperspace Launch**
- **Future of Work** at **Ashoka University**
- WP delegation at **Earth Shastra**
- Collaboration and **Maker Experience Zone** at **Skilled in Odisha**
- **Space Facelift!**
- **Intro to Biohacking** at **MLACW**
- Collaboration with **Qualcomm Design India Challenge**
- **Pixxel (Nanosatellite) - 1st Hyperspace model portfolio startup**
- **Intel + Atal Tinkering Labs Rapid Prototyping Bootcamp**
- Launch of **Edible Water Bottles**
- Delegation from **Bangladesh FabLab** for **knowledge exchange**
- **Maker Experience Zone** at the **The Garage, Microsoft**
- **Project Based Learning Workshop** for the **Canadian School**
- **Curation of 'Innovation Zone + Startup Showcase'** at **Bengaluru Tech Summit**
- Co-organised **Maker Faire Hyderabad** with **Govt. of Telangana**
- **Maker Faire**
- **Bangalore By Design**
- Delegation from **Netherlands - 'Explore + Exchange'** and **Christ University**
- Delegation from **Renault, Michelin & BNP-Paribas (France)**- Showcase of **frugal innovation** by WP

2019

- **Low Cost Fodder System** -2nd Hyperspace model portfolio startup
- **Innovation Partner for Futur IO**
- **Innovation Workshop for We Work**
- **VC Delegation from Mullyez Family for Startups** in the WP Ecosystem
- **Innovation Experience Partner** for **Under 25 Summit 2019** and **Unbox Festival**
- **Project Based Learning** for **Exchange Students** from **Rudbeck, Sweden** and **Mallya Aditi International Scool, India**

INNOVATION ACCELERATION

At the heart of our mission lies our passion for innovation and this remains one of our core principles. All our services and systems are designed from the ground up to draw out and encourage innovators who are working on ideas that collectively move us forward.

Workbench Projects is perfectly placed to send your start-up into hyperspace with our network of investors and advisors. With us by your side, you and your product will come to market geared to weather the ultra-competitive battleground that is India.

SIEMENS: LCD SCREEN TESTING EQUIPMENT



Siemens India reached out to Workbench Projects with a unique problem statement: build a prototype of a machine to test their new LCD screen. The screen was intended to be used on a personal device attached to hospital beds. The prototype machine was designed and built in-house at Workbench over 10 months.

IBM BLUEMIX



Insurance company SwissRe collaborated with IBM in 2016 for two global hackathons in New York and Bangalore to create apps revolved around insurance. Workbench Projects hosted the 2-day Bangalore session, which saw developers compete to create mobile or web apps on the theme "My personal risk advisor" with at least one Watson cognitive component from the IBM Bluemix suite.

ENABLE MAKEATHON



Enable Makeathon was our flagship initiative with ICRC to create next-gen affordable assistive devices for persons with disability solving for the majority of the population in rural India. This was a 60-day programme where three winners were rewarded up to \$50K and 5 prototypes were considered to be taken to the production stage.

MINDTREE FOUNDATION: DIGNIFY READER



The Mindtree Foundation came to Workbench Projects to build an app that converted text to speech for visually impaired school students. The app uses the camera to scan for text from the books that it is held over and reads it aloud. Workbench has designed and prototyped several versions over the last 15 months and is now working on distributing 50,000 phones with the app in South India.

GE EDISON



The GE Edison Challenge is a hackathon for students in India, organized by the GE India Technology Centre. Workbench Projects conducted the challenge, which focused on energy, transport and health, in 2016. Participants from all over India entered their innovations and 25 finalists were chosen to present their ideas at the John F. Welch Technology Centre in Bangalore, India.

EDI + FORGE ACCELARATOR: TNIGC



WP collaborated with FORGE Accelerator as Knowledge partners, with WP team providing on-site support, recommending amazing makers from its community (the winner, Hansum was one of our own) and also conducted sessions regarding entrepreneurship and product design.

DELL FOUNDATION: MOBILE MAKERSPACE



Designed, facilitators trained by WP experts for the pilot program for Learning Links Foundation, also supported by DELL launched in Hyderabad for underprivileged govt school students

Impact: Engaging 4 different govt school communities of Hyderabad, with an estimated 200 students impacted over one quarter.

SAPIENT NITRO: DESIGN THINKING WORKSHOP



6 hours design thinking workshop which helped the design team from sapient nitro. On Sapient Nitro campus.

INTEL + NITI AAYOG: ATAL TINKERING LAB INNOVATION BOOTCAMP



Workbench Projects' founders Pavan and Anupama were part of an expert consultative panel for the framework creation of Atal Tinkering Labs, part of the Indian government's Atal Innovation Mission. The committee explored all facets of a fablab, including how it should look, the equipment and facilities it ought to have and who would gain the most. The engagement culminated in a 2-day workshop with NITI Aayog leadership and strategy team, supported by Intel.

HANDHOLDING CREATION

You bring us your little egg of an idea and we will help you nurture it and see it safely hatch to reality. You can be just about anybody, a student, an enthusiast or an entrepreneur, and you want to design, prototype, produce, and distribute your product. Or you want to connect with the right mentor or find an investor, or just collaborate with a club. Workbench Projects has what you need to get that idea out of your head and into the world's hands.

PIXXEL



Their constellation of nanosatellites will collect high cadence hyperspectral data and the images gathered by these satellites will provide up to date information relevant to Agriculture, Mining, Climate Monitoring, Urban Planning and Disaster Response. They have started building their proof of concept nanosatellite and working on improving the existing AI models they have built over the course of the last six months. In addition to running two pilot projects they have also registered a US entity with closures on an angel round from across the globe.

HYPERLOOP



Hyperloop India worked with Workbench Projects to design, prototype and manufacture a transport pod for the international SpaceX's Hyperloop pod design competition. The pod, dubbed 'Orcapod' and built to withstand speeds up to 460 kph, was selected as a finalist and shipped to California for test runs. Workbench also secured funding for the manufacture of the project in Peenya, Bangalore.

INTEL + ATAL TINKERING LAB

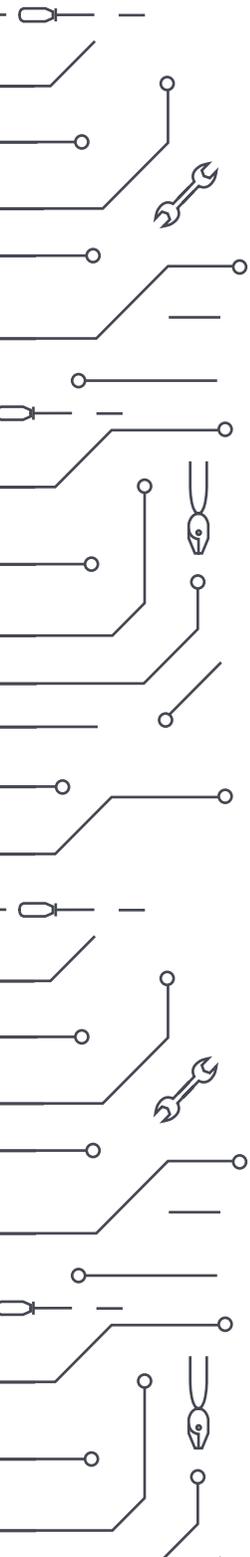


A 4-day residential engagement in 2018, hosted in collaboration with Atal Tinkering Labs and Intel. Students from as far as the Andaman Islands and northeast India submitted designs and project proposals and 17 teams were selected for the residential. The program included a show-and-tell of their project to potential investors and industry bigwigs, sessions on intellectual property rights, business development and entrepreneurship, and field visits to NASSCOMM.

HYDROGREENS: FODDER CLIMATE CELL



Vasanth's experience at Analytical companies like Target helped him realize a need for developing a fodder growing and monitoring system taking inspiration from the concept of hydroponics, he's currently building the prototype at Workbench Projects.



MAKER NATION



A program for the Kerala government, who wanted to activate two fablabs that they had built in Kochi and Trivandrum. The program was designed on responsible innovation and run in three phases. The first was a 2-day orientation and primer program in 10 colleges for paper prototyping design ideas. The second was the creation and refinement of the problem statement and solution ideas. This phase also narrowed the participants down to 20 teams for each fablab. Students used the labs in the third phase to build their solutions over three days and present them to government officials.

UWC MAHINDRA



Workbench Projects hosted 20 students from UWC Mahindra College for a 7-day innovation and prototype program. The students brought their own projects, which Workbench helped refine over the month prior to their engagement at our facility in Bangalore.

RISE DESIGN LABS: RISE LEGS



With more than 7.7M views and 50K shares on their video on Zinc

https://www.facebook.com/ThisIsZinc/videos/542913392575998/?c_ref=PAGES_TIMELINE

they are by far the most glamorous and the most responsibly innovative idea supported at Workbench Projects. Rise Legs company making cost-effective, lightweight, elastic, cane-based prosthetic leg designed for amputees to walk/work longer and also run, play and dance!

CANADIAN SCHOOL



Workbench Projects conducts a semi-annual workshop with Canadian International School in Bangalore for students to design and build projects from scratch. About 40-60 students attend each workshop and work on ideas, such as an automated bird feeder, over the day.

MESHINED: SMTHN



From being friends through Engineering days, till getting into design, founding Meshined and creating brand-SMTHN and getting 100% funding in just 10 days, there is really something about "Smthn". We are talking about a product that is a multi-purpose bag that transforms itself to adjust to your needs. As we say at WP, its a swiss army knife of bags. Workbench Projects has supported "Smthn" in their journey at various levels. Wanna get one for yourself and support this campaign

www.fueladream.com/home/campaign/751

URAVU: S.W.A.G.



Uravu's aquapanel called S.W.A.G which harvests water from the air just by utilizing the power from the sun is a finalist with 4 other startups for the on-going Water Abundance XPRIZE challenge, we're proud to have been a small part in their journey!

WORKBENCH PROJECTS: 3D PRINTED MOTORS



Ritesh, another mechanical designer is in charge of operations and planning at Workbench and has been building upon the concept and has been successful in eliminating all but the metal windings as machined parts and has managed to reduce eddy currents efficiently for a non-metal structure.

MORPHLE: IOT MICROSCOPE



The team led by Rohith is solving the issue of accuracy and revert-time for time - sensitive blood and other culture tests like testing for cancer.

WORKBENCH PROJECTS: SMART-JACKET



When Sharath kumar is not heading the electronics Department at Workbench he's developing his Project, Smart Jacket which aims to help miners keep safe by providing a system which tracks their environment and health stats.

INSPIRED KINEMATICS: VERTICAL CAROUSEL SHOW AND SELL SYSTEM



Anuj and his co-founder, realised a need for space-effective and trackable storage solutions applicable in industrial warehouses and helpful for e-commerce businesses. Their product's beta is currently undergoing final testing stages and they're now on the lookout for investors and collaborators to work with.

BLUE WAVE ENERGY: AQUA HORSE

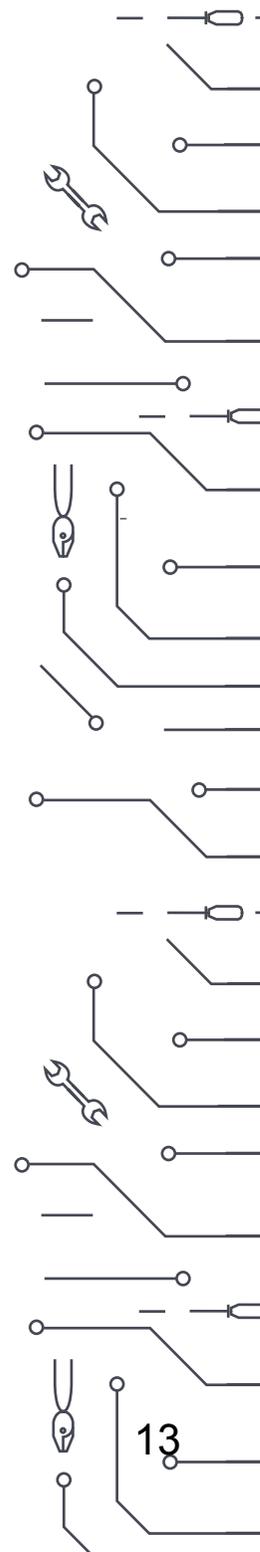


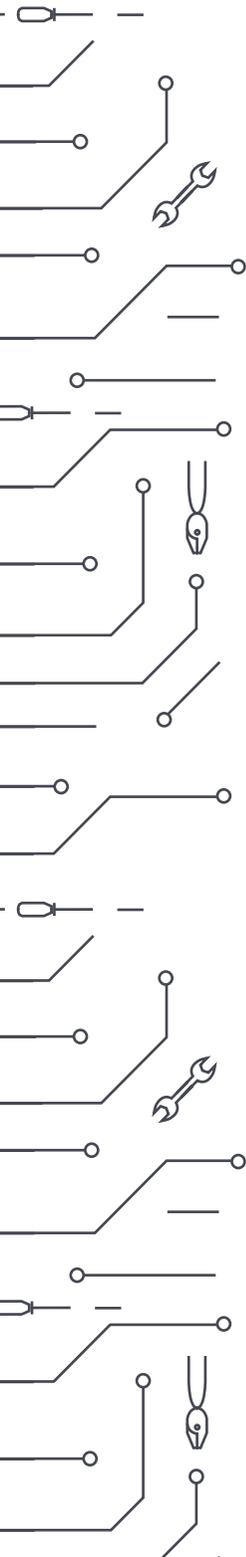
He was one of the first few to join WP as a member in early 2015 and stuck around till now. He joined the space to prototype 'AQUA HORSE' a wave energy harvester for his startup 'Blue Wave Clean Energy Tech', which is now powering a cold storage unit near pondicherry. He is also in talks with many corporates to expand this prototype to build floating data centers.

WORKBENCH PROJECTS: PNEUMATIC GENERATOR



Girish, currently in charge of Digital Fabrication department at Workbench Projects, has showcased Pneumatic generator at various industry level conferences, the project is undergoing a second round of prototyping at Workbench. Girish is also researching in the field 'Pre-heating of fuel'- An ic engine efficiency enhancer, currently under prototyping stage at Workbench Projects.



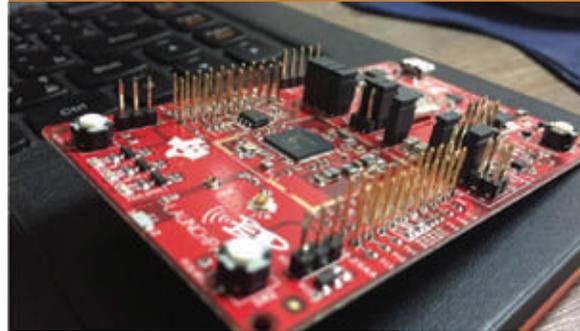


MUSE INC: TAAL



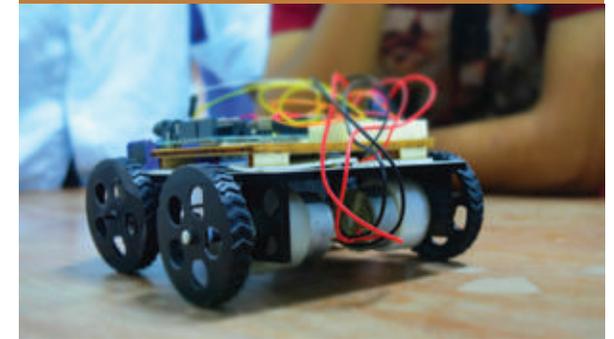
A flagship product of 'Muse Inc.' Taal was conceived, tinkered and developed by their team, while at Workbench Projects. Taal is a 'smart stethoscope' that provides high quality diagnostics at an inexpensive price that can be viewed via a mobile app on your smartphone. The makers of Taal are also a fantastic bunch working on several such responsible innovations which we are sure will give you more than a pulse about them.

ELECTROSAVER



Sustainable practises are part of every company's CSR, Electrosaver takes it to the next step, with a vision to save electricity by developing energy IoT products. Winners of the EFY " Build your dream competition." ES received INR 10,00,000. WP is proud to have supported ES through their journey and facilitate them at our makerspace. They have been one of the recent longest-active members at WP. They also help us out in the space when needed a hand. A definite value add to our space in the most literal terms if we can say so.

