



agnii
IGNITING
IDEAS



Matchmaking Solution Providers and Solution Seekers



“Commercialization”

“Commercialization” – Process of introducing a new product or technology, into the market place

The term Commercialization includes various modalities such as:

- Market access – potential buyers, distributors, manufacturing support
- Technology transfer – licensing or sale of innovation IP and technology transfer to potential customers
- Facilitation of funding, acceleration, regulatory or other assistance to remove bottlenecks to market access

Two Way Street

COMMERCIALIZATION OF GRASSROOTS INNOVATIONS

What is Grassroots Innovation?

- **Grassroots innovation** is defined as innovative product or process created at/for the bottom of the pyramid, usually due to necessity, hardship and challenges.
- They are generally categorized as frugal innovations, inclusive innovations or bottom of pyramid innovations.
- AGNii helps in facilitating innovations for as well as from the Grassroots



FEW EXAMPLES

Paper bag Making Machine

DESCRIPTION

- This paper bag making machine is desk-top sized, fully automatic and compact with production capacity: 1 bag in 8 seconds
- This machine is designed for creating jobs and increasing family income of the people at Bottom of the Pyramid consisting of low- and middle-income group.

SPECIFIC PROBLEM CATERED TO

- Bulky machines
- Higher cost of Existing Machines



Deskit – Schoolbag with built-in table

DESCRIPTION

- DESKIT is a lightweight school bag with a built-in ergonomic, fold-able, portable and detachable table.
- Women can make these bags and sell it to the schools in the local area.

SPECIFIC PROBLEM CATERED TO

- Lack of basic study infrastructure



Ready-to-Serve Tea Drinks

DESCRIPTION

- Process has been developed by CSIR-IHBT for utilizing low grade teas (comprising of tea stocks and dust) for making tea concentrates.
- The concentrate can be prepared from green as well as black tea. The concentrate has a shelf-life of six months when kept in the refrigerator.
- This concentrate with no added preservatives can be reconstituted with water to make hot and cold ready-to-drink beverage.
- The beverage can be served with/without sugar and can be carbonated before serving.



SPECIFIC PROBLEM CATERED TO

- Lack of innovative products in Tea

Microwaveable Pottery from Red Clays

DESCRIPTION

- Sectional Clay body formulation using local common red burning clays and suitable admixtures
- Glaze preparation suited to clay body to enable reuse of clayware
- Precise high temperature baking to obtain uniform high quality products
- Water absorption value of 0.58% and porosity of 1.36%
- Three-to-four fold increase in income
- Products are four times more than the market value of traditional pottery items
- Immense market opportunity for these products
- Tentative cost is INR 25 per liter capacity

SPECIFIC PROBLEM CATERED TO

- Low productivity and low price in market



CASE STUDY ON INNOVATIONS FROM BOTTOM-OF-PYRAMID

Multi-fuel Cryogenic Engine

DESCRIPTION

Name of Innovator: Shaik Masthan Vali

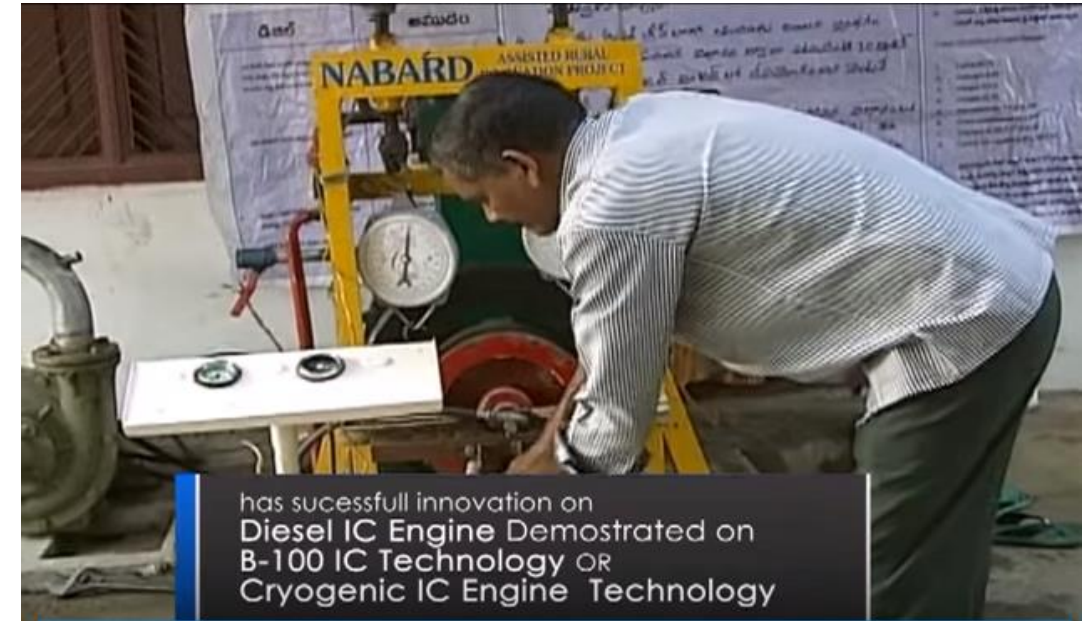
Organization: Shree Chaitanya Institute of Technological Sciences, Karimnagar

Details about the his Invention –

Sectors where it can be deployed - It is a **Multi-fuel B 100 Cryogenic IC Engine** suitable to be used in **Automotive, Industrial and Agricultural sectors.**

Fuels that can be used – Castor Oil, Coconut Oil, Palm Oil, Grease and virtually **any bio-oil** which is composed of **hydrocarbons**; and nonconventional oils like petrol diesel can also be used.

