



सत्यमेव जयते

Government of India  
Ministry of Science & Technology  
Department of Scientific & Industrial Research



National Research  
Development Corporation  
(A Section-8 Company)

# Incubation Support Systems for Facilitating Technology Transfer and Startup Internationalization-Indian Experiences

On

November, 1-2<sup>nd</sup> 2018

"Innovation Summit & International Conference  
on Technology Transfer and  
Internationalization of Technology-based  
Businesses"

At

*Tangerang Selatan, Indonesia*

**Dr.H Purushotham**  
CMD, NRDC

# NATIONAL RESEARCH DEVELOPMENT CORPORATION

(An Enterprise of DSIR, Ministry of Science & Technology , Govt. of India)



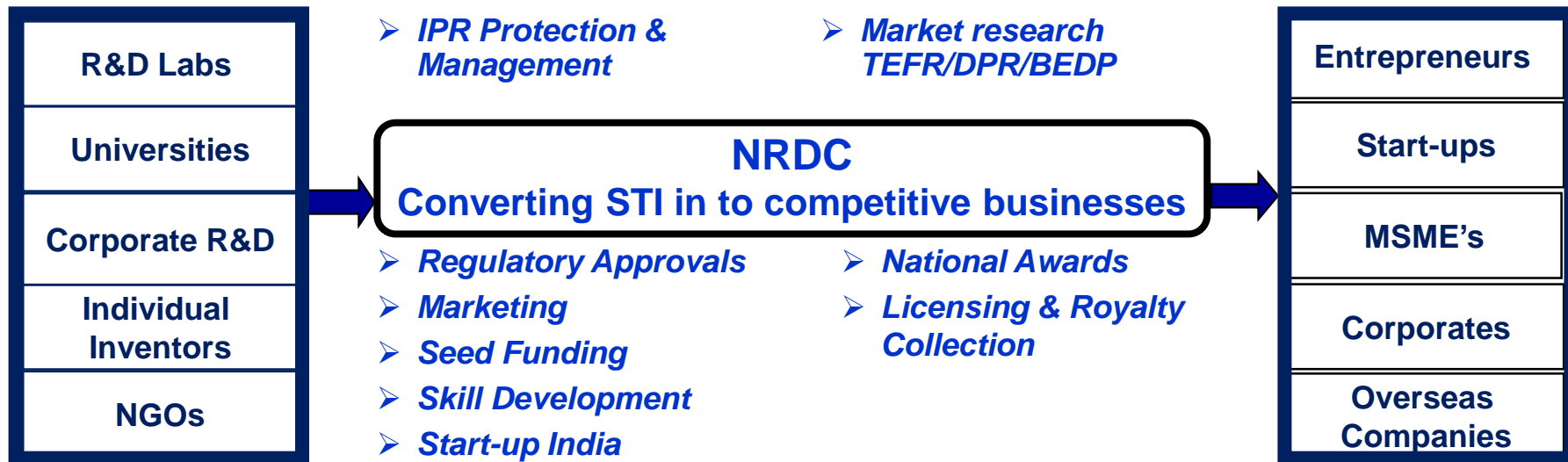
Innovation &  
Technology  
Business  
Promotion  
Organization

- Incorporated in 1953; as a **SECTION-8 (Not for Profit Company)** with a mandate to
  - ✓ Develop
  - ✓ Promote &
  - ✓ Commercialise
- Indigenously developed technologies of Universities, National R&D Institutions & Individual Inventors.
- Specialize in **Technology Transfer, IP & Innovation Management and Project Consultancy**
- Catalyze conversion of lab-scale R&D into marketable technologies through value addition
- Offer effective linkages with
  - ✓ R & D Institutions (Public & Private)
  - ✓ Industry

# NRDC : BRIDGE BETWEEN R&D AND INDUSTRY

THE ONLY ORGANISATION COMMERCIALIZING TECHNOLOGIES FROM ALL SECTORS

- *Technology Evaluation*
- *Prototype Development*
- *Pilot Plant Studies*
- *Field Testing*
- *IPR Protection & Management*
- *Market research TEFR/DPR/BEDP*



- *Regulatory Approvals*
- *National Awards*
- *Marketing*
- *Licensing & Royalty Collection*
- *Seed Funding*
- *Skill Development*
- *Start-up India*
- *Incubation Services*