ROBO REVOLUTION



Robo Revolutions were five-day robotics workshops, conducted by Workbench Projects, swissnex India, the Autonomous Systems Lab of ETH Zurich and the Centre for Innovation of IIT Madras in 2015 and 2016. The workshops brought 35 students from different IITs across India to design robots to tackle specific problem statements. In 2015, the teams worked on swarm robots resulting in the Thimio robot. In 2016, they developed a navigation and control system for the 'Nanins' edutainment robots developed at ETH Zurich to measure and collect water quality.

KLAR SYSTEM: ZMOTE



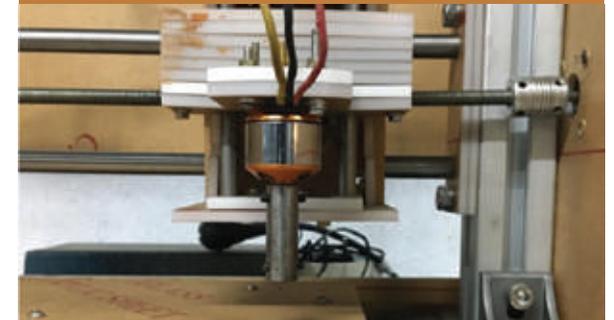
Makers of z mote, Klar Systems, are redefining smart homes with intuitive IoT products that touches our everyday life. At Workbench Projects, they found easy access to tools & equipment, an ecosystem that sparks creativity and knowledge about making and bringing Zmote out as a product.

TURTLE SHELL TECHNOLOGIES: DOZEE



Dozee was developed as a non-wearable wellness monitor, that uses the principle of ballistocardiography to measure parameters while asleep. Machine learning softwares process the data and provide valuable information regarding sleep cycles. An innovative product, that lets you sleep better.

WORKBENCH PROJECTS: PCB MILL TOOL TIP



Workbench employees Gopi and Girish built this custom PCB milling tool tip as an in-house project. They replaced a traditional spindle motor with a BLDC motor and also designed their own collet which would fit the new BLDC motor as well as any engraving bits. Cost effective and efficient, this tool makes Wokbench proud!

MAKER ADVOCACY

Workbench Project aims to serve as the flag bearer for India's maker-spaces and start-ups that are working on the solutions that the world urgently needs. While we want to enable makers to get started on the next big thing, we also want to use our growing network to nurture this fledgling ecosystem and connect thought and action leaders with aspiring problem solvers. Watch this space for events and opportunities that can help us help you. Our deep-seated belief in the philosophy that anyone with access to capital and space can create such environments remains steadfast, but it is our programming and curatorial acumen that sets us apart from traditional workspaces and engineering units.

SPARTH



Sparth was a 48-hour hackathon to explore the relation between space and art, looking through the viewing glass of science and technology. The event saw the creation of prototypes and technological solutions that could be displayed as art.

MAKER FAIRE BENGALURU



After two successful mini Maker Faires, 2017 was the year for Bengaluru to host its first large scale Maker Faire. With 50 incredibly ingenious makers, 20 transforming workshops and over a 50 rising startups, this event was one of the most happening headlines in the creator-community

WORKBENCH + PRITHVI RAJ: EMBEDDED FOR HER



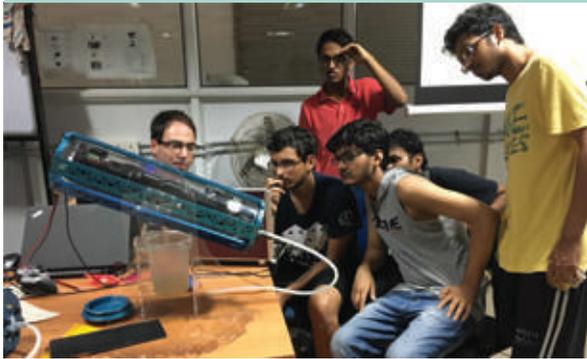
Makerspace venue partners for EfH, a 2 month initiative to skill females in Electronics (mostly college and working professionals)
Impact: 2 startups have come out of the program and one of which also showcased at Maker Faire Bengaluru

MAKER FAIRE HYDERABAD



Hyderabad's first such event, started and sponsored by the Government of Telangana through prototyping centre T-Works, saw over 40 makers from all over India come together. Workbench Projects was co-organizer and curator of the event.

INNOFEST



Workbench Projects curated the hardware and maker's pavilion at the iSpirit initiative. The agenda of the event was to spur the grassroots maker movement that was blooming across India. Visitors included venture capitalist and former junior finance minister Jayant Sinha and former Infosys CEO Nandan Nilekani.

DESIGNATHON



Over 100 aspiring engineering students took part in a one-day hands-on design thinking workshop curated and executed by WP experts.

Venue: Bangalore

WORKBENCH + EDUCATIONAL INITIATIVES: ASSET SUMMER PROGRAM



Make A Maker track

3 weeks immersion program designed for 19 gifted students, introducing them to the art of making through hands-on sessions curated with a design thinking perspective.

Impact: participants now promoters of making, and participating in competitions like world-wide robotics league for under-17 category.

KERALA START UP MISSION: MAKER NATION



Similar to idea currency but in kerala with specific themes related to bio mimicry and one month of design workshops by wp and projects that come in being shortlisted by wp team to be incubated by the FabLab kochi and trivandrum

Venue: FabLab Kochi

CTRL + ALT + MAKE



Sponsored by Intel, the 3-day program was created to provide hands-on experience with technology to alternative schools. Students, some of whom were homeschooled, were given the opportunity to experiment with digital technologies, Internet-over-Things, and learn skills like 3D printing, CNC machining, coding, and carpentry.

HALASURU TRAVERSES



A 3 month-long STEAM initiative of YCF supported by WP was culminated as a puppet - performance piece by students of RBANMS School Students in Aata Aadu, a festival of Creative Practices.

K.B.I.T.S: IDEA CURRENCY



3 part program, which ended with college students from across Karnataka brought in with their chosen ideas for a 5 day hackathon sprint at wp with industry experts called from all aspects of the prototyping journey (Making, Designing, IP and the process of Hardware Product Development).

TECH MAKERS @PLAY



For Nasscom Product Conclave 2016, WP curated a series of 15 start up and maker teams that were showcased as part of the Tech Makers@Play section at one of India's elite Start-Up conclaves.

Impact: A global showcase for deserving but hetherto unknown makers with over 2000 participants, over 100 world's top digital CxOs, with an attendance by over 100 industry leaders and pioneers.

Venue: At NPC Venue, Vivanta By Taj, Yelanka

TECHNOVATION 2017



Girls for a change.

Regional HQ and regional ambassador,

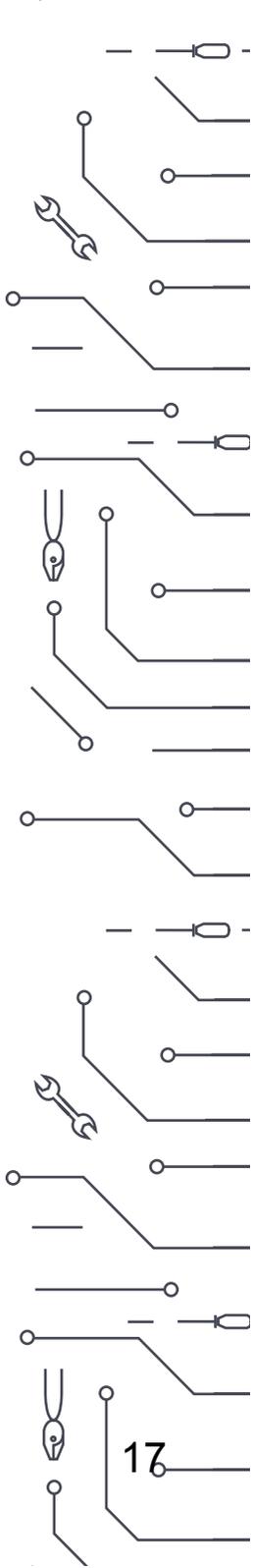
3 words: Girls, Apps and entrepreneurs
Middle school girls across the world (80 countries) participate in the event and compete to build a solution and present at Seattle

Impact: about 500 record submissions by school girls from across Bangalore, the runner-up's project was built at WP and showcased at platforms like Maker Faire and covered by major newspapers of the state.

BANGALORE TECH SUMMIT

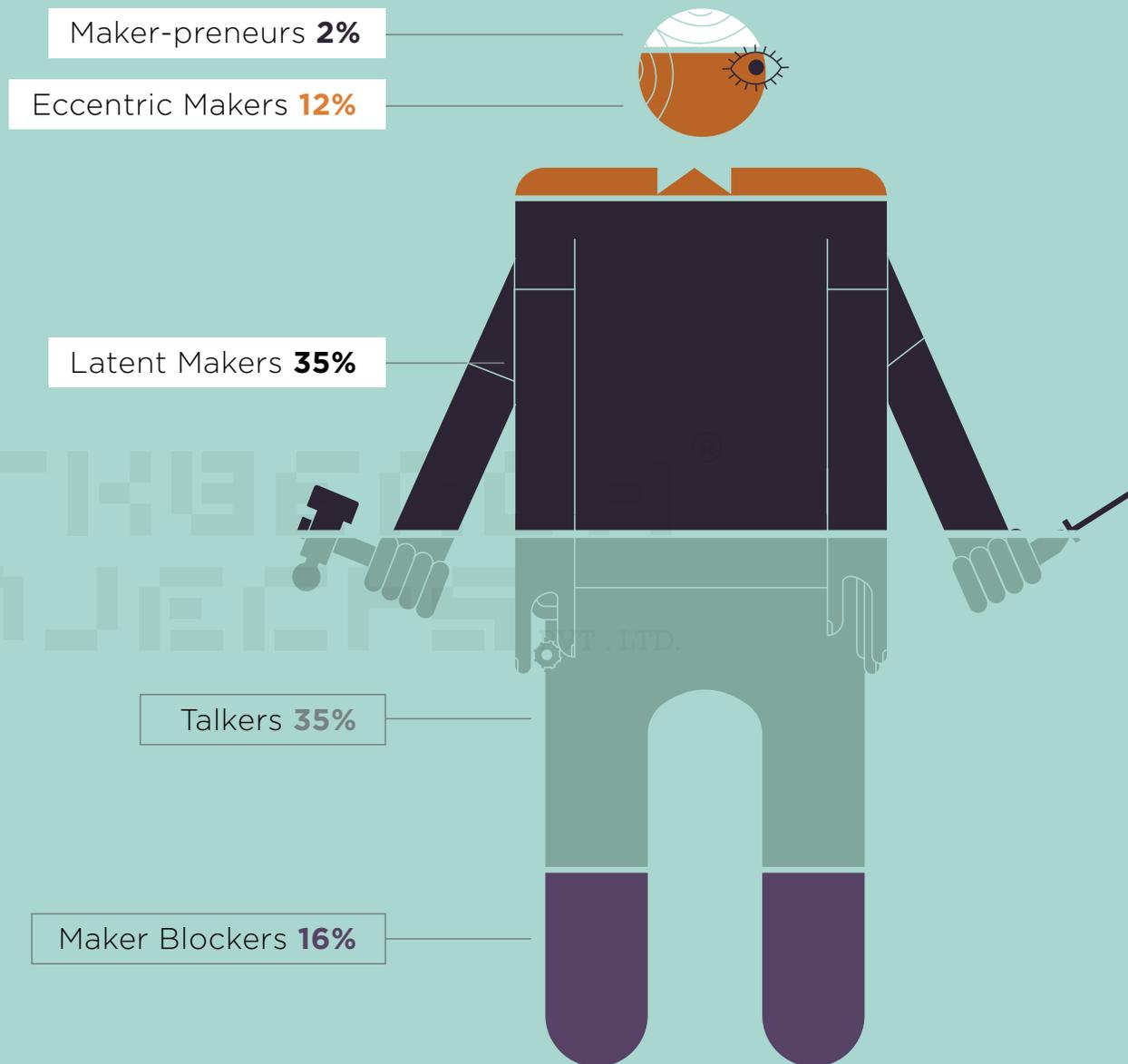


Workbench Projects curated the hardware and maker's pavilion at the iSpirit initiative. The agenda of the event was to spur the grassroots maker movement that was blooming across India. Visitors included venture capitalist and former junior finance minister Jayant Sinha and former Infosys CEO Nandan Nilekani.



WORLD OF MAKERS IN A 'MAKER'

"For us to thrive
and co-exist"



WORKBENCH — PROJECTS — MAKER HIERARCHY



THE GOD PARTICLE

Top most of the pyramid, are the Maker-preneurs who are very rare and everywhere. They are master weavers capable of weaving the very fabric of space and time towards the maker and startup movement. They are not keywords or buzzwords; they are the language, semantics, grammar and vocabulary of maker-preneurs. They are not trendsetters, they are the trend. Very few can get here but there are god particles in all of us. We just have to look deep into ourselves to discover and uncover this particle.

Needs: Becoming the Ultimate Maker-Preneur one can be!

THE PILGRIMS

Pros and need no introduction. These are not only seen in action, they are the action. These attend, conduct, perform, in all they become one with the space and the community. They are meticulous in planning and operation. These are people you want on your side. Multidisciplinary is the mantra and so is their DNA. They are trendsetters and travel planners. Skilled masters to idea Gurus, they stop at nothing. They respect others, their ideas and are aware of everything happening around them. Their only goal is to finish the journey they started, just like a true pilgrim. They are on an eternal trip with us.

Needs: Ideas and respect from self and others.

THE FANATICS

Advanced users in the space. These are not only technical but are responsible makers. They make the space their Adda and are here when there is a need or when the time is right for them. They are always looking for the next best idea to get high on, be it theirs or others. They are here to support their peers, fans, network and everything this arena has to offer.

Needs: Peers, network, validation and support.

STORM TROOPERS

Intermediate level users of the space. Follow orders, learn quickly about the hierarchy in the system, builds rapport to rise in the ranks. These work on honing multidisciplinary skill sets in all of our studios and is relatively skilled and are venturing into higher exposure levels and looking for mentors. These are completely technical and trained.

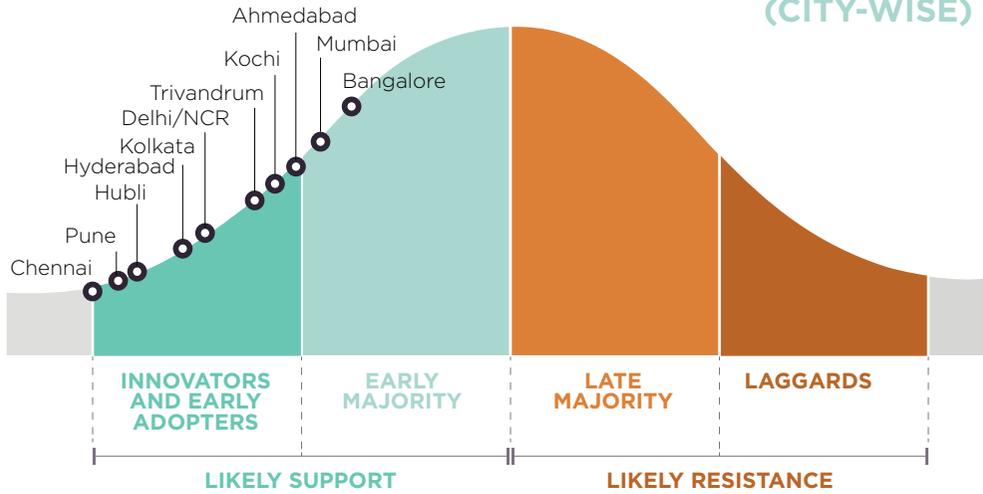
Needs: Learning, Training, Skills, Exposure and Mentoring.

BEAT COPS

Beginners, who are on the periphery looking and observing closely but not jumping into anything. Hovers around the space irregularly. Has knowledge about one perhaps two disciplines at the max and can technically operate with limited money, tools and attitude. These would have participated in many workshops and has some skills to their name. They are trying to build their competence with the right attitude. They look for the lowest barriers and accessibility to many factors mentioned here.

