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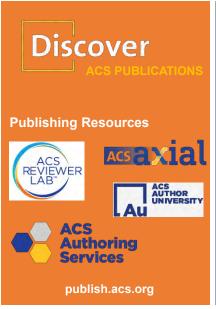
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Whether you are just starting your journey, transitioning jobs, or looking to brush up or learn new skills, the **ACS Career Navigator** has the resources to point you in the right direction.

We have a collection of career resources to support you during this global pandemic:



Professional Education



Virtual Career Consultants



ACS Leadership Development System



Career Navigator LIVE



ChemIDP



College to Career



ACS Webinars



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Visit www.ACS.org/COVID19-Network to learn more!

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A Career Planning Tool For Chemical Scientists

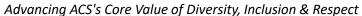




ChemIDP is an Individual Development Plan designed specifically for graduate students and postdoctoral scholars in the chemical sciences. Through immersive, self-paced activities, users explore potential careers, determine specific skills needed for success, and develop plans to achieve professional goals. ChemIDP tracks user progress and input, providing tips and strategies to complete goals and guide career exploration.

https://chemidp.acs.org

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Online vs. In-Person

Networking as a Medicinal Chemist



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Skin-Inspired Organic

ACS President H.N. Cheng Presents:

Date: Friday, May 28, 2021 @ 1-2pm ET Speakers: Zhenan Bao, Stanford University and H.N. Cheng, ACS President Moderator: Young-Shin Jun, Washington University in St. Louis

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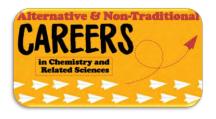
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THIS ACS WEBINAR WILL BEGIN SHORTLY...





How to Start a Start-Up



DR. AMITABHA BANDYOPADHYAY

Kent Chair Professor, Department of Biological Sciences and Bioengineering, Indian Institute of Technology Kanpur



Presentation slides are available now! The edited recording will be made available as soon as possible.

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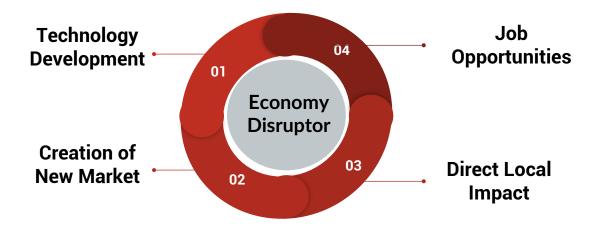


Prof. Amitabha Bandyopadhyay
In-charge, Innovation & Incubation
IIT Kanpur
Director, Foundation for Innovation & Research in
Science & Technology (F.I.R.S.T.)
Department of Biological Sciences and
Bioengineering, IIT Kanpur



on TTSS

Why Startups are Important?









1

Startups create more Jobs per Crore (₹) Capital Deployed

WHO CREATES JOBS IN INDIA?

Category	# Companies	#Jobs per crore of capital deployed	Star job-creators within category	Job laggards
Nifty50-manufacturing	33	0.83	Coal India(22.6); Aurobindo Pharma(2.60); HUL(2.55), L&T(6.09)	NTPC(0.11), Powergrid(0.06), Adani(0.04) Bharti Infratel(0.14), IOC(0.28), ONGC(0.28)
Nifty50-services	7	2.68	TechM(6.91), TCS(5.15), Wipro(3.79)	Bharti Airtel(0.23), Zee Entertainment(0.34)
Other listed services firms	6	4.95	Apollo Hospitals(7.99), Blue Dart(14.54)	EIH(1.88), Indian Hotels(2.04), Thomas Cook(1.84)
New-age' listed firms	11	1.26	Coffee Day(9.74), Future Retail(13.11), Just Dial(12.52), Firstsource(7.90), EXL(6.67)	Idea Cellular(0.16), MakeMyTrip(0.16), Sun TV(0.49)
PE-funded startups	3	0.69	Oyo(1.11)	Flipkart(0.63), PayTM(0.79)
Series-A&B startups	4	4.44	Peelworks(7.08), Liqvid(5.33)	Rent-o-mojo(3.62), Faircent(3.85)
Angel-funded & bootstrapped startups	4	13.77	Fitness365(40), LawRato(14), Mrida(5.89)	Beato(3.0)

https://www.linkedin.com/pulse/so-who-creates-jobs-india-finally-doodh-ka-paani-srikant-sastri/sas

Job Opportunities



The stars create as many as **14 to 40 jobs PCCD** (per crore capital deployed). Even the 'weakest' one creates 3-4 jobs.