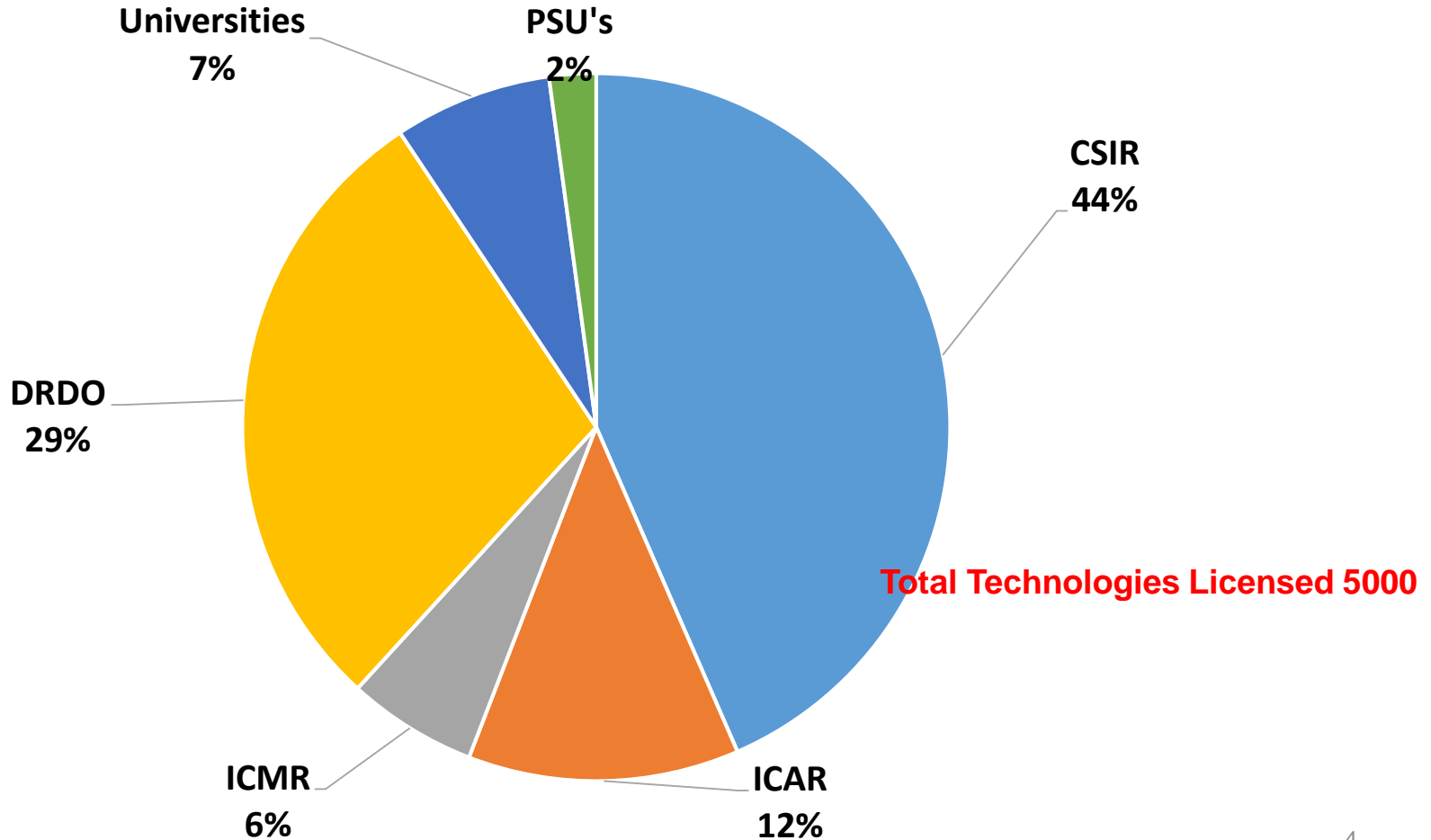
All Areas of  
S&T

5000 License  
Agreements

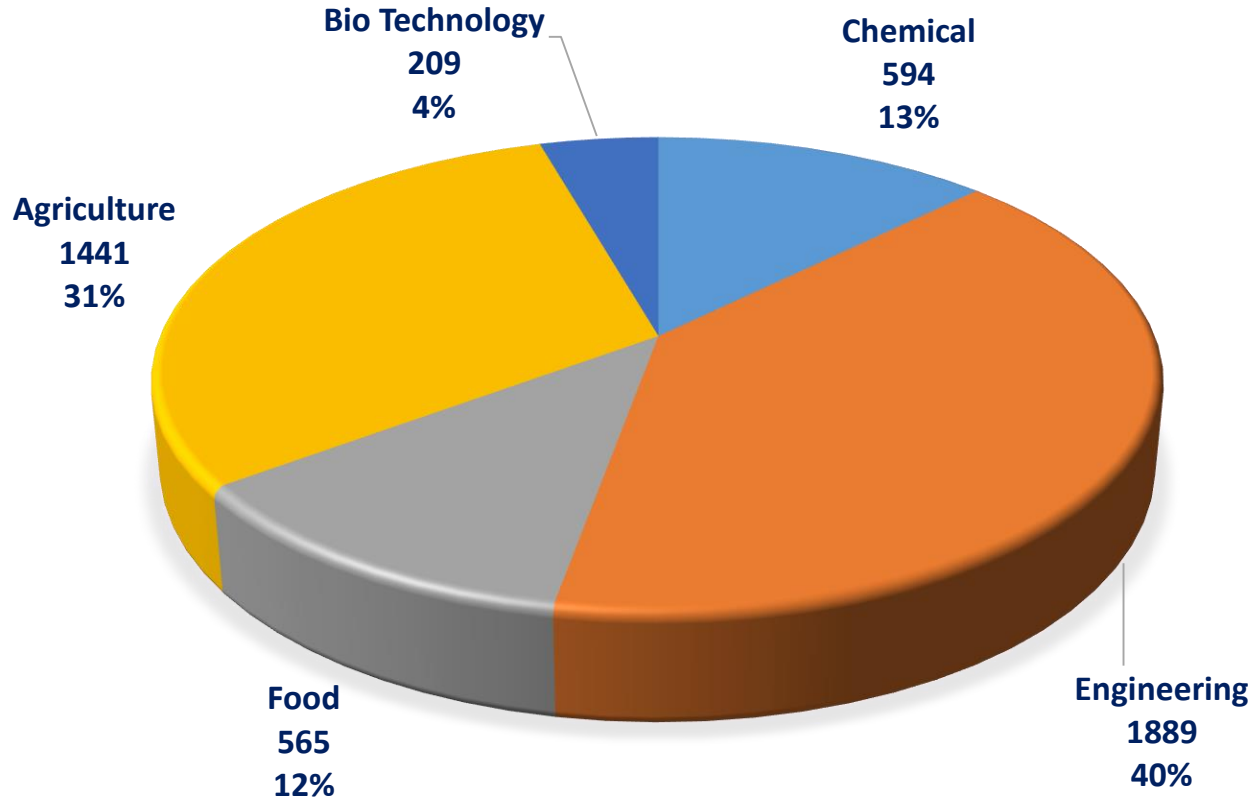
1800 Patents  
Filed

500 MoUs in  
Force

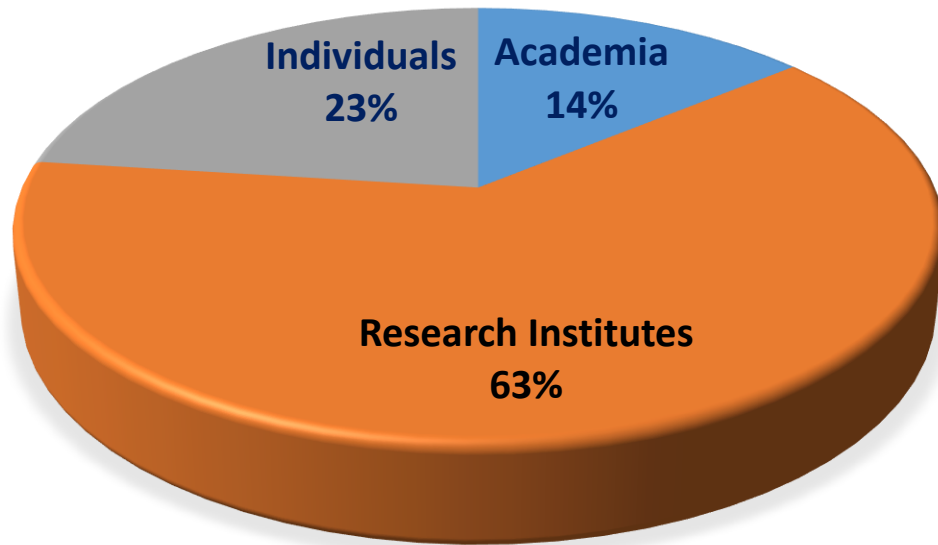
# SOURCES OF TECHNOLOGIES FOR NRDC



# SECTOR WISE LICENSEING OF TECHNOLOGIES



# PATENTS FACILITATED – OVER 1800



## Internationalisation of Incubation and Startups

- ❖ **Building ASEAN Innovation Platform**
- ❖ **Focal Point for BIMSTEC & BRICS Technology Transfer**
- ❖ **Contributing to growth of Incubation and Startups Ecosystem regionally, nationally and internationally**
- ❖ **Supporting Startup India Mission for Evaluation of Proposals**
- ❖ **Implementing Indian Oil Start up Scheme**
- ❖ **Managing 4 Incubation Centres of CSIR and one more will be in Tanzania**

# CENTRE FOR DEMONSTRATION AND PROMOTION OF TECHNOLOGIES (CDT), IVORY COAST, WEST AFRICA

Set up center, with 150 machine  
based technologies from India

Operated and maintained  
machines to produce numerous  
consumer products

Trained local human resources to  
operate and maintain machines