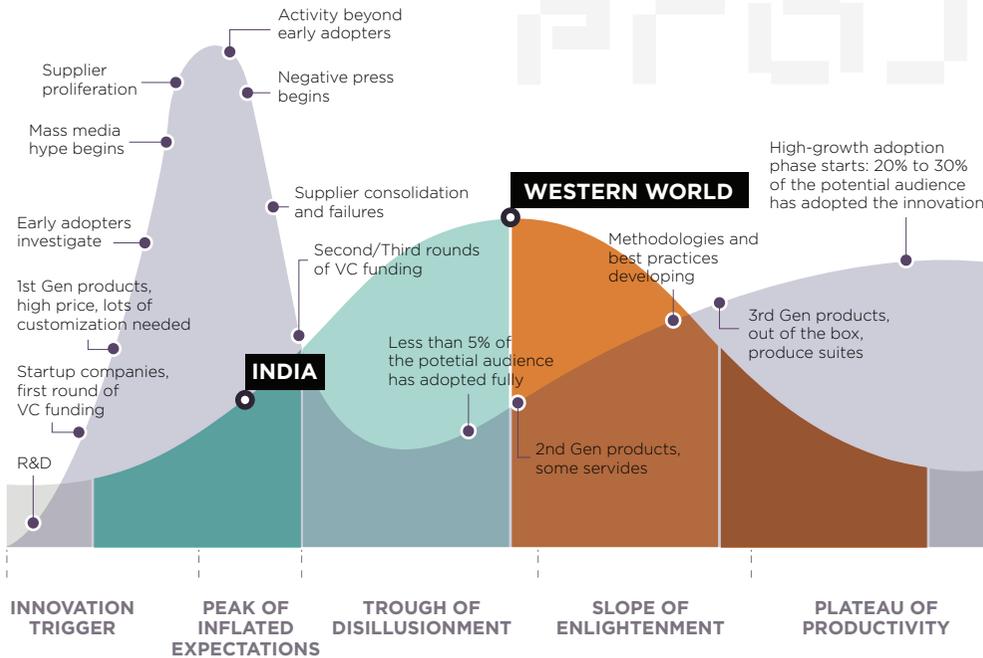
Needs: Money, Space, Infrastructure, Tools, Attitude, and Accessibility.

INDIAN MAKER MOVEMENT (CITY-WISE)



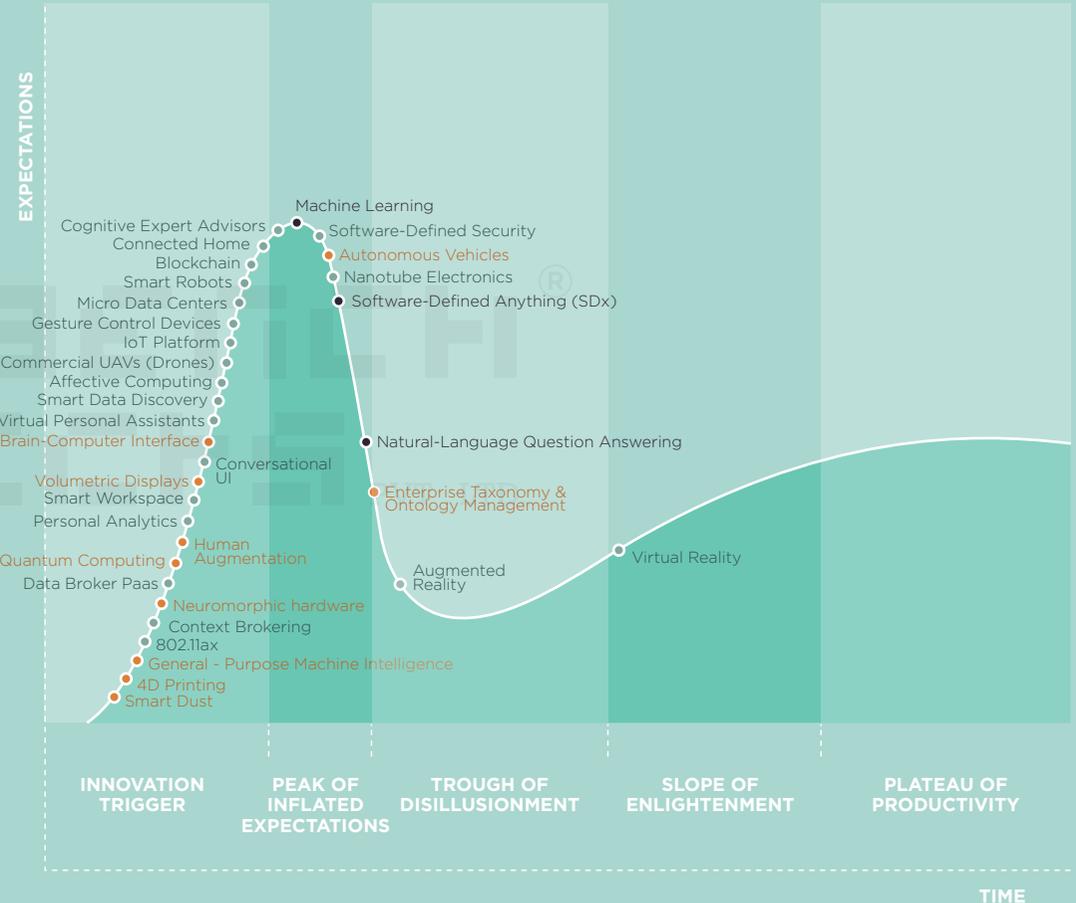
*Data from our experience and study

INDIA'S SPOT IN THE GLOBAL MAKER MOVEMENT JUXTAPOSED WITH GARTNER HYPE CYCLE



*Data from our experience and study and Gartner

GARTNER HYPE CYCLE FOR EMERGING TECHNOLOGIES



PLATEAU WILL BE REACHED IN

- 2 to 5 years
- 5 to 10 years
- More than 10 years

CREATURES
WHO MAKE UP THE
MAKER JUNGLE
— IN THE —
BANGALORE
COMMUNITY
— TODAY! —





THE POLICY MAKER

He's astute in assessing the new world we're constantly making, not just supporting the hands but acknowledging the minds behind the vision, his business acumen on par with his need to contribute to the world of makers that Workbench is an intricate part of. Where one of the major reasons, his foothold/background in technology, helps our grassroots programs like Faires and capacity building programs to attain the success they do.



THE NEVER OLD MAKER

When age is just a number and the body just a vessel for your ideas to happen, we get someone like him, right here in our backyard! Starting off as on-call expert puzzle-maker and carpentry facilitator to incubating his decade old projects right here at WP that not only bring out his ingenuity but also cater to solving problems affecting the masses today, we've got a serious maker on our hands, who while may have retired from his 'job' job, can never retire from the act of making! It also helps that he's a man of science, (and maths if you have to be specific about it) as his interactive mind-boggling 'makes' are certainly testament to our statement!



THE CORPORATE MAKER

She's not just a prolific speaker at panel discussions, inspiring the next generation of creators with her experience in building the Tech World brick by brick. She's a flag bearer for new innovations, with everyone around her a part of the potpourri of people engaged in new ideas and high stakes experiments, and her the guiding beacon. How do we know? Coz we've seen her in action during our workshops, curated specially for her kickass team.



THE EDUCATION MAKER (SCHOOL EDITION)

Her class doesn't drink the insides of their textbooks during class, instead they observe, wonder and often debate the science they learn. While many focus on preaching it ol' school, her ever curious self and the global school she works at keeps her busy creating an environment that doesn't diss the convention but isn't afraid to challenge it either. Exposing her charges to makerspaces like Workbench through our custom-curated sessions and encouraging them towards our many public trainings/workshops just makes her job as an educator easier, or so she says... For we've probably never worked with a more enthusiastic bunch in the Expat Community.



THE EDUCATION MAKER

He's not your average prof. nagging every other second about overdue assignments, neither does he rest on his past laurels of a life well-earned, we say this coz his eagerness to learn the new and try the untested is contagious to say the least. His dream to bring academia and the entrepreneurial world together in harmony at innovation spaces like ours bring out the best out of our youth today, helps fuel our fire towards responsible innovation too!



THE NOISE MAKER

Oh we've all seen him, with a few degrees in multiple fields, and a gazillion friends (we're talking 'tell me a domain, and I'll find you an influencer') and a serious penchant for self-promotion this braggy fellow comes up with a good idea every now and then, and where else but Workbench will he find a curious audience for his cockamie plans of ruling the world (Sshhh!! you know we love a good tale!). While he may not be the best in terms of executing his plans, his eagerness to further our vision has sure come in handy a time or two. Serious connections yo!



THE YOUNG INDIA WALA MAKER

Our latest find through one of our community outreach programmes, she's not yet passed the metric entrance (10th standard, you ignoramus lot!). But you can already see her business plan ready for the project she's planning to productise soon as the next set of holidays come around. Whatever be the technology, she'll figure out a cool enough project as an excuse to learn it. The best part? She's not your awkward geek, fumbling during a 2 minute small-talk, she can hold her own in front of testy principals as well as investors out on a mission. She's been known to call WP, the one place she's always come around to, the minute she gets a new idea. Our range of prototyping tools may have something to do with it, just saying...



THE PHILANTHROPY/ CHARITY MAKER

While she might shy away from the maker tag, for her non-techie background in a tech-obsessed city, she's that part of our machine of an ecosystem which adds new brains on deck (and always from places people seem to forget about). Workbench has been more than glad in supporting her endeavours and her NGO's cause towards bringing design, technology and fun into the curriculums of not just to your nearest public or IB School but to rural schools through programs that aim for the long run in an instant world.



THE INDUSTRY MAKER

From sponsoring the hard part of a hardware start-up led by students to leading the industry in fabrication and technology, this maker doesn't keep his eyes on just the one prize! When Workbench put out feelers for folks willing to invest in bringing Hyperloop India's vision into a reality for 2017's Hyperloop Weekend at SpaceX, California, champions like this fella didn't just sit back, they not only brought machines and tools to the table but also helped fund the journey of this ambitious project that later garnered nation-wide support! Here's us appreciating Peenya Industry and the stalwarts in it that help make the dream of building ideas into products a reality for the regular maker!



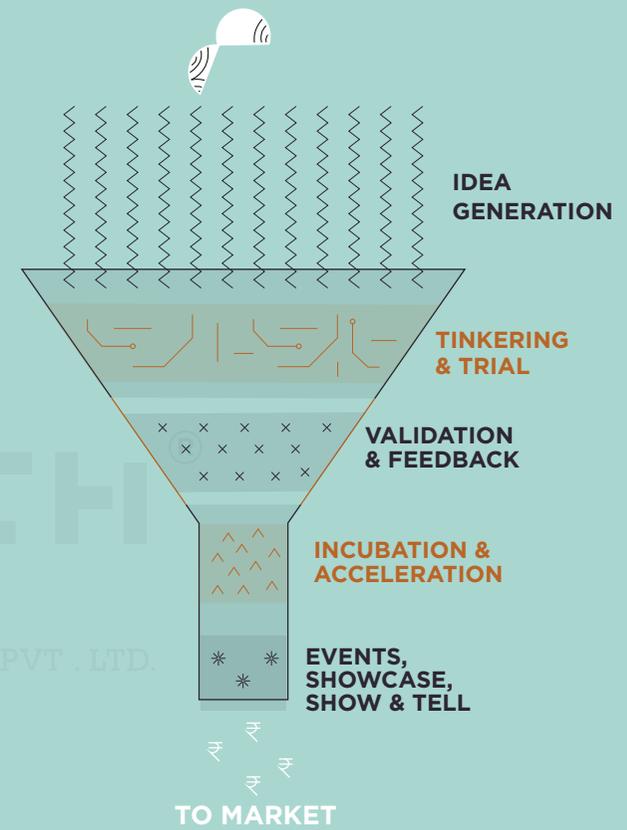
THE LEGAL MAKER

It's not a one-person crusade for it's always a team, and you'd know it when you see the dynamic duo dishing out legal aid like Zat! to upcoming entrepreneurs who knocked our doors in search of help in keeping their IP woes at bay, while these highly-sought after professionals don't often have enough time for pro-bono, their love for out-of-the-box ideas and Workbench Projects doesn't bring big bills to the start-up table.

-  Minutes
-  Days
-  Weeks
-  Months
-  Years



THE BANGALORE INNOVATION FUNNEL



THE BANGALORE INNOVATION & STARTUP JOURNEY

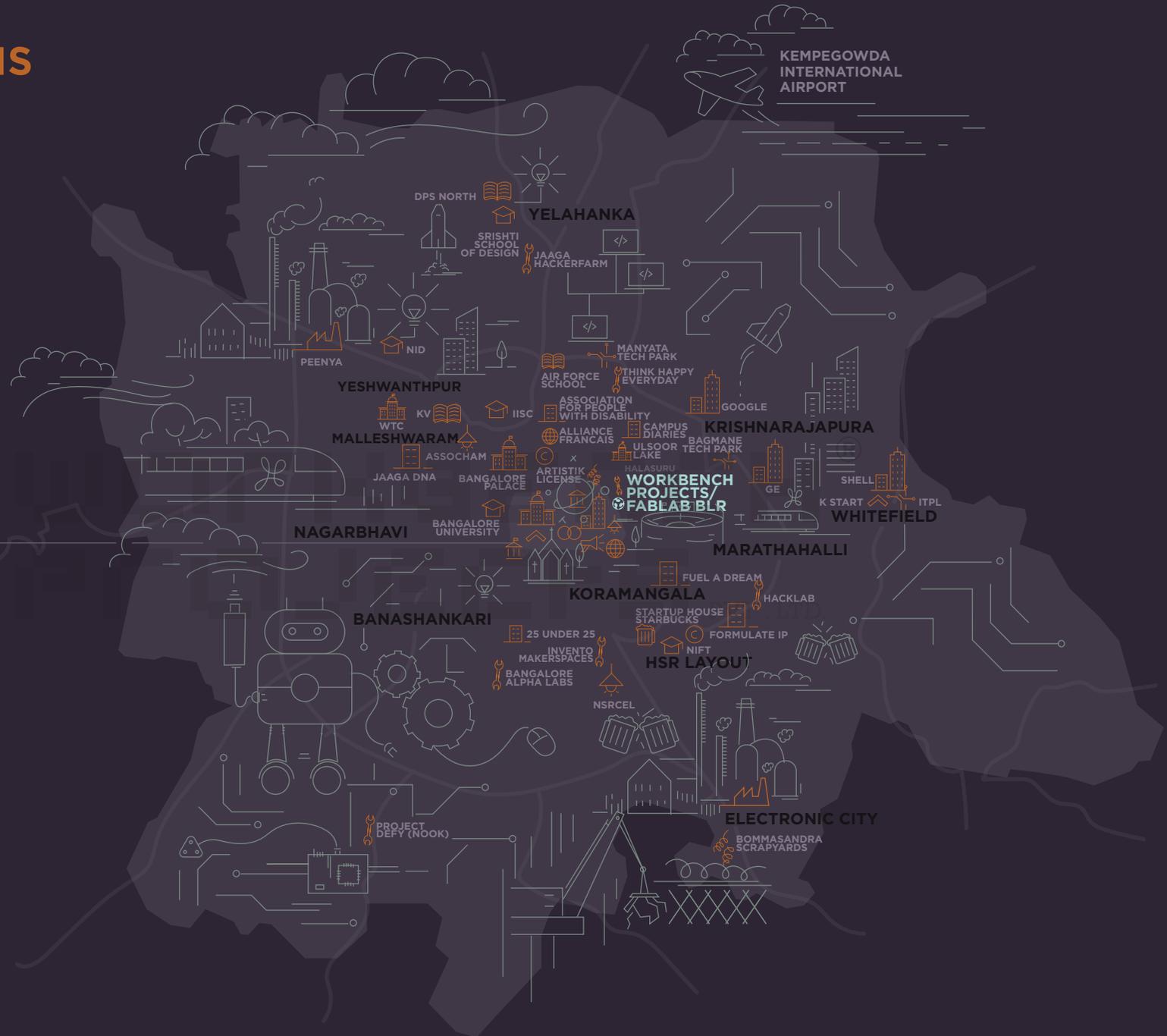
Bangalore may be the startup hub of the Nation, yet it is a long and swirling experience if you are on this journey of Innovation & Starting up. Here is a guide that can help you in your hard times. Flip over to also find the Bangalore Innovation and Startup Ecosystem that can be your pit stops in this journey.