Data courtesy Mr. Srikant Sastri 18

Startups are Important for INDIA



Indian startups are going Global, attracting Foreign funds

Audience Survey Question

ANSWER THE QUESTION ON BLUE SCREEN IN ONE MOMENT



What best explains your interest in today's webinar?

- I am curious about being an entrepreneur
- I plan to create a start-up soon
- I have created a start-up and am looking for advice
- I have created a few start-ups and would like to share advice
- Other (Tell us more in the chat)



st If your answer differs greatly from the choices above tell us in the chat!

Brief History of Entrepreneurship In India

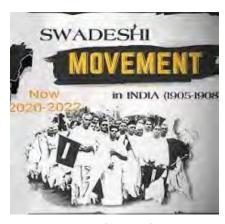
How Old is entrepreneurial culture of India?

2

Entrepreneurship during Pre-colonial Days



Once highly prized world over and fashion revolutionizing fabric CHINTZ originated in India



Movement for self reliance during colonial era







India had a GDP share of 23% of the world, when British left it was 2%

Effect of colonization on Indian Economy

<u>Maddison, Angus</u> (2003): <u>Development Centre Studies The World Economy</u> <u>Historical Statistics: Historical Statistics</u>

2

Post-independence wave of Entrepreneurship | BT & IT Wave







1968

1981





1978

<u> 1981</u>







2nd wave of Entrepreneurship | Consumerism













2000s





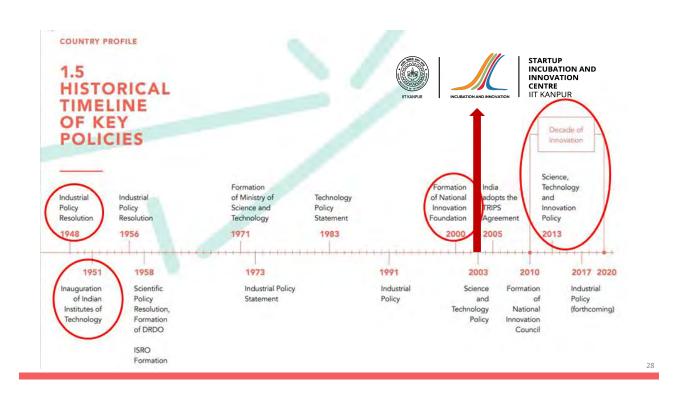
Indian Startups **Present Scenario**



37% startups are in Business Analytics, 59% in Ecommerce sector, 42% in Aggregators and Recruitment

3100+ Startups are present

India is on 4th Position for Startup emerges globally \$2.3 Million is the average valuation of startups \$7.7 Million Average deal size for a startups \$2.9 Billion Funding generated by the startups 70,000+ Employment Generated by the startups



An ecosystem that converts ideas into products





STARTUP
INCUBATION AND
INNOVATION
CENTRE
IIT KANPUR

29

SIIC now has 100 incubated companies from all over the



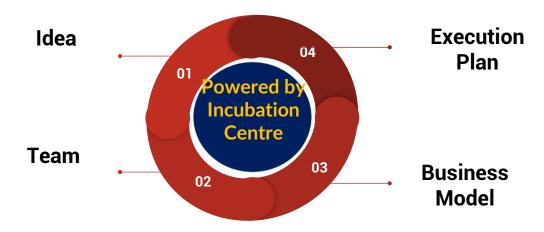


On an Average
90% startups fail
and 10% of the
startups fail in
their first year

The Success rate of SIIC IIT Kanpur is $\sim 42\%$

*Success parameter: sustainable business beyond 5 years

Key elements of a succesful startup





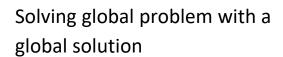




3

Idea









Solving Indian problem but selling product globally







Team





Nikhil Kurele

Harshit Rathore

Grads from IIT Kanpur | Expertise in Robotics





Ankit Aggarwal

Masters in Entrepreneurship from Symbiosis Institute of Business Management

And a whole bunch of BTech/MTech
Graduates from the IITs











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Business Model

- B→B
- Focused Customer segmentation
- High Quality



- $B \rightarrow B$ and $B \rightarrow C$
- Correct identification of the customer
- Branding











Execution Plan

'Nimbleness and opportunistic traits are crucial for the success'

