Have Questions?

Type them into questions box!

“Why am I muted?”
Don’t worry. Everyone is muted except the presenter and host.
Thank you and enjoy the show.

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ACS Career Navigator: Your Home for Career Services

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:

Visit [www.ACS.org/COVID19-Network](http://www.ACS.org/COVID19-Network) to learn more!

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We believe in the strength of diversity in all its forms, because inclusion of and respect for diverse people, experiences, and ideas lead to superior solutions to world challenges and advances chemistry as a global, multidisciplinary science.

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How to Start a Start-Up

FREE Webinar | TODAY at 6-7 IST (8:30am ET)

THIS ACS WEBINAR WILL BEGIN SHORTLY...
How to Start a Start-Up

Presentation slides are available now! The edited recording will be made available as soon as possible.
www.acs.org/acswebinars

This ACS Webinar is co-produced with the ACS International and C&EN Jobs.

Bone Biologist on MWF

Business Incubator In Charge on TTSS
Why Startups are Important?

Technology Development

Job Opportunities

Creation of New Market

Direct Local Impact

Startups create more Jobs per Crore (₹) Capital Deployed

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
Indian startups are going Global, attracting Foreign funds

Audience Survey Question

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)

* 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?

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%

Maddison, Angus (2003): Development Centre Studies The World Economy
Historical Statistics: Historical Statistics

Post-independence wave of Entrepreneurship | BT & IT Wave

1945
1968
1981

1978
1981
2nd wave of Entrepreneurship | Consumerism

Indian Startups
Present Scenario
A Glance at India's Startup Ecosystem

- 50% startups are in Business Analytics
- 59% in E-commerce sector
- 42% in Aggregators and Recruitment

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

Focus Areas of Startups

- 70+ Startups, 1000+ investors, 1500+ ecosystem stakeholders
- 48% B2B, 52% B2C
- 6% Frontline health and education
- 3100+ Startups are present

Country Profile

1.5 Historical Timeline of Key Policies

- 1948: Industrial Policy Resolution
- 1956: Industrial Policy Resolution
- 1971: Formation of Ministry of Science and Technology
- 1983: Technology Policy Statement
- 2005: India adopts the TRIPS Agreement
- 2013: Science, Technology and Innovation Policy
- 2017: Industrial Policy

Decade of Innovation

Science, Technology and Innovation Policy

Formation of National Innovation Council

Industrial Policy (forthcoming)
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 ~42%.

*Success parameter: sustainable business beyond 5 years*
Key elements of a successful startup

1. Idea
   - Solving global problem with a global solution
   - NOCCARC

2. Team

3. Business Model
   - Solving Indian problem but selling product globally
   - PHOOL

4. Execution Plan

Powered by Incubation Centre
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

Business Model

• B→B
• Focused Customer segmentation
• High Quality

• B→B and B→C
• Correct identification of the customer
• Branding
‘Nimbleness and opportunistic traits are crucial for the success’

FLASHBACK | 2020

Execution Plan

16th March 2020
Indian Prime Minister launches the COVID-19 Solution challenge

22nd March 2021
Prof. Amitabha follows up with portfolio companies

23rd March 2021
Nocca Robotics decides to make the Ventilator

24th March 2021
Brainstorming Meeting with Dr. Deepak to understand user requirement

26th March 2021
Nocca’s conceptual design validated

27th March 2021
WhatsApp Group created

Ideation Stage
From 180 days to 12 days

India Overcomes COVID by Srikant and Amitabha
CORE TEAM: Nocca Robotics

Nikhil Kurele, CEO
B.Tech Mechanical Eng.
IIT Kanpur

Harshit Rathore, CTO
BS Chemistry
IIT Kanpur

Tushar Agarwal, Product Scientist
IIT Kanpur

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

Clinical Advisors

Dr. Prachee Sathe
Director, ICU Ruby Hall Clinic

Dr. Deepak Padmanabhan
Electrophysiology, Cardiology
Narayana Institute of Cardiac Sciences

Dr. Dileep Raman
Director - Cloudphysician Healthcare Pvt Ltd

Dr. Dileep Raman
Director - 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

Manufacturing & Licensing

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

Project Development

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

Yashdeep Kumar
Global R&D head, Stryker Corporation

Sanjay Banerjee
Former M.D, Zimmer Biomet;
Chairman, OurHealthMate;
Director, S5 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.

Execution Plan

Prototyping Stage

From 180 days to 45 days

- **5th April 2020**: 1st Prototype
- **7th April 2021**: Secured 50 lakhs INR from Standard Chartered Bank
- **18th April 2021**: MoU with Manufacturer
- **19th May 2020**: Certified for IEC 60601-1 compliance
- **16th May 2020**: Final Prototype ready
**Execution Plan**

1st June 2020
Testing begins at Ruby Hall Clinic

26th June 2021
Clears patient testing at Ruby Hall Clinic
Certified for ICU

19th June 2021
DGHS Clears V310

29th June 2020
Certification from Medanta and Artemis Hospitals

**Prototyping Stage**

*From 365 days to 45 days*
COVID-19 crisis brought the need of MANUFACTURING in ‘limelight’ not just in India but worldwide.
Unprecedented Times, Unprecedented Efforts

3 products commercialized by SIC Startups doing the pandemic.
Unprecedented Times. Unprecedented Efforts

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, GoI

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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

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

Happy to answer your Questions

Building Your Own Startup
Presenting a Business Incubator’s Perspective

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How to Start a Start-Up

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ASK YOUR QUESTIONS AND MAKE YOUR COMMENTS IN THE QUESTIONS PANEL NOW!

How to Start a Start-Up

DR. AMITABHA BANDYOPADHYAY
Kent Chair Professor, Department of Biological Sciences and Bioengineering, Indian Institute of Technology Kanpur

DR. DEEKSHA GUPTA
Associate Director-India, American Chemical Society

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ACS Webinars

Online vs. In-Person Networking as a Medicinal Chemist

Date: Thursday, May 20, 2021 @ 2-3:30pm ET
Speakers: Ranny Pfeifer, Massachusetts College of Pharmacy and Health Sciences / Kelly Chibale, University of Cape Town (South Africa) / Maria Laura Bolognese, University of Bologna (Italy)
Moderator: Lorraine Clark, ACS Publications

What You Will Learn:
- Why networking is essential for a successful career in medicinal chemistry
- How to approach in-person vs. virtual networking with proven advice from leaders in the field
- What tips and tools for virtual networking provide results and how you can get started now

Co-produced with: ACS Divisions of Medicinal Chemistry, Chemical Toxicology, American Association of Pharmaceutical Scientists, and ACS Publications

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 Schmitter, 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

Co-produced with: ACS Graduate & Postdoctoral Scholars Office

Skin-Inspired Organic Electronics

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

What You Will Learn:
- What is the current status of skin-inspired electronics
- How materials are designed for skin-inspired electronics
- How skin-inspired electronics are interfaced with biological systems

Co-produced with: ACS Committee on Science

The “Frontier Friday” Webinar Series are organized by ACS President H.N. Cheng, Michael Morelli (Division Representative, ACS Committee on Science) and the former ACS President, Zhenan Bao (Chair of the ACS Committee on Science) at Stanford University.

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