BANGALORE FROM OUR LENS

BANGALORE INNOVATION & STARTUP ECOSYSTEM

-  • NEHRU PLANETORIUM
- VIDHANA SOUDHA
- HIGH COURT
- CHINNASWAMY STADIUM
- UB CITY
- SHESHADRI IYER MEMORIAL HALL
- KANTEERVA STADIUM
- ST MARY'S BASCILLIA
- BANGALORE FORT
-  • REVVX
-  • MICROSOFT
- IBM
- INTEL
- DASSAULT SYSTEMS
-  • GOETHE INSTITUTE
-  • NUMA BLR
- GOK NASSCOM STARTUP WAREHOUSE
-  • ARTI LAB
-  • SP ROAD
- KR MARKET
- SHIVAJINAGAR BAMBOO BAZAAR
- BVK IYENGAR ROAD
-  • SWISSNEX
- KBITS
- KEONICS
- BMRCL
- STARTUP KARNATAKA
- DEPT OF IT,BT AND TOURISM
-  • YOURSTORY
- LBB
- FACTOR DAILY
-  • SOCIAL OFFLINE
- KONSTRUKT HACKPACKERS HOSTEL





CONSULATES THAT SUPPORT STARTUPS AND INNOVATION

Name	Program	Location
Consulate general of Germany	-	Richmond Town
Consulate general of Switzerland	Swissnex	MS Ramaiah Institute
Embassy of Japan	Programs in collaboration with various Indian organizations	Nehru Nagar
Consulate of France	Paris French Tech Ticket & Creative France	Vasanth Nagar
Virtual US Embassy & Consulate	Programs by US Agency for International Development (USAID)	-
British Deputy High Commission	Generation UK-India Program & TechHub	Kasturba cross road
Norway Embassy	Innovation Norway Program	Central Street
Belgium Consulate	Wallonia Tech	Central Street
Canadian Consulate	-	M.G. Road
Danish Consulate	Innovation Center Denmark	Central Street
Netherlands Embassy	Netherlands Office of Science and Technology Programs	Vittal Mallya Road
Emabssy of Spain in India	Programs of Spain's National Innovation Agency	4 Haudin Road, Near Ulsoor Lake
Israeli Consulate	OPEN: A door to Israel and Other programs in the field of Agriculture	Murphy Road, Halasuru



MAKERSPACES IN BANGALORE

Workbench Projects/FabLab BLR	Ulsoor
Think Happy Everyday	Nagwara
IKP Eden	Adugodi
Invento Makerspaces	Rajajinagar
IoT Labs	Ashok Nagar
Project DEFY (Nook)	Kanakpura Road
Jaaga Hackerfarm	Yelahanka
Bangalore Alpha Labs	JP Nagar
The workshop	
E4D Banjarapalya {Mini Fab Lab}	
DIY Labs Bangalore	
Collab House	



TECH PARKS

Bagmane Tech Park	CV Raman Nagar
ITPL	Whitefield
Ecospace Business Park	Bellandur
Manyata Tech Park	Nagawara
Cessna Business Park	Kadubeesanahali
Embassy Golf links	Domlur



NATIONAL/INTERNATIONAL NEXUS ORGANIZATIONS

Swissnex	Crescent Road Bangalore
Alliance Francais	Vasant Nagar
Goethe Institute	Indiranagar



LIST OF ACADEMIC INSTITUTIONS FOR INNOVATION AND STARTUPS

IISc	Devasandra Layout
IIMB	Bnnerghatta Rd
CKP	Kumara Krupa Rd
Srishti School of Design	Yelahanka New town
NID	Off Tumkur Road
NIFT	HSR layout
Bangalore University	Mysore Rd
CMRIT	AECS Layout
RVCE	Mysore Rd
BMSCE	Basavanagudi
PESIT	100 Feet Ring Road
DSCE	Kumaraswamy Layout
MSRIT	MSR College Rd
BIT	



FAMOUS AREAS TO SOURCE RAW MATERIALS

SJP Road	Hardware,Electrical ,electronics
SP Road	Hardware,Software
KR Market	Largest whole sale retaler
Shivajinagar Bamboo Bazaar	second hand furniture
Shivajinagar Metal Scrapyards	Metal Scrap
Bommasandra Scrapyards	Metal Scrap
Jayadeva Bamboo Bazaar	Bamboo & Wood
BVK Iyengar Road	Electrical goods



CO-WORKING SPACES IN BANGALORE

Workbench Projects/FabLab BLR	Ulsoor
Bangalore Coworking Hub	Kodihalli
Cowork Café	Kaikondrahalli
Smart Spaces	Jayanagar
India Startup Club (RBL Bank)	Koramangala
Cowork India	HSR Layout
NUMA BLR	Church Street
Jaaga Startup	Richmond Road
Social Offline	Church Street
Startup Café	HAL 3rd Stage
Ikeva	Cessna Business Park
GoK NASSCOM Startup Warehouse	Domlur
Work Adda Co Working	Jakkasandra
365 Shared Space	HSR Layout
Investopad	Koramangala
Hive	Mahadevpura
91 Springboard	Koramangala
Awfis	Adugodi
Regus	Old Madras Road
We Work	Residency Road
CoWrks	
One Co.work bangalore	
Commune works	
The Hub	
Work-In	



MEDIA & PUBLISHING

TVF
Yourstory
LBB
The Startup Journal
Factor Daily
CNBC Awaaz
Bangalore Mirror



INDUSTRIAL AREAS IN BANGALORE URBAN DISTRICT

Attibele
Bommasandra IV Phase
Bommasandra
Bommasandra Jigani Link Road
Doddanekkundi I & II Phase
Dyavasandra I & II Phase
Electronic City Phase II
Electronic City Phase III
EOIZ (Energy Open Innovation Zone)
EPIP (Export Promotion Industrial Park)
Jigani
Kadugodi-Sadaramangala
Kumbalagudu
Kachanayakanahally
Peenya
Veerasandra
Yarandahalli

GOVT ENTITIES

KBITS
KEONICS
BMRCL
Dept of IT,BT and Tourism
Startup Karnataka
FKCCI
CII
HAL
ADA
BEL
BHEL

Shantinagar
Shantinagar
Shantinagar
Ambedkar Veedhi
Shantinagar
Majestic
Indiranagar
C V Raman Nagar
New Thippasandra
Vidyaranyapura
Bapuji Nagar

SCHOOLS

DPS North
Air Force School
KV DRDO
KV IISc
KV
National Centre for Excellence
Rashtrottana Vidya Kendra
St. Josephs Convent High School
St. Pauls School
Baldwin Boys School
Baldwin Girls school

Yelahanka
Hebbal
Nagvarpalya
Sadashivnagar
Malleswaram
Malleshpalya
Banashankari
Frazer Town
JP Nagar

STARTUP HANGOUTS

Starbuck Café
Costa Coffee
The Den, Puma Social Club
Social Offline
Yogisthan Café
154 Breakfast Club
Arbor Brewing Company
Biere Club
Bangalore Brew Works
Toit
Green Theory
Hangout Café
Matteo Café
Backbencherz Café
Konstrukt Hackpackers Hostel
Electric Cats B&B
Startup House (Explore Life Travelling)

Koramangala
Koramangala
Indiranagar
Church Street
Indiranagar
Koramangala
Magrath Road
Lavelle Road
Residency Road
Indiranagar
Residency Road
Koramangala
Church Street
ITPL Main Road
Indiranagar
HAL 3rd Stage
Koramangala

INCUBATORS & ACCELERATORS IN BANGALORE

NASSCOM Composites Technology Park Workbench Projects/FabLab BLR Syndicate IIITB Innovation Center GINSERV NSRCEL C-CAMP Bio Incubator Startup Village National Design Business Innovator Technovate Innovations LetsVenture Excubator Consulting Pvt. Ltd. Tlabs- Times Internet Lab Kairos ArtiLab Airbus Biz Labs Assocham DERBI (DSCE) Llowe's Innovation Labs Microsoft Accelerator Axilor Ventures Khosla Lab NSRCEL, IIM Blr Kyron GSF, India K Start 91 Springboard Oracle Cloud Startup Accelerator 10000 Startups Angel Prime BeaglesLoft Myntra fashion Incubator Target Tata Elxsi Incub@te TechHub Bangalore MaGIC Global Cisco LaunchPad NUMA REAP SAP StartUp Studio Thought Factor	HAL Airport Road Kengeri Ulsoor Lavelle Road Electronics City Kodihalli Bilekahalli Bellary Road Koramangala Rajajinagar HSR Layout Raja Ram Mohan Roy Road HSR Layout Hosur main Road Old Airport Road Ulsoor Whitefield Yelahanka Kanakapura Road Embassy Golf Links JP Nagar Domlur IIM - Kodihalli Whitefield Koramangala Multiple locations NASSCOM Whitefield Ulsoor - Nagawara - Hosur Road
---	---

IP/PATENT/COPYRIGHT

Formulate IP Artistik License Origin IP Inolyst Patracode NovoJuris Xinova	HSR Layout Cooke Town BTM Layout Marathahalli Horamavu Sivanchetti Gardens Richmond Town
--	--

ORGANISATIONS DOING INTERDISCIPLINARY WORK

Jaaga DNA IFA 080:30 Artist Collective 1 Shanti Road Time Blur Under 25 Club Cobalt Shoonya Headless Hippies Maxus Ather Energy Team Indus Creatorbot Fractal Works Ethereal Machines Gallery Skye Klastch Bibox Arduino Lab 100 Open Startups EBG/Fraunhofer Institut Nasscom Ispirt Hackerearth Ace Hacker IESA KSCST GIZ CLIK ELCIA TIE Bangalore Startup Mechanics 25 Under 25 Explore Life Traveling Meditating Monkeys Startup House Entrepreneur Café Alternative.in Cuckoo Hostel Protocentral ExploreEmbedded Fuel A Dream Goodwill Hardware Silverline Electronics Om Electronics Graviky Labs Lahe Lahe Space Bamboo Pecker IOTBLR Cuckoo Hostel Lahe Lahe Graviky Labs Muse Inc.	Malleshwaram Raj Mahal Vilas - Shantinagar - Panduranga Nagar Ashok Nagar Lal Bagh Main Road Indiranagar Trinity Victoria Layout Byatarayanapura Indiranagar Ulsoor Cunnigham Road berlie street MG Road Konappana Agrahara Cox Town Event Events JSS Institutions campus Koramangala Koramangala J.P. Nagar Konena Agrahara BHEL Lay out Wilson Garden Ramachandra Arcade Electronics city Langford Town Vivek Nagar Panduranga Nagar Koramangala CookeTown Koramangala Whitefield Domlur Layout Koramangala Jeevan Bhima Nagar Vidyaranyapura Koramangala SP Road SP Road SP Road Indiranagar Indiranagar KR Puram Ulsoor Koramangala Indiranagar Indiranagar Indiranagar
--	---



ICONIC LANDMARKS

Vidhana Soudha
 City Railway Station
 Bangalore Palace
 UB City
 Dodda Ganesha Gudi
 Glass House, Lal bagh
 Visweswaraya Industrial and Technological Museum
 Nehru Planetarium
 Chinnaswamy Stadium
 Kanteerva Stadium
 Ulsoor Lake
 Bangalore Fort
 World Trade Center
 Rangoli Metro Art Center

Sampangi Rama Nagar
 Majestic
 Vasanth Nagar
 Vittal Mallya Road
 Basavanagudi
 Marigowda Road
 Cubbon Park
 High Grounds
 MG Road
 Sampangi Rama Nagar
 Sampangi Rama Nagar
 Ulsoor
 KR Market
 Malleswaram



GOVT CENTERS

GTTC
 NTTF
 TTI @ HAL
 ITI
 TePP Outreach Center @ PESIT

Rajajinagar
 Peenya
 Old Airport Road
 KR Puram
 BSK 3rd Stage



EVENTS

Maker Faire Bengaluru (Bengaluru Mini Maker Faire)
 Yourstory Techsparks
 Unplugged
 Startup Weekend
 Citrus Pay Upstart Series
 Startup Premier League
 The pitcher
 HUL Hakathon powered by Ozonotel
 Sunday Soul Sante
 Chitra Santhe
 Open MG Road
 Kitsch Mandi
 Earthian Awards
 Enable Makeathon
 Nasscom Product Conclave
 Innofest
 U25 Summit
 The Coalition
 GES 2017



BIG CORPORATIONS/COMPANIES

Microsoft
 IBM
 Intel
 GE
 Infosys
 Wipro
 Airbus
 Dell
 Herman Miller
 Mahindra
 Dassault Systems
 Autodesk
 Google
 Shell
 Sapient Nitro
 IBM

Domlur
 Domlur
 Kodihalli
 Mahadevpura
 Electronics City
 Kaikondrahalli
 Mahadevpura
 Byrasandra
 Ashok Nagar

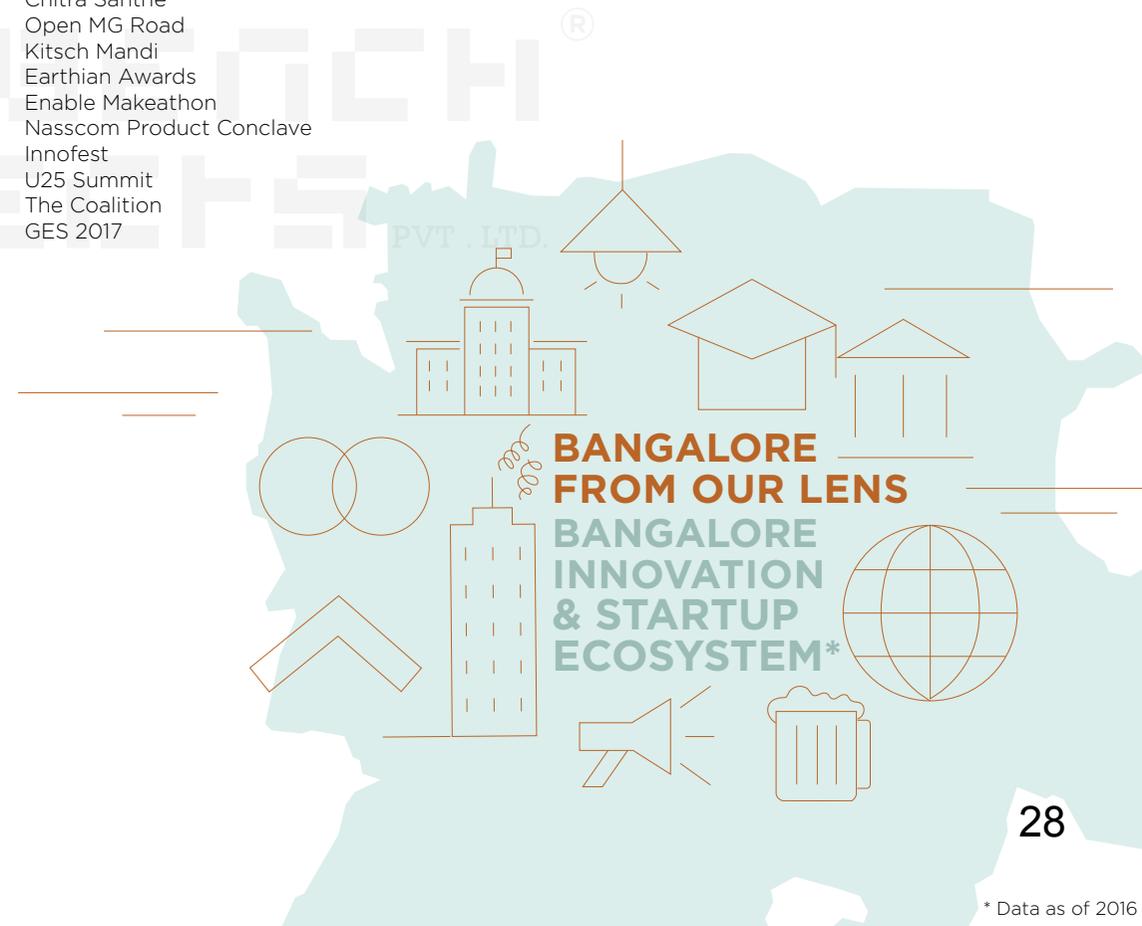
Kodihalli
 Langford Road
 Sadanandanagar
 whitefield
 Marathahalli
 Richmond town



MSME'S AND SSI'S

Pragati Automation Pvt Ltd
 MECON
 Ace Designers
 M/s Industrial Engineering Instruments
 Avench Systems Pvt Ltd
 Fluxgen Engineering Pvt. Ltd
 Axcend Automation & Software Solution Pvt. Ltd
 Lapp India
 Semicon Park
 Lotus Polymers
 Yamuna Industries
 Smile Electronics Ltd.