FLASHBACK | 2020



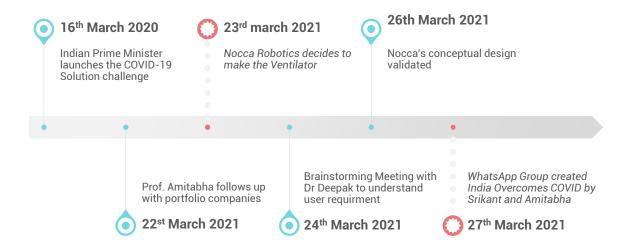




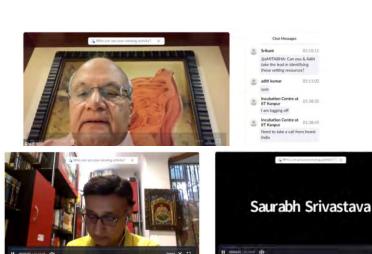
Execution Plan

Ideation Stage

From 180 days to 12 days











CORE TEAM: Nocca Robotics



Nikhil Kurele, CEOB.Tech Mechanical Eng.
IIT Kanpur



Tushar Agarwal, Product Scientist
B.Tech+ M.Tech Mechanical Eng.
IIT Kanpur



Harshit Rathore, CTO

BS Chemistry

IIT Kanpur



Asim Thakurta, COO Ex-Chief, Corporate Affairs, TATA Power

Clinical Advisors



Dr. Prachee SatheDirector, ICU Ruby
Hall Clinic



Dr. Deepak PadmanabhanElectrophysiology, Cardiology
Narayana Institute of Cardiac
Sciences



Dr. Dileep RamanDirector - Cloudphysician
Healthcare Pvt Ltd

Project Leaders



Srikant Sastri
Board Member, SIIC IIT Kanpur & Venture
Centre Pune
National Expert Advisory Committee,
DST, GOI



Prof. Amitabha Bandyopadhyay KENT Entrepreneurship and Innovation Chair Professor; Professor-in-Charge, SIIC IIT Kanpur

Chief Strategy & Corporate Advisors



Dr. Ajai Chowdhry,Padma Bhushan,
Founder HCL; Chairman, Electronics
Skills Council; Chairman IIIT N.Raipur &
IIT Patna



Dr. Saurabh Srivastava, Padma Shri, Founder NASSCOM, TiE Delhi/NCR, Indian Angel Network, Indian Venture Capital Association

GTM Strategy



Pavan Choudary Chairman, MTAI; M.D, Vygon India; Independent Director, Transasia Bio-Medica



Sanjiv Verma
Chairman advisory Board Catapult Asia, former MD Baxter India

Manufacturing & Licensing

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Dr Rakesh Bhargava Member of the Board and former Chairman of Fresenius Kabi Oncology Ltd, and former MD of Fresenius Kabi India



Yashdeep Kumar Global R&D head, Stryker Corporation

Project Development



Sanjay Banerjee Former M.D, Zimmer Biomet; Chairman, OurHealthMate; Director, SS Supply Chain Solutions;

Supply Chain



Rajesh Raizada Managing Partner at Culturewell Former VP, Supply Chain HCL

Execution Plan | Team

From 180 Days to less than 24 hours

Different teams working simultaneously on supply chain, product development, funding, marketing, manufacturing, regulatory clearances.

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Execution Plan

Prototyping Stage

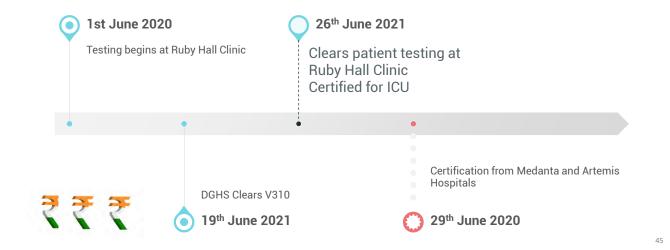
From 180 days to 45 days



Execution Plan

Prototyping Stage

From 365 days to 45 days





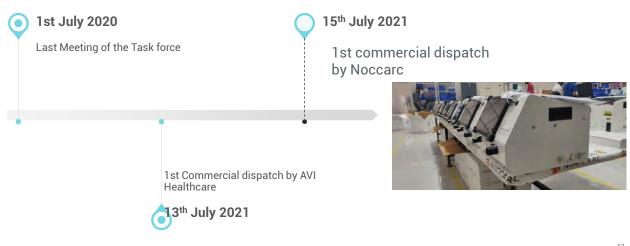


4.0

Execution Plan

Commercialization

From 180 days to 15 days



COVID-19 crisis brought the need of MANUFACTURING in 'limelight' not just in India but worldwide







IIT Kanpur has been fighting against COVID-19 pandemic from the frontline.