**166 MSMEs emerged from  
this Centre**





# PILOT RESEARCH PROJECT FOR TOMATO PRODUCTION IN GHANA (3 LOCATIONS)

At a glittering ceremony on 5th June 2017 attended by Hon'ble Ministers, High Commissioner of India, DG CSIR and Secretary, DSIR, Govt. of India, DG, CSIR, Ghana, CMD, NRDC and eminent scientists from India and Ghana, the Pilot Research Project for Tomato Production was declared successfully completed. The Project Completion document highlighting the research findings was handed over to DG, CSIR, Ghana by CMD, NRDC in the presence of the dignitaries.



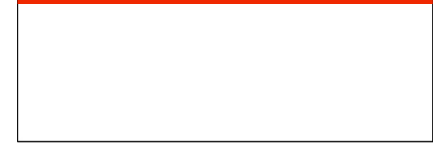
# FEW MAJOR TECHNOLOGIES COMMERCIALIZED BY NRDC

1. **Licensing: Some success stories**
  - i. Indelible Ink
  - ii. Amul Baby Food
  - iii. 10 & 20 HP Tractor
  - iv. Sodium Azide
  - v. Artificial Heart Valve
  - vi. Ayush-82 (Anti Diabetic Herbal )
  - vii. Anti Arthritis Herbal Ointment
  - viii. Remote Operated Vehicle
  - ix. Glycol based Anti-freeze coolant
  - x. Microbial quality test kit for drinking water
  - xi. Invert Sugar
  - xii. Liposomal Amphotericin B (“FUNGISOME” )