Peenya
 Basavanagudi
 Peenya
 Peenya
 BTM Layout
 BTM 2nd Stage
 Koramangala
 Jigani
 Electronics City
 Electronics City
 Hoskote Industrial Area
 KR Puram



Dig into Mythology for innovation

Maker Faire organizer wants an atmosphere that inspires indigenous scientific creativity

Bangalore Mirror Bureau | Oct 16, 2015, 04.00 AM IST
By: Nirad Mudur



The first-ever Mini Maker Faire in India has boosted the confidence of its organizer Workbench Project's CEO Pavan Kumar who has received a shot in the arm and is dreaming of India's very own tsunami of scientific innovations in the years to come through the Makers. For that, he is looking at India's mythology and its rich ancient texts for Indian innovators and inventors to dig deep into to get inspired to develop our own systems by using "our own skillsets".

However, he clarified that this plan was completely different from any political agenda of simply saying things about mythology; instead to look at

it and source ideas from it to actually develop those in the real world.

Speaking to Bangalore Mirror on the sidelines of the Mini Maker Faire as a precursor to the big one - the first Maker Faire in 2016 to be held in Bengaluru - Kumar said: "There is so much to do for ourselves. I am a big fan of mythology and science fiction and the rich culture that we have been brought up on through the ancient texts; I am sure there are so many things that we can hack from for modern making. But we are not doing it! So I want to run a 'Makeathon' or a 'Hackathon' for mythology and call it

"Mythattack." Kumar said he is looking at 2016 to hold that event. He is now scouting for someone to fund it and people to participate in it. Indian mythology came in when Kumar was replying to a question on what can be taken as a lesson from Maker Faire events held abroad. "There should be no reproduction or replication. That's where we are getting into a trap! We are not identifying those core areas that we can be good at. There is so much do for ourselves!"

The Mini Maker Faire held on Thursday was a celebration of local maker culture and community. It was a gathering of fascinating, curious people who enjoy learning and who love sharing what they can do. India is yet to host such a celebration on a grand scale as a Maker Faire but is headed for one in 2016.

While the Mini Maker Faire was organized at a five-star hotel as its precursor along with the NASSCOM Product Conclave, Kumar is very clear that the Maker Faire will be held at a neutral location. "The agenda (for Maker Faire) is very simple: We want to have a bigger show. It will be in a neutral venue like the Freedom Park or the NGMA (National Gallery for Modern Art) in Bengaluru itself; but it will be an India-wide call," he says while adding that although the Mini Maker Faire too was supposed to be an all-India affair there weren't so many from other parts of the country as he would have wanted.

Generation Diy

Why a new breed of entrepreneurial makers are blooming in urban India.

Mar 14, 2016

Explaining how a developmental board works at Workbench Projects. Pavan Kumar had a quintessential action-packed childhood in 1980s Bangalore. As a toddler he enjoyed leaping into and somersaulting on piles of sand at nearby construction sites. Later he built catapults and bows and arrows, experimenting every time with new materials and designs. The first thing he ever built, again with construction sand, was a tunnel. Soon he was building more complex sand structures, such as a pentagon with five entrances and one central chamber.

Kumar, an engineer who has always been utilitarian and functional, had to alter his thinking when he met Anupama Prakash, an art historian who was all about creativity and aestheticism. "We both fell in love with each other and the ideas we bring together," he says when we meet at the headquarters of their company Workbench Projects, a 5,000 sq. ft airy space with an industrial vibe located right under the Halasuru Metro Station in Bengaluru.

The company, which began from a garage in December 2013, essentially provides its members a space to create and make stuff; to develop

an idea and execute it.

The outdoor-indoor space is equipped with a wall of tools I can't name, 3D printers and an impressive-looking laser-cutting machine (I instantly want to use it to make a leather jacket). For the cost of a Gold's Gym membership you can have access to all this and more. In the back, a team is working to construct a shop floor for heavy-duty projects such as building a go-kart or a bike, spray-painting and making your own furniture. Regular how-to-build a bamboo lamp/wine rack workshops coexist happily with creating prototypes for mobile-phone accessories and programming.

You can learn to garden, fix your broken gadgets, bake a cake or build a motorized skateboard. One company sent a bunch of its top managers to work from here just so they could get a fresh perspective. Makerspace, a globally used term, describes places such as this one where you can spend time fixing, taking apart, building and learning new things. The maker movement in India is quite active and there are at least half a dozen buzzing start-ups such as Workbench Projects spread across the country helping you Do It Yourself (DIY). In cities where it has always been common to yell out to the household help for anything, even a glass of water, and where we delegate it all from cooking to parenting, it's almost surreal to see the DIY movement become so big.

<http://www.livcmint.com/Leisure/DYkyluOn1R70jAismd-BAGO,Generation-DIY.htm>

Have a hardware idea but not sure how to implement, Workbench Projects is here to help in

Sep 21, 2015



building by yourselves and being invested in it is worth all the pain one goes through. In fact, the biggest selling point of IKEA furniture's is the DIY feeling, which the company capitalizes on. Watch the video below to find out more about workbench projects and how they are helping people to build their dream projects.



Anupama Prakash and Pavan Kumar



The idea of working in a maker space, creating objects of one's fancy, building devices which work with motors is one of the most ideal ways people seem to spend their free time. Remember the childhood days, where we would tinker with things creating different objects with hobby kits and broken parts? As we grow up we tend to get busy in different things and forget all this. Workbench Projects, Bangalore's first open maker space aims to rekindle that spirit in us.

The facility below Ulsoor Metro Station has nearly every tool you will need to work on your dream project. There are multiple workshops, be it cutting, painting or electronics. And there are mentors available for each skill too. The workspace is spread over 5000sqft.

Workbench Projects is the dream child of Pavan Kumar and Anupama Prakash, ex colleagues at BrainSTARS (Brains for Science and Technology Aided Reforms in Society). While in their previous job, they faced significant problems when it came to prototyping, design and vendors. They were looking for solutions when they came across maker spaces. They decided to emulate the same model in Bangalore and quit their lucrative jobs to start Workbench Projects in Bangalore.

Working on a project becomes much easier if you have the right tools with you along with the right mentorship. For some people it might be about building a prototype for an idea which might or might not take the shape of a full-fledged startup, while for others it is just about building a DIY solution for their problems, or hacks for their homes. The feeling of

Sleight of Hands

Encouraging innovation and DIY concepts, Workbench Projects offers you a headstart with its 'makerspace'

The New Indian Express | August 7, 2015 | *By: Nikita Puri*

POWERED by electric and non-electric tools, sewing machines, 3D printers, a drum set, a laser cutting machine and all the means you'll need to finish a pet mission is a DIY (Do It Yourself) friendly space called Workbench Projects. Positioned bang under the Halasuru metro station, just four months old, this start-up by Pavan Kumar and Anupama Prakash is modelled on the idea of a makerspace — a quiet movement that is changing the world one innovation at a time. Ishriv ingon the ever-popular concept of the Indianjugaad (translated from Hindi, it means a quick-fix, out-of-the-box solution), a makerspace is a place that offers you the tools and freedom to give your ideas a field test, no strings attached.

An idea that originated in the West in 1950s/60s, a makerspace is essentially a community-operated work-space, and makerspaces approved by Massachusetts Institute of Technology (MIT), Massachusetts, are known as Fab Labs. Workbench is one of India's four FabLabs. Currently, Kumar, a mechanical engineer by degree, is representing Workbench at an MIT FabLab conference in the US. Co-founder Prakash, an art curator and historian, says, "Pavan and I were involved in a vigorous project in 2013 when we realized that Bangalore didn't have a place to just go in, experiment, and get proto-types. We wanted to create a space that my retired father could use as much as my school-going nephew

In the time that followed, the duo started working out of a 700-sq-ft space on Kanakpura Road — Prakash's father's garage. They built chairs and tables, soldering stations etc. and started accumulating basic tools. "Over Facebook, we invited people to come over and experiment. People from really far off places started writing in. Some wanted to pursue carpentering as a hobby, some came into work with clay and then a few young engineers wanted to tinker on the soldering station," says Prakash. They later bid for BMRCL's (Bangalore Metro Rail Corporation Ltd) space, and now have 5,000 sq ft to share to promote the DIY culture. Bootstrapped, Workbench operates with members who come in to use the tools in the makerspace, or members who use it as a co-working area. Besides that, twice a month the place hosts a variety of workshops — from crafting bamboo products to lessons on repairing domestic appliances. "The attendance at the workshop varies. But what makes me happy is that a number of patents are about to come out of this place," shares Prakash. The tools are all laid out here — weekdays, weekends or just workshops, the choice is yours.

Workbench Projects, the makerspace under the Bangalore metro

February 6, 2017 | *By: Cherise Fong*



Anupama Gowda and Pavan Kumar, at the international fablabs conference FAB12 in Shenzhen, created the first fablab in Bangalore, India, under a metro station. For Makery, Anupama Gowda recounts.

Since April 2015, in 460m2 nestled under the Halasuru metro station in the heart of Bangalore, India, makerspace Workbench Projects (literally project the work table) welcomes the public seven days a week, offering its members all equipment of a great fablab worthy of the name, while offering coffee side of delights ranging from full English breakfast to pasta primavera, via the Caesar salad. But more than a fabcafe, it is a space of coworking, pedagogy and discovery, an incubator of start-ups, a tool shop and other "weapons of massive construction". In short, a friendly space to develop ideas and projects in collaboration with others.

Co-founder Anupama Gowda, arts teacher, tells Makery the genesis of the project.

The origins of the lab

'In 2011-2012, I headed Brain Stars (Brains for Science & Technology Aided Research and Services), an



In the garden of Workbench Projects. © Workbench Projects

ambitious project was to develop a center for mathematical activities for children aged 8 to 13. Numbernagar became the first practical learning center designed and developed in India for schoolchildren. This project involved extensive collaboration between students, teachers, parents, academics and designers. To carry it out, I hired Pavan Kumar (engineer, ed.) As "co-conspirator". We soon realized that our biggest challenge was to build a prototype: we lacked a place dedicated to rapid prototyping. We spent most of the time looking for the right resources, tools and machines to replicate them. What could have been done in three months took us a year ... This convinced us of the need to have our own space - not only to avoid exhausting our great energy, but above all to propose to people like us , Have ideas, to have a place that gives them the opportunity to realize their project in the most effective way. That's why we created Workbench Projects. "

In the Heart of Indian Silicon Valley

"It's bound to be exciting to be in the heart of India's information technology hub. We are constantly observed and often invited to collaborate to ensure a good mix at both ends of the spectrum (software-hardware). Since the initiative of the Prime Minister of India Make In India in September 2014, speaking in rhyme of the ma-ker movement, sometimes completely out of context. But until now, the culture ma-ker has received no public support, outside the scope of training. It may be men-tioned the creation of the National Skills Development Corporation , a quasi-public organization dedicated to

the development of skills, which says it wants to support the maker culture. But the process will be a long one, as the Ministry of Skills De-velopment and Entrepreneurship must be made aware of the need for support to makers in a developing country such as ours and at the same time prevent makers from Are intimidating. This could be done by creating a space dedicated to makers at the Make in India festival.



Responsible innovation

"We always insist on our total support for makers investing in" responsible innova- tion ", ie projects with both quantitative and qualitative impact. Among our mem- bers is an architect who manufactures a machine that turns tides into energy for houses on the Indian coast, and a team that develops appliances based on simple wooden rods to assist handicapped people. We accompany them to the realization of their prototypes, sometimes even by contributing directly through our services in product development.



<http://www.makery.info/2017/02/06/workbench-projects-le-makerspace-sous-le-metro-de-bangalore/>

Red Cross to help develop products for differently-abled persons

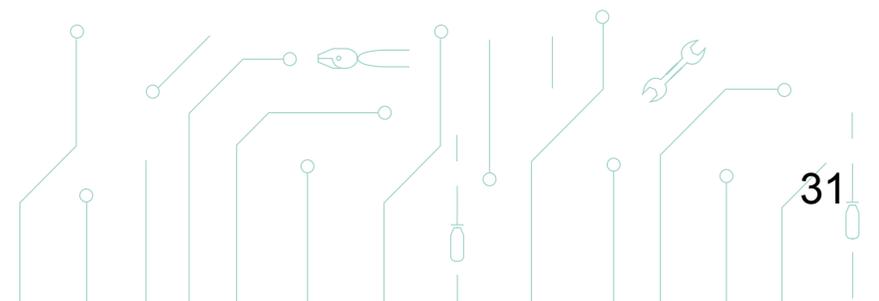
Cross is tying up with multiple organisations such as industry lobby group loTBLR and Workbench Projects to launch a platform to encourage maker communities across the country.

Malavika Murali | ET Bureau | October 07, 2015, 9:27 AM IST



Global humanitarian agency International Committee of the Red Cross (ICRC) is tying up with multiple organisations such as Bengaluru-based industry lobby group loTBLR and Workbench Projects to launch a platform to encourage maker communities across the country to develop products and solutions for differently abled persons particularly in remote areas of countries.

Called Enable Makeathon, the two-month programme will entail a series of rounds. The first month will involve educating applicants on the topic of physical disability, its challenges and how to address these challenges, followed by a hackathon, where the top ideas and teams will be selected to be advised on the steps to make a good business plan and the importance of design.



The future is in the making

Bangalore Mirror Bureau | Oct 3, 2015, 08.42 PM IST

Makerspaces embody and propagate just the culture and thinking that will be required in this changing world of work. This includes collaboration between different disciplines, learning to fail fast and iterate, and creating companies that make products the market needs as well as those that solve pressing issues of our time. India has seen a huge growth in makerspaces in recent times. In Bengaluru alone there are at least four, one of which, Workbench Projects is hosting the first Mini Maker Faire in the city.



Build your own wine rack workshop at Workbench Projects in Bengaluru



Participants work on a collaborative project at Workbench Projects

Over 200 projects from different makers will be on show, and it will provide a glimpse into the growing movement in a city which will soon be competing for Maker status with those such as San Francisco, Berlin, Beijing, Taipei and Sydney. The Maker movement is open, and community-driven. Although the onus of learning is on the individual, the platform, support and resources provided by the makerspaces ensure that no matter what your background or skill level, the only things you need to start being a maker are rabid curiosity and a passion to co-create.

Up and Innovative!

This Bengaluru venture throws its doors open for builders, hackers and artistes to come express their creativity today.

Pooja Prabhan | Deccan Chronicle | May 07, 2016



Innovative entrepreneurs Anupama Prakash and Pavan Kumar's tryst with starting up is a story that needs to be told. After having co-founded Workbench Projects, a dedicated space in the city that creative people and innovators from different walks of life could call home, the duo is all set to host Hackaday Prize, a creative assemblage event that's slated to take place on April 25. In a freewheeling conversation, they tell us more. "While we were engaged in building a product for an educational services company, we realised that the city did not have a dedicated studio for creative experimentation. Hence, right after the completion of the project, we decided to build a space for ourselves and people around us who could be struggling on the same grounds to take projects and programs from idea to fruition!" pipes Anupama tracing the origin behind the venture.

Quite like most success stories, theirs too was a tale of humble beginnings. "Believe it or not, but when Pavan and I decided to go about with the idea, we had no other go but to start off at my father's old garage!" she pipes. Started in October last year, the space has housed over fifty workshops, innovative assemblage programs and story telling events till date.

Elucidating about the forthcoming Hackaday Prize event Anupama says, "The reason we're excited about this event is because its absolutely a platform for creative souls from different walks of life to experiment with their ideas. The intent is to get artistes, hackers and builders of all kind under one roof to use this podium as a canvas to express their creativity."

While organizing seminars and conducting programs take most of their time, Pavan reveals how his innate passion for drumming takes most of his spare time. "When I'm not drumming, I constantly tinker and toy with ideas that I find exciting to build online for my new born. Also, I'm crazy about technology and keep myself informed about the happenings world over in research."

Whereas Anupama, who has developed a green thumb in the recent times, reveals about her organic gardening fetish that keeps her busy in her free time. "I spend as much time as I can to keep my green pockets in the apartment as edible as it can get. I'm into organic gardening and love preservative-free vegetables," she says.

Speaking about the growing need for spaces that foster the unleashing of creativity, Pavan adds, "Taking learning from this very first space, Anupama and I wanted to showcase a model of success, so that more number of such spaces emerge and there will be a community of makers growing and the culture is embraced by the public. Its been a bumpy ride, but we're glad about how things are shaping up!"

<http://www.deccanchronicle.com/lifestyle/viral-and-trending/250416/up-and-innovate.html>

Workbench Projects How this makerspace spurs creativity

Co-founders Pavan Kumar and Anupama Gowda join us in this interview on the WP story. Pavan has a background in engineering and is a facilitator for makerpreneurship. Anupama has been an arts educator for nearly a decade, and received the Charles Wallace India Award, UK, Fellow at ARThink South Asia, GI/MMB, Delhi-Germany. She also serves as Managing Trustee of a not-for-profit organisation called Yuva Chintana Foundation and is on the Board of Nrityagram, an internationally acclaimed Odissi Dance Gurukul.