Oxygen Concentrators (8-10 LPM)

10 teams in collaborative learning & development 8 SMEs to manufacture from 70+ applications

Oxygen Plants (150 & 500 LPM)

2 teams experienced with delivering large scale government projects are setting up plants

Hydrogenated Oxygen Therapy Device

A serial innovator developing new kind of machine to help the COVID-19 patients at 6 LPM

Oxygen Saving Device

A device to save the O2 by managing the flow during the exhalation cycle is being developed in mentorship of Prof. Manu Prakash from Stanford University, an alumnus of IIT Kanpur







IIT Kanpur is also the Nodal Agency of the Consortium led by the Office of the PSA, Gol

How is SIIC IIT Kanpur becoming a manufacturing innovation hub?



- Careful selection of innovators
- Community based approach
- Institutional support
- Alumni Connect
- Govt. Connect
- Industry Connect
- Massive investment







53

Current Challenges of Manufacturing in India

https://smeventure.com/5-major-challenges-faced-startups-india/http://www.smetimes.in/smetimes/face-to-face/2021/Apr/15/samir-sathe-interview63433.html

- Lack of Infrastructure
- Expensive and delayed logistics
- Complex Land and Labour Laws
- Long term capital

Initiatives under StartupIndia and Make In India

- PLI Scheme extended to 11 sectors including Medical Devices Industry
- 11 new schemes to promote MSME in India. Support includes technology upgradation, innovation, skill enhancement, rural employment etc
- Establishment of Manufacturing zones
- CSR funds via Incubation centres for startups and MSME

https://www.investindia.gov.in/schemes-msmes-india









5.5

MAKE IN INDIA

ADVANTAGE INDIA Policy Robust Competitive Demand Support Advantage In Budget 2021, the Under the PLI scheme, Huge domestic market Increasing share of government allocated Rs. with a rapidly increasing the government plans to young working 2631 crore (US\$ 362.32 middle class and overall create global population. population. million) for Promotion of manufacturing India can achieve its By 2030, Indian middle Electronics and IT champions across 13 full manufacturing Hardware Manufacturing potential as it looks class is expected to sectors and has have the second largest and Rs. 757 crore (US\$ allocated ~Rs. 1.97 lakh to benefit from its share in global 104.25 million) for Faster crore (US\$ 27.13 demographic consumption at 17%. Adoption and billion) over the next dividend and a large Manufacturing of Hybrid five years (starting workforce over the and Electric Vehicle in FY22). next two to three India (FAME - India). decades O/

https://www.ibef.org/industry/manufacturing-sector-india.aspx





Happy to answer your Questions

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How to Start a Start-Up





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Medicinal Chemist

Moderator: Lorraine Clark, ACS Publications



Date: Thursday, May 20, 2021 @ 2-3:30pm ET Speakers: Ronny Priefer, Massachusetts College of Pharmacy and Health Sciences / Kelly Chibale, University of Cape Town (South Africa) / Maria Laura

What You Will Learn:

- How to approach in-person vs. virtual networking with proven advice from What tips and tricks for virtual networking provide results and how you can
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- get started now

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How to Win Funding

Compelling Grant and Fellowship Applications

Date: Thursday, May 27, 2021 @ 2-3pm ET Speaker: Nancy Jensen, American Chemical Society Moderator: Joerg Schlatterer, American Chemical Society

What You Will Learn:

- Where funding sources can be located
- . How to effectively present your proposed research
- How to avoid some common errors in proposal writing and constructively dealing with rejection



Date: Friday, May 28, 2021 @ 1-2pm ET Speakers: Zhenan Bao, Stanford University and H.N. Cheng, ACS Presiden Moderator: Young-Shin Jun, Washington University in St. Louis

Register for Free!

What You Will Learn:

- How materials are designed for skin-inspired electronics
- . How skin-inspired electronics are interfaced with biological systems

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Online vs.

Networking as a Medicinal Chemist



Moderator: Lorraine Clark, ACS Public

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Skin-Inspired

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