

Shifting dynamics of space industry ecosystem in India

AVRIST India Conference

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Traditional space

- From the 70s to today - Almost 500 suppliers contribute to many of the space activities in India with a core of about 200 suppliers out of them.
- Development of industry
 - Too risky for private industry to participate and risk mostly taken by government by ISRO developing all the IP
 - Industry supports by helping manufacture and not creating original IP
 - Too expensive to setup end-to-end services

The rise of NewSpace in India

- Startups that want to build their own launch vehicles, satellites, end user applications
- Reduced cost of small satellites, leveraging existing vendor base in India to make end-to-end services for the first time
- Independent investments coming from VCs to fuel the growth
- Working outside the traditional ISRO supply chain to directly address market demand within India and internationally

Reaching for the stars

In the past ten years, more than 20 space-tech start-ups have emerged in India, out of which 10 have received funding

	Founded	Funding (\$ million)	Major investors
Team Indus	2010	18.01	NT Consulting, Sasken Communication, Rakesh Jhunjhunwala, Binny Bansal, Ratan Tata
Vesta Space	2018	10	NXT Capital
AgniKul	2016	3.58	CIIE, Globevestor, LetsVenture, Artha Venture Fund, Pi Ventures
Bellatrix Aerospace	2015	3.01	CIIE, GrowX Venture Management, Parampara Capital
Skyroot	2018	1.49	Mukesh Bansal
Dhruva Space	2012	0.69	Ravikanth Reddy
Kawa Space	2007	0.59	AngelList, Speciale Invest, Vijay Shekhar Sharma
Astrome	2015	0.046	Cisco LaunchPad, Karnataka Startup Cell
Astrogate Labs	2017	0.019	Speciale Invest, IKP EDEN
Pixxel	2017	Seed	Starburst, GrowX Venture Management

Source: Tracxn

Recommendations

- Build initiatives that can help NewSpace actors between India and France to interact with each other beyond G2G cooperation
- Involve more non-space people to enter space related areas to contribute with their expertise
 - Historians
 - Economists
 - Social Scientists
 - Artists

Indian Space History

- We have not involved professional historians to capture and archive material for future generations
- Only some limited memoirs and accounts available as on date
- Very little details on historical cooperation between France and India available right from the early discussions between Prof. Sarabhai and Prof. Blamont.
- Worth creating Audio/Video history of people involved
- Time is running out since most early people are today late 80s or early 90s in India

Measuring the impact of space on Indian economy

- Economists and Social Scientists need to be involved in creating a framework that can be used to measure the impact of space activities on
 - Productivity of end-user community
 - Savings to tax payers (e.g. early detection/rescue during disasters)
 - Earnings to tax payers (e.g. GIS based system to collect construction tax)
 - Job creation beyond the first order of magnitude vendors involved in the space supply chain

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