YS: What was the founding vision of Workbench Projects, and how is it supported?

WP: Our founding vision holds the same till date, which is, 'To put the power of innovation in every hand'. WP is registered as a Private Limited Company by two founding Directors; Anupama (formerly Anupama Prakash) and Pavan. The company is self-funded. WP provides tools, machines and in some cases on-demand mentors. Besides being a makerspace, it double folds into being a co-working space too for individuals and startups. A small conference room and a café are tucked into the facility offering. As part of skills offering, we run initiatives under several tracks. We have dedicated two days in the week that allows interested individuals to sign-up and walk-in for trainings on machines, for example, 3D printers, laser, CNC and wood working. We also run specially designed workshops under Maker Weekend, a fortnightly offering on varying topics for a cross section of the demographics on topics such as vertical gardens, tinkering with Arduinos and even bicycle maintenance. We also write proposals to tap into CSR funds and other grant-making bodies to initiate some of our own flagship programmes. One such example under skilling has been a project that was funded by Intel called 'Girls Gone Tech'. This project was conceived, facilitated, and administered by WP, where we worked with 1,200 young girls between grade five to eight to undergo training in circuitry and programming.

yourstory.com/2016/03/workbench-projects-makerspace/

Workbench Projects establish makerspaces to plug the gap in tinkering space

Workbench Projects is one of a handful of 'makerspaces' across the country that offer a variety of tools, from a simple saw to 3D printers, sensors, circuit boards.

J Vignesh | ET Bureau | 17 December 2015, 7:58 AM IST

A few years ago when Pavan Kumar and Anupama Prakash—then working for the educational arm of a company—were looking for tangible mathematics to kids, they realized that there was no prototyping space in Bengaluru. Kumar had to run to different corners of the city to get a working prototype of their idea.

This experience made them put their heads together to figure out a solution. "We were thinking, 'What about those people who had a great idea, but had no place to prototype?'" said Prakash. That's when they decided to open a garage with some basic carpentry and soldering tools on Kanakapura road, in southern Bengaluru. This was December 2013. Soon, they started getting



Workbench Projects is one of a handful of 'makerspaces' across the country that offer a variety of tools, from saw to 3D printers, sensors, circuit boards

calls from enthusiasts from various parts of the city to use their space to tinker. This enthusiasm has now translated to Workbench Projects in Ulsoor, a locality in central Bengaluru. Workbench Projects is one of a handful of 'makerspaces' across the country that offer a variety of tools, from a simple saw to 3D printers, sensors, circuit boards and much more. Just like startups, these makerspaces too were established to plug a specific gap in the evolving community - that of tinkering space. Such community workspaces are the go-to places for hackathons - events where tech enthusiasts come together to solve a specific task.



Hyperloop India ties up with Workbench Projects to build hyperloop pod prototype

Hyperloop India has tied up with a city-based Workbench Projects to build the prototype pod that will feature in the global design competition for the super fast transportation system using magnetic levitation technology.

PTI | financialexpress | May 9, 2017 4:00 PM

Hyperloop India has tied up with a city-based Workbench Projects to build the prototype pod that will feature in the global design competition for the super fast transportation system using magnetic levitation technology. "Hyperloop India team has partnered with us to build the prototype pod in Bengaluru by the end of July. The building work will start from May 22. This will mark India's entry into the international Hyperloop race," Workbench Projects founder and CEO Pavan Kumar said today. Hyperloop India comprises more than 80 students from BITS Pilani, Indian School of Business and IIM-Ahmedabad, and their scaled down pod prototype 'OrcaPod' has been selected for the final stage of SpaceX's Hyperloop Pod Design competition, he told PTI.

OrcaPod, being developed by Hyperloop India — one of the five teams shortlisted for Hyperloop One Global Challenge — can reach speeds upto 460 kmph. Hyperloop envisages transporting passengers or goods inside capsules put inside vacuum created in special tunnels

above the ground at speeds of over 1,000 kmph. On the funding, Kumar said Rs 75 lakh was required to build the pod and so far he had been able to raise Rs 20 lakh through sponsorship. "As much as Rs 75 lakh is required to build the pod, and so far, I have raised Rs 20 lakh through sponsorship. I have raised this money from corporates, and I am confident I will be able to reach the target before the work begins," he said.

Hyperloop India signed the partnership with Workbench Projects three days ago for building the 4X2 metre pod. "My firm will assist Hyperloop India team to connect with fabricators and experts from Peenya and Electronic City for this build," he said. The pod will be raced inside a mile-long vacuum tube built by SpaceX at Hawthorne in California, the official said. Hyperloop Transport Technologies had met Prime Minister Narendra Modi and several others, including Chief Ministers of various states, expressing interest in starting the project in India.

Bengaluru firm chosen for building hyperloop pod prototype

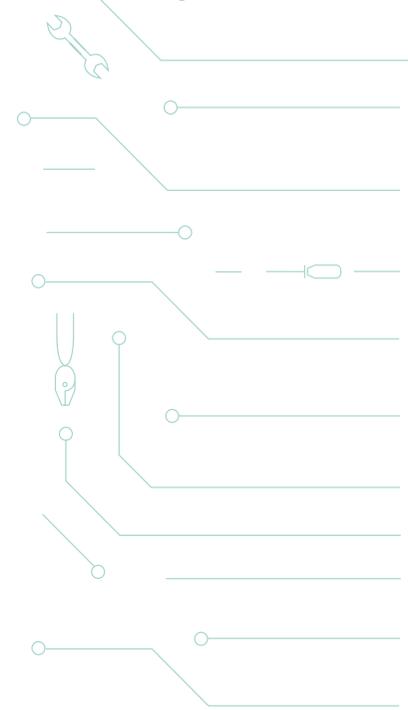
- Hindustan Times

B'luru startup to help build pod for Hyperloop competition

- Inshorts

Bengaluru firm chosen for building hyperloop pod prototype

- Times of India, Business Line, India Today



Initiating a doityourself culture

WorkBench Projects, by Pavan Kumar and Anupama Prakash, aims to "put the power of innovation in every hand"

Sravasti Datta



So you have a brilliant idea, a fertile imagination, but you don't have the resources and support system to create something great. WorkBench Projects, founded by Pavan Kumar, a mechanical engineer, and cofounded by Anupama Prakash, is the answer to your dilemma. Their mission is to spark creativity and innovation among those with engineering and artistic aptitude. WorkBench Projects is currently a maker space in a garage in Kanakapura Road. The facility has hand/power tools and workbenches for people to explore their creativity and the 'maker spirit' in them by pursuing their passions from woodworking to mural making and exploring the basics of electronics and gadgetry. "People from all over the city have been coming to this space. They didn't mind travelling a long distance to get here," says the enterprising Anupama, who has an MA in Gallery Studies and Critical Curating from the University of Essex. Seeing the work the duo has done in the garage, Bangalore Metro Rail Corporation Limited (BMRCL) has sanctioned a prime space in the Ulsoor Metro Station to set up a maker space. "People from all backgrounds will be able to explore their creativity in this space. The facility will be loaded with all tools and machines, from a CNC router, 3D printer, laser etching machine etc.," says Anupama. She adds that along with tools and machines, mentorship will be provided. "We will be facilitators. We will help you understand where you are heading and hook you up with the right people. It doesn't necessarily have to

conclude into something definite, but if there is potential, we will be the accelerators."

The facility will be formally launched in November this year. As a buildup to the launch, the duo has initiated a fortnightly Maker Weekend, which will be held in collaboration with BMRCL. The first Maker Weekend will be held in the city tomorrow. There will be a panel discussion involving the maker community, a Western Classical music

concert by Heart Strings and a four-hour woodworking workshop. "The focus of the panel discussion is to know what other makers are doing. The participants are from a cross-section of demographics. We have a veteran maker, who used to build RC airplanes during his free time. There is another hardcore electronics engineer who has converted his basement into a wonderful studio for making replicas of antique clocks! A lady has her own terrace garden, where she grows vegetables for three to four families. Another participant is a college student. We have a lecturer from an architecture college. He is a maker too. He finds geniuses among his students and encourages them to go beyond architecture. We want to know how he becomes an inspiration. Another participant is a lawyer on patents. He will describe what a patent is and how to validate a piece of work for a patent." There is a vast talent pool of innovative and creative people in the country. Anupama says the Indian education system focuses more on knowledge-based learning than on skill-based learning and that is really where the problem lies. There are thousands of graduates every year with freshly minted degrees, but without any practical knowledge on how to convert ideas into reality. Through their initiative, Anupama and Pavan seek to nudge people into a direction. To create a successful structure, system or product, what is important, Anupama says, is 'disruptive innovation.' She says that one must not fear failure. "It's about making a mistake and leading you to the next great step.

Enabling change

A look at some tech and design innovations intended to impact the lives of the differently-abled, to be showcased at Enable Makeathon 2.0

The Hindu | DEC 05, 2017 00:00 IST
By: *Shailaja Tripathi*



The National Centre for Promotion of Employment for Disabled People recently revealed that 32 of India's top universities and institutions of higher learning have managed to fill just 16% of the minimum quota for differently-abled people. Then there's the Supreme Court asking why the UP government couldn't set up separate schools for the differently-abled, as we speak of mainstreaming and inclusion.

In this grim scenario, 'Enable Makeathon 2.0' brings good news. A programme initiated by the International Committee of the Red Cross (ICRC) and its partners, it helps develop prototypes and affordable solutions for challenges faced by differently-abled people. As the event gears up for the co-creation camp to be held on December 5, two days after December 3, International Day of Persons with Disabilities, we zoom in on three innovations.

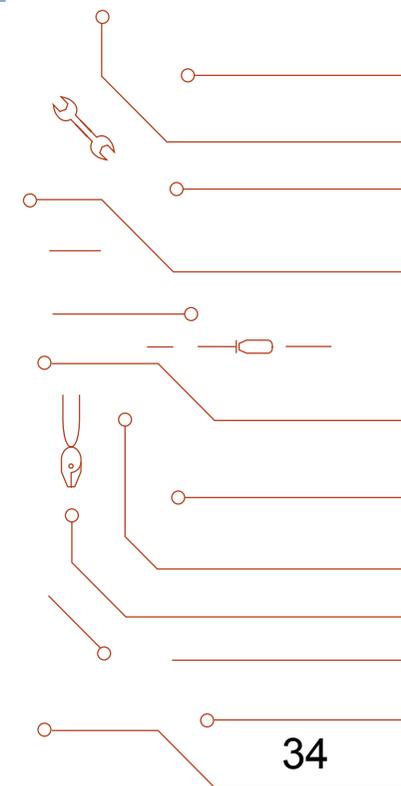
A panel of experts will review the entries of 14 teams, where they will interact with differently-abled people, experts, mentors, designers, and investors. After an intense 15-day programme, 10 teams and their prototypes will advance to the next stage. The products will undergo refinement, and market- and user-testing for the next 6 weeks. On the day of the final competition,

February 5, 2018, three winners will be awarded an incubator grant by ICRC to further develop their solutions.

ARICE Team Workbench Projects, Bengaluru

For Assistive Reader for Information Content and Entertainment project, the team had set out to work towards a software that would convert text to speech, but during the course of research, realised it will have to go beyond text and include shapes and symbols. "And it has become paper to speech. Paper, not literally, but anything that is in printed form. For instance, labels, the expiry date on a food product!," says Aditya. The team of designers decided to keep it flexible and understand if they are on track at the co-creation camp. "We realised that we have a lot of assumptions about visually-impaired people. We assume that they want to know about colours, but what if that is not the case?"

http://www.thehindu.com/todays-paper/tp-features/tp-metroplus/enabling-change/article_21263753.ece



Out of the box: Want to be happy in life?

Follow NV Balasubramanyam's advice: Either solve puzzles or, better still, make them

Bangalore Mirror Bureau | Updated: Nov 5, 2017, 04:00 IST
By: Barkha Kumari



Want to be happy in life? Follow NV Balasubramanyam's advice: Either solve puzzles or, better still, make them. Open this," instructs NV Balasubramanyam as he hands a small wooden box to this reporter, while he goes back to his carpentry chore. She fidgets with the rectangular case looking for a lock but there is none. So she turns and twists it, scrapes the hingeless edges, and pulls at the corners, turning impatient. He interrupts, takes the box back in his hands, and opens and shuts it in a flash. The trick, he explains, is to slide the box open by pushing two diametrically opposite points. Few people have been able to unbox it, he gloats.

What comes across as an all-purpose box to our unsuspecting eye is a puzzle set by the 61-year-old, who's "still young-at-heart". And he's made at least 20 of them (all with scrap wood and metal) in his spare time at a carpentry workshop that he heads next to Ulsoor metro station. He plans to showcase 20 new puzzles in the soon-to-happen Maker Faire, a festival for DIYers, in the city, and take orders too. Makers' magic

His puzzles evoke the same childlike 'wow' as a magic show would. That's why he makes them - to slow down our busy lives, to jog his brain as well as ours, and to revel in the joy of learning a trick. "The world needs more such 'wow' moments today," he believes. He had them in plenty while growing up, thanks to his mother.

She was a 'maker', a 'tinkerer', and a 'hacker', decades before

these catchwords became mainstream. She built things from scrap, made different kinds of art and food, and she fixed electrical appliances - without any formal training whatsoever. A young Balasubramanyam, who read comics and The Hardy Boys more than text books, used to find this magical.

Thus, he grew up to be a maker too. "I made a guitar from a tin box and motorcycle wiring when I was in the seventh or eighth standard. I used to make shirt papercraft out of cigarette boxes. Only recently I learnt that it's called origami. I made roller skates with wooden wheels. I made stilts with coconut shells, and so on."

He did dream to be a magician but forayed into electrical and mechanical engineering. Never the one to sit around idle, he sold second-hand English books and made cardboard packaging after retirement. And since 2016, he has been living his maker dream at this facility. Here, he teaches people how to chisel wood or weld metal, and makes prototypes for people half or less-than-half his age who call him 'Balu sir'. During meals, he often delights them with his "peculiar life stories", and Elon Musk-esque ideas of the universe. Leisure time is taken by puzzle-making.

Hide n seek

Most of the puzzles are in the shape of boxes. "You can use them to store items, or hide another puzzle," he reasons, quickly adding, "I would like to gift presents in these boxes, but my family thinks it's a bad idea. The recipient will get frustrated, they say."

A few non-box puzzles include a set of interlocked pieces that need to be unlocked, two metal loops that need to be unlooped, and the silliest of them all - pulling a triangular mound out of a cylindrical trap without either touching the outer body or using your fingernails. As for the last, simply blow on the top of the mound and it will pop out.

The success rate of cracking his puzzles is low. "I have to assist or drop hints in most of the cases. Other times, people solve them by accident, but can't assemble them back." There's a box puzzle that only his chartered accountant-daughter can open. Plus, a piggy bank you can drop coins into but not retrieve until you have Balasubramanyam by your side.

On contrary, his success rate of making 'perfect' puzzles is pretty high. "I ideate and test puzzles a hundred times in my mind before I actually get down to making them. That minimises the chances of failure. It takes three to four days to make one," he informs.

"My puzzles are simple, but I add visual elements to confuse, contradict, and create illusion. Magic is good as long as its trick remains a mystery. Once that is revealed, it is nothing but logic. Sadly, people in this day and age have no patience. They don't have the time to observe a puzzle and solve it logically, step by step. They jump at it mindlessly, with all the brute force."

A good example of his wizardry is the wood-and-wire puzzle he has crafted for the upcoming DIY fest. It's built on the same principle as the two-in-one loop mentioned earlier, but just the sheer size of the new model is misleading.

His puzzles are also a repository of his life experiences. "I have built doors, shutters, and windows in the past. So I understand their open-and-shut mechanism better. I apply this design know-how to complicate my box puzzles, by adding multiple doors and pathways."

Original is nothing

In the middle of the conversation, he drops a bomb. "None of

my works are original." But defends it coolly, "There is nothing original in the world today. Everything has been done in one form or the other already. The Gurukul system has come back as 'alternative school'. Artists are now called makers. Tin boxes have returned. Likewise, I am only building up on and modifying existing ideas that I see or have seen in local markets or on YouTube."