  - xiii. Bti-Larvicide
  - xiv. Solar Power Tree
  - xv. Potassium Humate
2. **Co-Development, Value Addition & Joint Licensing**
  - i. Hydrogel
  - ii. Auto-Dipper
  - iii. Rice Husk Particle Board
  - iv. Blood Bag
  - v. Spirulina Algae
  - vi. Azadirachtin



# INTERNATIONAL TECHNOLOGY TRANSFERS UNDERTAKEN

<u>TECHNOLOGY</u>	<u>COUNTRY</u>
Rice Husk Particle Board	Indonesia Malaysia
Natural & Synthetic Dyes & Pigments	Vietnam
Chlorine Tablets	Bangladesh
Menthol from Mint Oil Dehydration of Green Pepper & Triacontanol Water Filter Candles	Indonesia
Drugs (AZT & Omeprazole)	Brazil



# INTERNATIONAL CONSULTANCY PROJECTS & SERVICES

<b>S.NO.</b>	<b>TECHNOLOGY</b>	<b>COUNTRY</b>
1.	Identification of projects	Ivory Coast
2.	Identification of projects	Gabon
3.	STEP Projects	Egypt
4.	Fruit Processing	Nigeria
5.	Mini Cement Plant	Indonesia
6.	Fruit Processing and Handloom	Nigeria
7.	Reverse Osmosis Membrane	Thailand
9.	Mini Cement Plant	Madagascar
10.	Cotton Report	Ivory Coast
11.	Pharma Product Registration Dossier	Ethiopia
12.	Technical Support for Liquid Oral Formulations	Ethiopia