Meaning of B 100 – The oil can be made of **100% naturally occurring elements** like seeds, other vegetative matter, etc.



has successful innovation on Diesel IC Engine Demonstrated on B-100 IC Technology OR Cryogenic IC Engine Technology

Advantages of the Engine

- **Low Cost** of manufacturing (3 lakhs as against 6 lakhs Skoda engine)
- **Light weight** by redesigning and reduction in materials used
- **Higher efficiency** and **better fuel combustion rate** (60%) as compared to present (30%) in normal engines
- Regular engine emits 300 0C from silencer. This engine shall **not get heated that much** and will **remain at sub 100 0C temperatures** (at most going to 120 0C but not beyond)
- Hugely **improved lifecycle of engine** and lower maintenance required
- Engine starting problem is there in cold countries and for it anti-freezants are mixed. This engine can **work perfectly at temperatures as low as -2 0C to -50 0C** and hence the word Cryogenic

More about the Innovator

- He **claims to have successfully made a working prototype** of the same. For it, he took a **Fiat engine, redesigned it and used his technology in it**. The modified IC engine was then fitted in the same car, and it ran **58 KMs on 1 Liter of Castor Oil**, cruising at **60 KMPH**. Their invention is based on modifications done to an existing IC engine, after redesigning it.
- The innovator **didn't disclose the technology he deploys in his engine**, because he wants to keep it confidential until it is patented and production has started on a mass scale.
- Currently, he does not have a working model. He has **dismantled his invention citing security reasons**, saying that he has received threats to share his technology.
- He worked on this technology in the 1990s, has **presented it the then PM of India – P. V. Narasimha Rao** along with the past collectors of Karimnagar district and neighbouring districts
- Currently he **works with Shree Chaitanya Institute of Technological Sciences** as a maintenance guy of all its Mechanical labs and also teaches subjects like Fluid Mechanics, Metallurgy, Strength of Materials, IC Engine, etc. He does not hold any official post in college because he is a **class Ninth dropout**; despite that he has extensive knowledge in this domain.

Further Developments

- AGNii facilitated the connect between an industry partner and innovator
- The industry partner will provide its lab facilities to develop the prototype and also bear the cost of building the prototype
- The industry partner will support innovator with accommodation and meal facilities during the stay near its lab centre.
- If, after the development/improvement the Innovation is found technically feasible and commercially usable, the industrial partner will help the innovator in filling the patents

IDENTIFIED BEST PRACTICES

E-Marketplace of Innovation

← → ↻ https://www.agnii.gov.in

Top Sectors



Top in Healthcare

Commercialized Patented	Soft Launched Patented	Pilot	Commercialized Patented
MIRCaM	Blood Bag Monitoring	Medical Tourism	Vyom Smart Health



Filters Reset Apply

Stages −

- Prototype
- Pilot
- End Product
- Assembly Set Up
- Soft Launched
- Commercialized

Primary Sector ✓ +

Location +

IP Status +

IP Ownership +

Market +

Method of +

All | Patented Technologies | Govt. Institutions | Private Company

Sort by ▾

Applied Filters

Healthcare & Pharma

<p>Blood Bag Monitorin... Healthcare & Pharma</p> <p>● Soft Launched Patented</p>	<p>CRS Healthcare & Pharma</p> <p>● Soft Launched Patented</p>	<p>Gold Nanoparticle C... Healthcare & Pharma</p> <p>● Prototype Patented</p>
<p>Success</p>		

Open Innovation: Demand Driven Technology Scouting



Innovators and startups are changing the basis of competition for large incumbents by impacting key revenue and cost channels.

With this new market reality, gone are the days when companies could rely solely on internal R&D behind closed doors. Established players are finding it tougher to innovate faster than the market to avoid disruption.

Companies must find a new model of open innovation that creates win-win outcomes for both the incumbent and the innovator.

“Collaboration equals innovation”
– Michael Dell

Focus Areas



Focus Areas : AI, cybersecurity, autonomous systems, quantum computing etc.



Focus Areas : Automotive technologies, agri and food technologies, defence, and fintech



Focus Areas : Mobility services, electric vehicle ecosystem, connected vehicle solutions etc.



Focus Areas : Pollution, water and sanitation, mobility etc.



Focus Areas : Clean Technologies



Focus Areas: AI, ML, AR, Computer Vision, IoT, Health, Energy, Agriculture, Space, Education etc

Innovator Pitching Sessions



आयुष मंत्रालय
MINISTRY OF AYUSH

सत्यमेव जयते

- AGNii organized a Technology Showcase with the Ministry of AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy), where scientists from the Ministry's research councils pitched their technologies to several potential industry stakeholders in a closed-door session.
- Outcome achieved : 15 of these innovations are at different stages of commercial negotiations with 10 industry players.



नई दिल्ली नगरपालिका परिषद्

- AGNii organized a Technology Showcase with the New Delhi Municipal Council (NDMC), where next-gen technologies were presented to the leadership of NDMC.
- Outcome achieved : NDMC has started work on pilots with 4 startups.

Matchmaking in action



AGA KHAN FOUNDATION
An agency of the Aga Khan Development Network

- Developed a combo domestic water purifier device which is made of polysulfide based nanocomposite ultrafiltration membrane in cylindrical configuration.
- This configuration/ device can be effective for removal of microbial contaminations, arsenic and iron without the need of any electricity and overhead water tank.
- The device is most suitable for rural and slum areas.



Clean drinking water to 1 lakh villages

Tapping Aspiring Entrepreneurs



Developed novel value added tea products such as Catechins, Polyphenols, Tea Wines and Ready to Serve (RTS) Tea and is in possession of the process for extracting/ making Catechins, Polyphenols, Tea wines and Ready to Drink (RTD) Tea



Payal Aggarwal,
Tea Entrepreneur



New India is Open for Innovation

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