Not just puzzles, he has a way with word riddles as well. He scoops one out, "Imagine: There is nothing which does not exist. That implies, everything must exist somewhere - in the past, present or future. That means, you are not capable of thinking new things. So where is the question of original or copy? One's past is another's present. One's present is another's future. It's always about the people involved and their point of perception (sic)."

He closes the original versus copy debate: "But copying is an art, which the young generation has lost. In our days when we used to hide books in the exam halls, we knew which page to look up to for the answers. How else can you copy? I sure am good at copying."

Puzzle-making is not just a channel for him to explore and express his curiosity and creativity, but also a key to happiness. As he says, "Life is a puzzle, full of twists and turns, ups and downs, and locks and doors. When one door closes on you, look for another. When that gets blocked, look for one more. Keep on trying until you find a way out. That's the trick." And that's why the world needs more of such wow-inducing puzzles.

<https://bangaloremirror.indiatimes.com/opinion/sunday-read/opinion/sunday-read/out-of-the-box-want-to-be-happy-in-life-follow-nv-balasubramanyams-advice-either-solve-puzzles-or-better-still-make-them/articleshow/61512261.cms>

How Hyperloop India's external partners are helping students with their moonshot project

Hyperloop India's mission is to build a transportation pod or capsule that can be hurtled through a low-pressure chamber or tube at ultra-high speeds

ET Bureau | Updated: July 14, 2017, 10:02 IST
By: J Vignesh

Harish Palani would have been richer by at least Rs 15 lakh had he taken up the job for a fee, but he decided to do it pro bono. "For the students," he says. Palani's engineering services company, Ripple Technologies, in Bengaluru's Peenya industrial suburb, is handling all the mechanical and machining works for Hyperloop India, the only team selected from here to race



SpaceX's second Hyperloop Pod Competition. Hyperloop India's mission is to build a transportation pod or capsule that can be hurtled through a low-pressure chamber or tube at ultra-high speeds--another moonshot idea championed by tech visionary Elon Musk. For this, the motley group of students had an approved concept and little else.

The team of 60-odd students from Birla Institute of Technology and Science-Pilani, Indian School of Business-Hyderabad, Indian Institute of Management Ahmedabad, National Institute of Design-Bengaluru, and other premier colleges from across the country first needed a place from where they could work together. They needed it fast, and cheap.

Pavan Kumar, a cofounder of Workbench Projects, a makerspace in Bengaluru's central business district, was surprised when he received a mail from Hyperloop India on March 28. "It was a cold email-- We are a team called Hyperloop India. We have been selected for a pod-building competition.' We first thought someone was playing a trick on us. How many times do you get an email like that. We checked and then we responded," he said.

Kumar replied that the team could pay a membership fee and get about building their pod at Workbench Projects. Hyperloop India replied requesting for more than a tinkering space. Also, "they wrote saying, we do not have a budget. Our pod is itself going to cost Rs 80 lakh. If you bill us where will we go'," said Kumar. "Who can deny Hyperloop?"

This space was built for these things. Instead of being service providers, we became joined-in-the-hip sort of partners. If we win it, nothing like it. It might not bring us money, but it will put us on the map."

Hyperloop India landed at Workbench Projects in mid-May with nothing but a 250-page document that had the SpaceX stamp. The team has raced a long way in short time, thanks in no small measure to collaborators like Kumar and Palani.

The beginning Hyperloop India is building a pod prototype named OrcaPod that can potentially reach speeds of about 400 kmph. The pod is scheduled to race 23 other contenders--from various global universities--inside a milelong vacuum tube built by Musk's Space Exploration Technologies Corporation, or SpaceX, at Hawthorne, California on August 25-27.

"Anything of this scale in two months is impossible. We had to shift and come to one place--where the ecosystem is right and the stakeholders, funding and manufacturing ecosystems (are there)," said Sibesh Kar, team lead of Hyperloop India. Workbench Projects decided to take up the project without charge and got onboard on April 24. It is now the team's co-creation partner.

Another Workbench Projects cofounder Anupama Gowda and Kumar began tapping their contacts in government, the private sector and the manufacturing industry, forging crucial partnerships for Hyperloop India.

"Only five (Hyperloop India) team members had come in (at the beginning). The first thing we did was go to the Peenya Industries Association. They got interested. They connected us to Harish Palani. We got them onboard the first day itself. Then we met the chief secretary of Karnataka (Subhash Chandra Khuntia). He said that for any support from the government's side, he could push for it on our behalf. The third day, we met Vasanth Rao and Pradeep Singh Kharola of BMRCL," said Prithvi Sankar, business lead of Hyperloop India.

UA Vasanth Rao is general manager (finance) of Bangalore Metro Rail Corporation and Kharola its managing director. "It is a

problem of urban transport that they are trying to address. We knew that they are doing good work. So the management wholeheartedly extended support to them. We have given them space in Peenya (Metro station)," said Rao.

BMRCL has given Hyperloop India space at its Peenya Metro station for testing. Workbench Projects is located inside Ulsoor Metro station.

Gowda also worked on the customs. "As we are importing a lot of batteries and magnets from China...a large chunk of money would have been burnt. Through the chief secretary of Karnataka, we got access to the commissioner of customs," said Gowda.

The forces combine The team is on a tight deadline and it is imperative that the partners push themselves to their limits. Palani of Ripple Technologies has taken it upon himself to solve any manufacturing constraints Hyperloop India might face. "I get involved in clearing constraints and guiding the team in procuring and selecting the materials and reaching the right vendors," he said. "We have given them a space for assembling and testing their pod. A project leader from my team is handling this professionally. We are taking this very seriously," he said.

Jitendra Davda, director at Miracle Electronic Devices, felt it was his duty to support Hyperloop India. "They need guidance on interconnects, sensors, drives and power modules that can withstand (high vibrations). We can select components and validate the components with applications. You need expertise to do this. The electrical system is like the nerve. Without nerves, the unit won't function," said Davda.

Hindustan Aeronautics Limited, the state-owned aerospace and defence company, has agreed to let Hyperloop India use its test facilities. "HAL has agreed to allow the team to test in their vacuum chambers," said Gowda.

The partnerships have helped the student team reduce costs. By Kar's estimate, the OrcaPod would cost 30-40% less than the other pods in the competition. "We have strategically partnered with manufacturers to reduce the overall expenditure on the pod. We have used aluminium in place of carbon fibre unlike most other teams, keeping in mind the challenges of the full-scale Hyperloop. Ripple Technologies is helping us with machining and manufacturing. SKF is providing crucial structural components. HAL is letting us use its facilities for testing," said

Kar.

Hyperloop India will assemble its pod in Bengaluru, test it here, and reassemble it in the United States before the competition.

Moving the mountain

For Kar, the competition is an opportunity to re-imagine transportation. "A pod traveling in a tube... It is a blank canvas. You can rethink conventional things. It is about thinking from scratch. It is not a luxury that many people have," he said.

The team is building a miniature pod, one-fourth the size of an actual pod that could in the future be used for transporting cargo and humans. "Electronics and software is almost done. Machining is where the biggest challenge lies. We are working on various technologies. The assembly is happening. In terms of the pod shell, it is 4 metres in length and 1 metre in diameter. It will weigh around 300 kg. The lower part of the shell is ready. The moving parts are ready. They are being assembled. We are working on the control systems and interface. We are planning to unveil the pod towards the end of this month," said Sankar, business lead, Hyperloop India.

Kumar of Workbench Projects, while helping with the core building of the pod, is also trying to help bring in the money. "We have been moving the mountain. The whole project will cost Rs 90-92 lakh. We have received Rs 45 lakh in cash, Rs 20 lakh in kind, and we are looking for another Rs 30 lakh. We have a crowdfunding initiative running on Ketto. Even if we get a part of the Rs 30 lakh from there, we will try to arrange for the remaining," said Kumar.

"We have taken it upon ourselves to see that we leave no stone unturned. We need to put these kids in California. We do not know if we will win or lose, that is secondary. People talk about random things... but this is a project that will put India on the global map. We are like Mangalyaan (Isro's low-cost Mars mission) and TeamIndus (India's only entrant in the Google Lunar XPrize). In my book, Hyperloop India is right there. It is futuristic."

<https://tech.economictimes.indiatimes.com/news/internet/how-hyperloop-indias-external-partners-are-helping-students-with-their-moonshot-project/59589063>

The State India Is Counting On To Realize Its Hyperloop Dream

Forbes | NOV 30, 2017, 12:15 PM
By: Sindhuja Balaji



SpaceX invited companies to test their pod prototypes in California.

Earlier this year, a small team of student volunteers called Hyperloop India became the first to design an innovative travel prototype called OrcaPod for Elon Musk's SpaceX competition. But, it was a team of engineers, designers and manufacturers in Bangalore who built, tested, and eventually shipped the OrcaPod to California for the final leg of the competition.

Although the team didn't win, the project has prompted an unprecedented, cumulative industry effort in Karnataka, making the South Indian state a favorite for realizing the country's Hyperloop dream.

A feat of collaboration

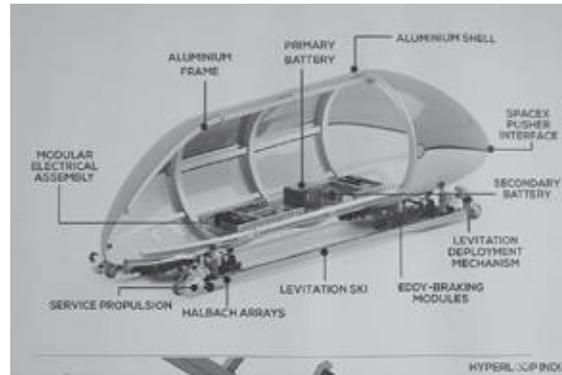
Pavan Kumar, CEO of Bangalore-based Workbench Projects, was pleasantly surprised when he received an email from Hyperloop India, seeking help to build a prototype of a selected design for Elon Musk's SpaceX competition. The startup signed an MoU with Hyperloop India as their co-creation partner.

"Taking on a project of this magnitude was exciting for us. We knew the students had an incredible design in hand and couldn't let the opportunity of building a Hyperloop prototype slip away that easily," said Kumar.

Workbench Projects laid out a plan to assist the Hyperloop India team with procurement of raw materials, engineering, testing facilities, fundraising, and forging ties with relevant industry and government partners. Cofounder Anupama Gowda facilitated

key partnerships with leading industrial clusters in Bangalore such as Peenya Industries Association and Bangalore Metro Rail Corporation Limited.

Raising funds was a significant challenge but Ketto, India's leading crowdfunding platform, helped Workbench Projects raise \$55,000 USD, which was around a third of the funds needed for the project. The remaining amount was raised privately.



The pod design made by team Hyperloop India, which was shortlisted by SpaceX to be showcased in California.

Gowda and Kumar's industry connections in Karnataka led to specialist engineering firms such as Ripple Technologies and Miracle Electronic Devices lending their technical expertise. Based out of Peenya Industries Association, Ripple Technologies provided manufacturing and design suggestions, and assisted with the complete manufacturing and assembly of the OrcaPod. This cost founder Harish Palani around \$18,000 USD.

"Indian students have the caliber to churn out unique designs, but they often require professional assistance and industry support to build and test their designs. A project like Hyperloop allows us to showcase our might as a product-driven industry," said Palani.

Kumar added, "This was an unprecedented coming together of private companies, government organizations and industry bodies to help Hyperloop India's attempt to win a prestigious competition. Even if we didn't win, this project has showcased what a collaborative effort can do."

Karnataka emerging as a top destination

The risk paid off for all the companies involved. Technological and hardware innovation, a proactive government and availability of talent have all made the state of Karnataka a favorable destination to develop Hyperloop on a large-scale.

Recently, Virgin Hyperloop One signed an MoU with the government of Karnataka to conduct a feasibility study that would explore faster connectivity between industrial hubs in the region. Harj Dhaliwal, managing director, Middle East and India, Virgin Hyperloop One, said, "It is very clear that the Karnataka government can ably support this path-breaking technology. We are impressed with their commitment to support the development process with a view to building an ecosystem that supports multiple industries simultaneously for a project this size."

Showing what it can do

The efforts of the companies that assisted Hyperloop India also did not go unnoticed. The involvement of Workbench Projects played a key role in accelerating discussions with officials from Virgin Hyperloop One, who are keen to fast-track their scope of work in Karnataka. Kumar is now exploring opportunities with Cornerstone Properties, a real-estate company in Bangalore, to scout for locations and infrastructure facilities to support the hardware innovation ecosystem.

IIT-Madras, a premier engineering institute in India, brought onboard Ripple Technologies for a project funded by aerospace giant Lockheed Martin after seeing the scope of their work for Hyperloop India. Palani says, "Hyperloop succeeded in pushing people out of their comfort zone. Several manufacturers in Peenya have now started showing interest in working on futuristic projects. Such opportunities challenge the industry and allow for greater collaboration between the government and private companies."

<https://www.forbes.com/sites/sindhujabalaji/2017/11/30/the-state-india-is-counting-on-to-realize-its-hyperloop-dream/#7a0934165a8e>

Laser guitar, farm tech at Maker's Faire

Students from all over the state got a chance to exhibit their science projects to an international audience on Friday at the Bengaluru Maker's Faire, which was held as a part of the Bengaluru Technol

Indian Express | 1 Nov 18 2017, 03:44 AM
By: Vinod Kumar T



Students from all over the state got a chance to exhibit their science projects to an international audience on Friday at the Bengaluru Maker's Faire, which was held as a part of the Bengaluru Technology Summit. The Faire, being held at the Bangalore Palace, has a lot of agricultural and rural-themed projects on display this year. "We are a team of five people representing the College of Agricultural Engineering, Raichur. Our students got the chance to interact with other engineers and students from across the state. With so many projects on display, the encouragement for our students to practise their skills is massive," said Professor M. Veeranagouda, Head of Department. The college is showcasing projects like a drone-mounted pesticide sprayer, a remote-operated field pesticide sprayer, and an innovative wind-based alarm to scare away birds and other small animals from crops.

Not all projects are for serious uses, for example, there is a 7-string laser guitar on display which plays music when a person disrupts the laser flow with his/her



fingers."We have programmed the instrument with the 'sa', 're', 'ga', 'ma' sounds which play when the laser light is obstructed by a finger. The project was constructed within one-month time and we are demonstrating it here," said Abhignan Rakshith, a 5th semester student of the BMS college of Engineering, Bengaluru.

"The government wants to curate a stimulating innovation and invention ecosystem. We want to celebrate makers, tinkerers, artists, craftsmen and Bengaluru will lead India into a 'product-nation'," said Minister Priyank Kharge, speaking at the inaugural function. The Faire will continue on Saturday and has several workshops for hobbyists looking to pick up new techniques.

<http://www.newindianexpress.com/cities/bengaluru/2017/nov/18/laser-guitar-farm-tech-at-makers-faire-1704139.html>

Bengaluru Maker Faire gets bigger, grander

WHAT brings a remote controlled pesticide sprayer, space sand and toys made from nature together? This weekend, all three products as well as their makers will be visiting the city to attend the second

Indian Express | Nov 15 2017, 02:36 AM
By: Avinash Bhat

WHAT brings a remote controlled pesticide sprayer, space sand and toys made from nature together? This weekend, all three products as well as their makers will be visiting the city to attend the second edition of the 'Bengaluru Maker Faire'.

It is an event which serves as a meeting place for tinkerers and makers from different walks of life. With the support of both the state and Union government, the event, which was held last year at the Rangoli Metro Art Centre, has massively scaled up in 2017 and will be held at the Bangalore Palace as part of the Bengaluru Technology Summit. Maker faires usually have workshops by fabricators and makers who display projects created by them and explain how they were built.

Last year, the faire in Bengaluru drew around 4,500 visitors. "With the support of the government, a lot of people have been identified and invited from across the state to attend the fair," said Anupama Gowda, curator of the faire and co-founder of Workbench Projects, a fabrication lab that operates out of the Ulsoor metro station. The agenda this year is tinkering with paper circuits, app building, simple robots and even jewellery and toy design. On display will be projects like space sand art, an abstract project which tries to project different moods of astronauts as well as nature toys, created from easily available natural materials in rural settings. The keynote address on Friday will be delivered by NITI Aayog CEO Amitabh Kant

<http://www.thehindu.com/sci-tech/technology/gadgets/celebrating-karnatakas-makerpreneurs/article20205986.ece>

Celebrating Karnataka's makerpreneurs

From an ovarian cancer detection device to toys made of bamboo reed. From high-end tech products to jewellery, Maker Faire brings together creators of every kind

The Hindu | 11 Nov, 2017, 16:28 IST
By: Sravasti Datta

There is no limit to the 'makerpreneur' spirit in Karnataka. Anupama Gowda and Pavan Kumar, founders of Workbench Projects, will attest to this fact because they have been to the field to discover makers and tinkerers. "We travelled to 12 districts in Karnataka and ended up doing road shows with the support of district commissioners and NGOs that work in the space of innovation, university and college professors, local incubators, small start-ups, and young teams," says Anupama, "This helped us to reach a larger community. Unless you are on the field you won't find the best."