NRDC - TRANSFERRED TECHNOLOGIES TO 24 NATIONS ACROSS THE GLOBE

## **SERVICES OFFERED BY NRDC**

- 1. Sector Specific Diagnostic Study and Recommendations**
- 2. Setting up Pilot Research Projects/Farms(Agriculture) to Demonstrate the Technological Recommendations**
- 3. Preparation of Techno-Economic Feasibility Reports (TEFR)**
- 4. Preparation of Detail Project Report (DPR)**
- 5. Procurement of Plant and Equipment from India**
- 6. Erection, Commissioning and Trial Run, Operational Training**
- 7. Undertaking Turn Key Projects**
- 8. Setting up of Technology Demonstration Centers**
- 9. Setting up of Incubation Centers**
- 10. Skill Development Programs**

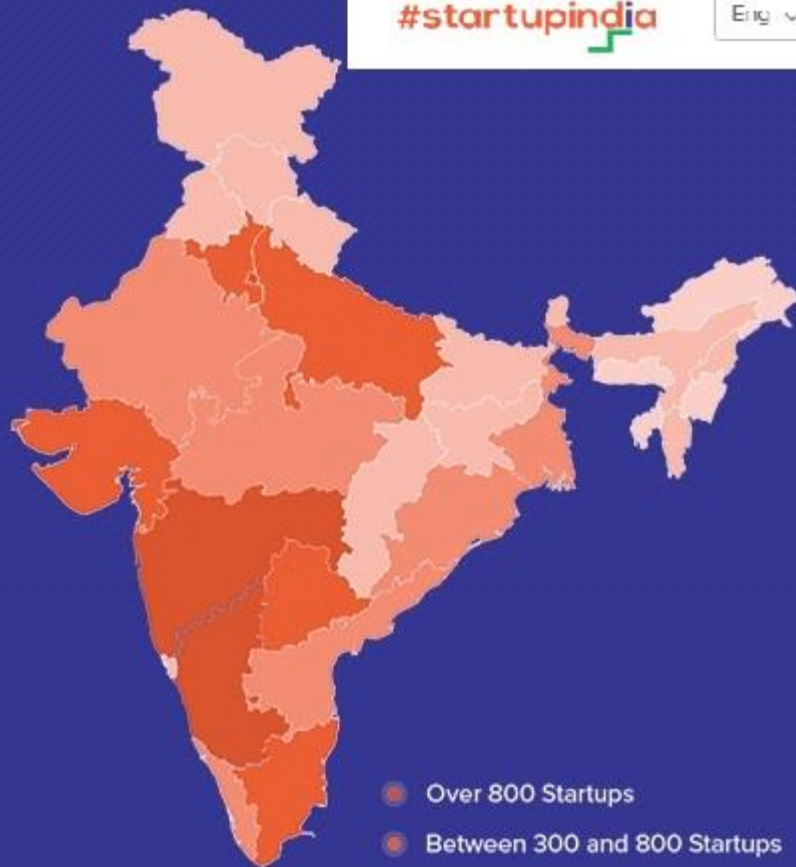
# INDIA - A VIBRANT NATION OF STARTUPS



- ❖ **Fastest and third largest ecosystem in the world**
- ❖ **Out of 28 States 19 are having their Start-up Policy**
- ❖ **To encourage competition amongst the states Govt. of India also introduce the State Ranking System of Startups**
- ❖ **Technology product, digital & manufacturing startups projected for rapid growth**
- ❖ **10 fold increase in access to capital through VC's, angel investment and seed funding (USD 14 Billion in 2017)**
- ❖ **Nation of job creators rather than job seekers**
- ❖ **India is in the midst of a startup boom and ranks 77 in the World ranking of Ease of Doing Business**

#startupindia

Eng ▼



- Over 800 Startups
- Between 300 and 800 Startups
- Between 100 and 300 Startups
- Under 100 Startups

## REGISTRATION



**2,28,319**

Learning and Development Module



**2,68,869**

Startup India Hub

## START UP RECOGNITION



**13679**

Till Date

## FUNDING SUPPORT

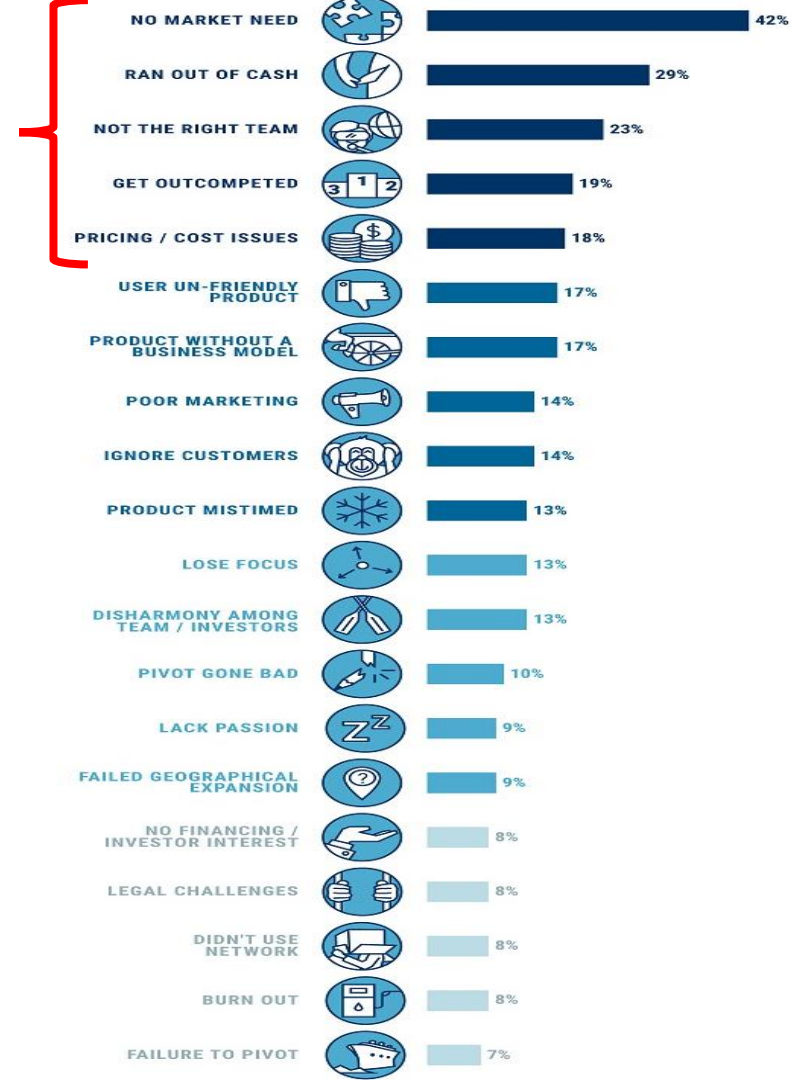


**129**

Startups Funded



# Top 20 Reasons for Start-up Failure



# Business Plan



*"Without a plan, even the most brilliant business can get lost. You need to have goals, create milestones and have a strategy in place to set yourself up for success." ~ Yogi Berra*



Problem/  
Opportunity



Solution/  
Value Proposition



Market Size



Competition



Business Model



Go To Market  
Strategy



Revenue Projection



Team



Current Status



Investment  
Requirements &  
Exit Options

# **INDONESIA – 2<sup>nd</sup> Largest Producer of Rubber in the World**

- **Solid Tyres**
- **Cycle Tyres & Tubes**
- **Two Wheeler Tyres and Tubes**
- **Passenger Radial Tyres**
- **TBB & TBR Tyres**
- **Off Highway Tyres**
- **Rubber Mats and Rubber backed Mats**
- **Rubber Conveyor Belts**
- **V-Belts**
- **Pre-cured Tread Rubber**
- **Rubber Mixing Units**
- **Rubber Hose**
- **Moulded and Extruded Automotive Goods**
- **Technically Specified Rubber**
- **Centrifuged Latex**
- **Surgical Tubes**
- **Micro Cellular sheets**
- **Hawai Sheets and Straps**

# CONCLUSION



- **NRDC : India's No. 1 Technology Transfer Organisation with over 6+ Decades of Experience .Gateway for STI led businesses and willing to partner with Indonesian Innovation Eco-system**
- **Effectively managing Tech Databank of over 3000 Technologies**
- **Concluded 5000 Licence Agreements(90% Start-ups/SMEs) and filed over 1800 Patents**
- **Exported technologies and services to 24 Countries**
- **Created Wealth of about 500 Million USD and Generated Employment for over 100 Thousand personnel**
- **Ploughed back over 15 Million USD to Technology Generators**
- **NRDC Model can be replicated in Indonesia for promotion of IP,Innovation,Incubation,Entrepreneurship,Technology Transfer and Start ups**

**THANK YOU**