They are all set to host the third edition of Maker Faire that is being held with the support of the Karnataka IT&BT department, co-located with Bengaluru Technology Summit.

"Priyank Kharge said why don't you do the event under a larger banner? Maker Faire this year is a seamless blend between industry makers and home-grown, grass-roots makers."

Pavan Kumar, Lead Organiser of the Faire says: "There is high level participation of Amitabh Kant- CEO of Niti Aayog, GOI to Dale Dougherty Founder-CEO of Maker Media to unsung maker heroes from remote parts of Karnataka such as Prasanna from Kalaburgi who has built a low cost ovarian cancer detection device to a school student who has prepared bio-briquettes made from agricultural waste." Makers of every age group will come together on this platform, says Anupama: "There is an 80-year-old man who works with bamboo reeds and cane to design toys."

The event will showcase 100 maker exhibits, a keynote address, plenaries, flash talks by field specialists, 30 workshops, which include stop-motion animation, technology workshops, and jewellery making. There will also be installations, and other exciting elements of the Faire to engage the public and immerse them in the maker spirit. Speaking on the vision for Bengaluru Technology Summit, Priyank Kharge, Hon'ble Minister of IT, BT and Tourism, Government of Karnataka, says, "Our mission is to fortify brand Bengaluru at the international stage by showcasing our collective technology strengths across verticals. With Bengaluru Technology Summit, we are bringing all our prestigious events, like BengaluruITE.biz and Bengaluru INDIABIO, under one roof. The focus is no longer only on the services industry; innovation and creativity are the drivers that will consolidate Bengaluru's position as a technology leader. MFB presents an exceptional opportunity for amateurs, start-ups, students and all technology enthusiasts to be a part of this incredible journey."

Anupama says she hopes the outcome of the Faire will be to spark a conversation among the maker community. "We hope to see a promise of there being a scope of commercialisation and to get people to think about the next logical steps to making."

<http://www.thehindu.com/sci-tech/technology/gadgets/celebrating-karnatakas-makerpreneurs/article20205986.ece>

Bengaluru Tech Summit to establish Karnataka as a thought leader in emerging technologies: Priyank Kharge

YourStory | Oct 13, 2017:
By: Binjal Shah



A month ahead of the tech carnival that will showcase just why Bengaluru one is the world's foremost innovation destinations, Priyank Kharge invites the rest of the country to collaborate with them to seize the opportunity and put India on the world map.

Earlier this year, Bengaluru was ranked the most dynamic city in the world, according to rankings released by real estate consultancy firm James Lang Laselle (JLL) at the World Economic Forum in Davos. This was based on 42 indicators that included socio-economic factors, GDP, air quality, FDI, real estate momentum, investments, strides in technology, access to education, environmental policies, etc.

In this regard, the Bengaluru Tech Summit to be held in the city next month is a much-awaited two-day event which is all set to showcase Bengaluru's prowess in technology, according to Karnataka's Minister of IT and BT, Priyank Kharge.

"When we started the IT policy, Bengaluru was only the benchmark for services. But now, we want to be thought leaders in emerging technologies. We realised that if we do not pull up our socks and reinvent, we will fail," Priyank said, at the roadshow in Mumbai

ahead of the event. Part of this reinvention is to acknowledge the convergence of IT and biotech, among other things, as the applications of IT increase, and thus, combine two of Bengaluru's flagship events—the BengaluruITE.biz and Bengaluru India Bio 2017, into one grand Tech Summit.

Priyank said that he was not in Mumbai to seek investments, but to build relationships. "We aren't just trying to be an investment destination, we want to work on the ecosystem first - if we create an environment for ideation and innovation, inventions will happen and investments will follow. I am here to look at you as potential partners, seeking your help and guidance. There is something we can learn from you, and something we can teach you," he said.

What can one look forward to at the summit?

1. The IT Leaders Conclave

The Leaders Conclave will be a power-packed evening where industry captains from the ICT Industry, as well as policymakers, will provide attendees an insight into what's new today, and what lies in the near future

You can register for this closed-door invite-only event if you want to meet and interact with leaders in the industry, get insights on future business, technology, innovation, and opportunities. "We have some of the most progressive policy interventions in the country, that let entrepreneurs harmonise, share, collaborate and network amongst various stakeholders, I believe that by doing so, by listening to them, we have become the leaders," says Priyank.

2. Bengaluru Tech Exchange

Bengaluru Tech Exchange (BTE) is a platform aimed at connecting innovations and research ideas which can be commercialised to the right startup or investor community, right from the agri to aerospace sectors. "The state of Karnataka, and Bengaluru in particular,

have been reinventing themselves phenomenally to match the global standards - and since Bengaluru has matured from being a services industry to an R&D hub - and by extension - an innovation hub - technology has infiltrated every space, right from aerospace to healthcare to banking," says Priyank, on their decision to rebrand Bangalore as the innovation hub for all emerging technologies.

3. Start-up Karnataka YESSS

Short for Young Entrepreneurs Start-Ups in Soaring Spirit, YESSS is a forum for startups with business ideas that are looking for partnership, collaboration, investment and mentoring. "Karnataka is second largest tech cluster in the world - close to 7000 startups are registered in Bengaluru alone. More than 4000 startups are registered with the government of Karnataka. Ninety-five percent fail - so how do we ensure that that number reduces to 90 or even 85? We give them mentors, networking opportunities, cross border entrepreneurship, funding etc.," he added.

4. Maker Faire

Maker Faire, a global gala, is a showcase for anyone who is embracing the DIY or do-it-yourself (or do-it-together!) spirit and wants to rub shoulders with other makers. It is a place where technologists, hobbyists, tinkers, artisans, craftspeople, entrepreneurs and the merely curious can gather together to celebrate, inspire, and get inspired! "If anyone has missed the bus, we are the follow-up bus they can hop on to - anyone from garage specialists to entrepreneurs," says Pavan Kumar of Workbench Projects that will be hosting the Maker Faire with the support of IT, BT Ministry, Karnataka.

5. The Rural IT Quiz

The quiz that has earned an entry in the Limca Book of Records as the first IT Quiz for Rural Students in India, has helped enhance IT awareness amongst Students at the grassroots level for a decade now. Since 2010, the programme has moved beyond Karnataka and today has a national footprint covering the of Madhya Pradesh, Gujarat, Maharashtra, Jharkhand and Rajasthan to help students in smaller towns and districts of these states understand technology better. The National Finals of the Rural IT Quiz will be conducted concurrent to the event.

Delegate registrations for the Bengaluru Tech Summit are now open. Sign up here.

Besides these initiatives, the Startup Cell Programme, and the Knowledge Partnerships instated for the Centres of Excellence that inculcate industry-based skill development programmes to make graduates and drop outs more employable, are all initiatives that are being encouraged to achieve Priyank Kharge's goal of putting Bangalore on the world map when it comes to technology.

"There is a lot of shortage in skills world over - Karnataka is trying to see how to make our graduates as well as dropouts more employable in emerging technologies. Very soon, funds for aerospace and space, AI, Machine Learning and Big Data, animation, gaming, cyber security are all being driven not just by government but by our partners like Nvidia, IBM, Intel, who might be competitors but, with respect to the progress of the state and the nation, work together," he said. The minister concluded by saying: "I believe in the adage - 'If you want to go fast, go alone. If you want to go far, go together.'"

<https://yourstory.com/2017/10/want-go-fast-go-alone-want-go-far-go-together-priyank-kharge/>

GALLERY



3D Printing



A Day in Workbench Projects



A Tour of the Space for School Students



Collaborative Workshops

Artisan in Residence



Master Course in Carpentry



Tool Orientation, Distribution



Marking and Alignment



Puzzle Building



Safety Training



Bengaluru Mini Maker Faire - Our huge patron and supporter Hon'ble Minister of IT, BT and Tourism, Shri. Priyank Kharge



Buildathon Event at our facility



Community School Engagement Program



Commissioned Projects - Design Execution



Corporate

Meetups and Networking



Team Building Program (Tata Steel Ltd.)



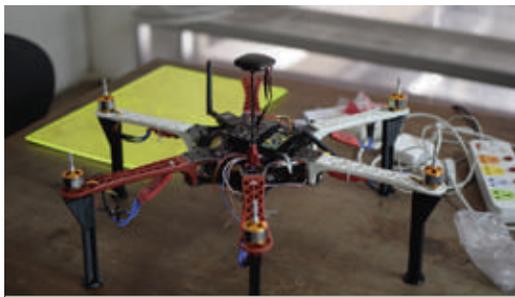
Innovation Program



Hands on Design-Experience Thinking Workshops



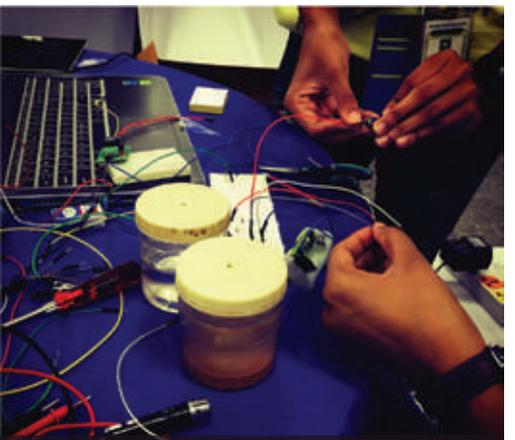
Workshop for VIT Museum-Hacking in Progress



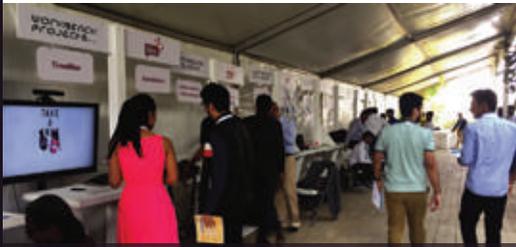
Drone Based Projects



Fab Make - Custom Made Mementos



GE Edison Challenge (Making - Tech Mentorship)



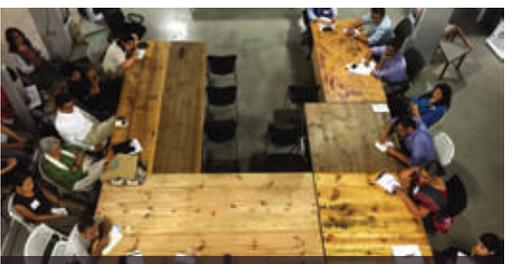
Event Enhancements (Nasscom Product Conclave)



Enable Makeathon- Hacking at its 'Best'



Making in Action



Green Innovators Round Table - More like SQUARE TABLE



Corporate Hackathons (GE Edison Challenge)



Enable Makeathon - Sprint towards Prototyping



Pitching and Feedback



Hands-on Corporate Team Building (Innovation Workshop)



Custom Made - Laser Etching



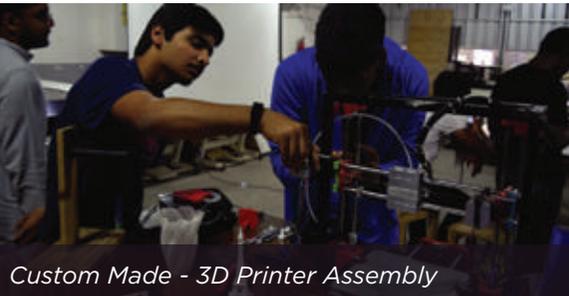
Pearsons



Expat Community Networking



Form and Function Prototyping



Custom Made - 3D Printer Assembly



International Community Meet-up

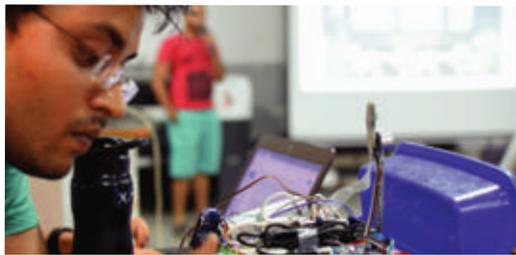
Hackathon



Prep Day



Team Work



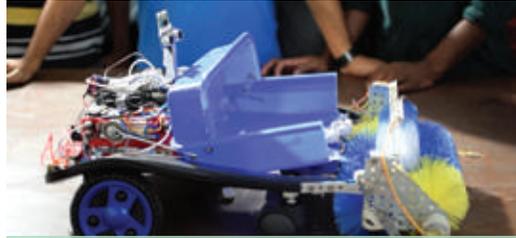
Hacking in Progress



Judging and Jury in Action During a Makeathon



IOT Tech Meetup



Level 1 Prototype.



Open House and Target Audience



Final Pitch (IBM-Swiss Re)



Co-Founder

The co-founder of WP loves to make!



IOTBLR Tech Showcase at WP



Lunch and Networking



Make a Maker - Summer Program



Maker Nation

Student Innovation - Entrepreneurship Program.



Responsible Innovation

Maker Weekend



Carpentry



Bicycle Maintenance



Bookshelf Making



Bamboo in Design



'We like it messy!'



CMRIT Makerspace



Networking during Industrial Visit

WP Pop-up Makerspace



Plug-ins for your events



Plug-ins for your events



Makerspace setup



Organised School Engagements



Plug-ins for your events



Setup



Member Product Showcase



Our CSR to Our Neighbouring Schools



Panel Discussion at WP



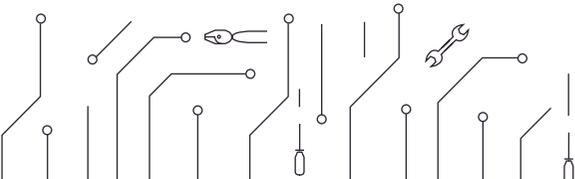
Open House for Community Feedback



Personal or Member Project



Branding





Policy and Advocacy with Govt. of Karnataka



Schools at WP curated Events



Software geeks trying their hands at making at IBM Dev Summit



Train the Trainer - Trainers at Test



Product Tweaks - Assembly



Round Table Conferences



Startup Bootcamp at WP



Project Based Learning - MUWCI



Rise Legs at WP



Tata Steel Ltd (Curated Design Thinking, Innovation Workshops)



Tool Training - Product Making

Tinkertronics for School Students



Product Brochure - Report Book Launch



Rise Legs at WP - Artisan in Action



Students Hardware Innovation Program



Theatre style seating for a 'Show-Tell'



Quick Hacks during Enable Makeathon



Space Introduction and Orientation during Meetups



STEAM - CSR Plug-ins



Team Building through Creative Making

ABCs OF DIY



ARRANGE IT YOURSELF



BREAK IT YOURSELF



CUT IT YOURSELF



DRILL IT YOURSELF



EXPERIENCE IT YOURSELF



FIND IT YOURSELF



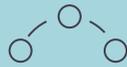
GROW IT YOURSELF



HEM IT YOURSELF



IMAGINE IT YOURSELF



JUGGLE IT YOURSELF



KEY IT YOURSELF



LASER IT YOURSELF



MOULD IT YOURSELF



NAVIGATE IT YOURSELF



OPERATE IT YOURSELF



PROGRAM YOURSELF



QUANTITY IT YOURSELF



REPAIR IT YOURSELF



STRUCTURE IT YOURSELF



TREND IT YOURSELF



UPSCALE IT YOURSELF



VALIDATE IT YOURSELF



WRAP IT YOURSELF



X IT YOURSELF



YARN IT YOURSELF



ZAP IT YOURSELF

OUR PARTNERS, COLLABORATORS & CLIENTS



OUR PARTNERS, COLLABORATORS & CLIENTS



WORKBENCH[®] PROJECTS PVT . LTD.

Visit us at



www.workbenchprojects.com



info@workbenchprojects.com



+91-9663090123



www.facebook.com/workbenchprojects



www.linkedin.com/company/workbench-projects



@makewithWP



workbench_projects



SPARTH
SPACE ART HACKATHON
NOVEMBER 3-5
WORKBENCH PROJECTS
BANGALORE

...n was a 48-hour hackathon to explore the
...on between space and art, looking through