

CANEUS Contribution to United Nations / Austria Symposium Access to Space: Holistic Capacity-Building for the 21st Century



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Forthcoming CANEUS Infrastructure & Development Facility For Global Capacity Building To Support UNISPACE+50

Proposed Innovative
UN PPP Approach



UNITED NATIONS
Office for Outer Space Affairs

1. Need for the Proposed UN PPP Project



- With the emergence of **new approaches in satellite design and construction**, specifically small satellites, added with **new and increasing number of space actors at all levels**; the space and user community worldwide is seeking requisite infrastructure **to support new initiatives and new concepts for improved delivery of space-based data and capacity building**.
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- The UN-OOSA HLF (**UN A/AC.105/1129**), identified the need and benefits of space accessibility and development facilities for the benefit of humanity; to enhance access to space and its assets for scientific and commercial endeavours by joining **a global public-private partnership (PPP) effort** in the development of the global space sector and to serve the 2030 Agenda for Sustainable Development.

2. CANEUS' Proposed Innovative Approach



**Proposed
UN PPP Project
Facilitating
Global Capacity Building
and
Access to
Satellite
Technology**

**Low Cost Volume
Manufacturing - AIT
of Small Satellites in
India**

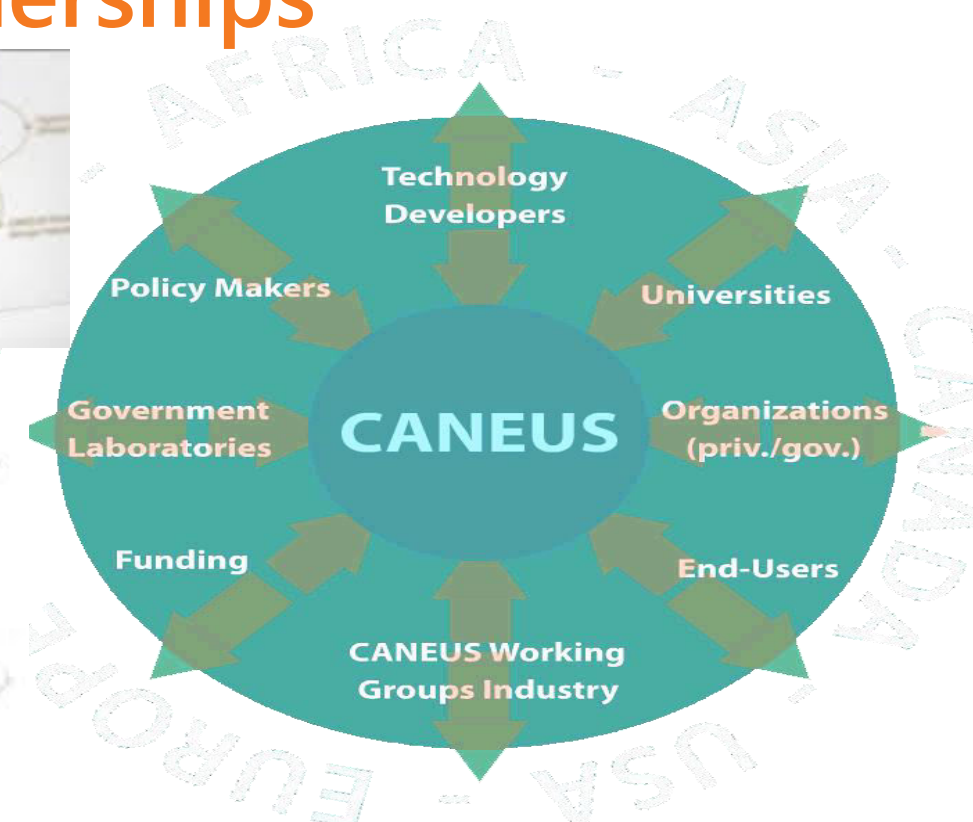
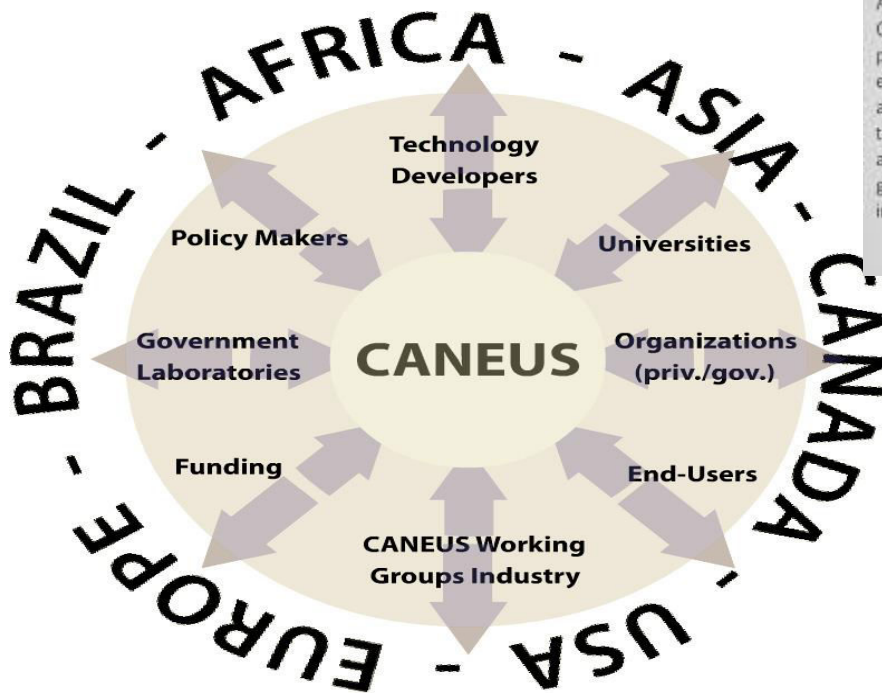
**Center of Excellence
on Space Sciences &
Technologies 4
Development
CoE4SSTD**

2. What is CANEUS and Why the Proposed Approach



CANEUS' Sole Purpose: Enable Productive Partnerships

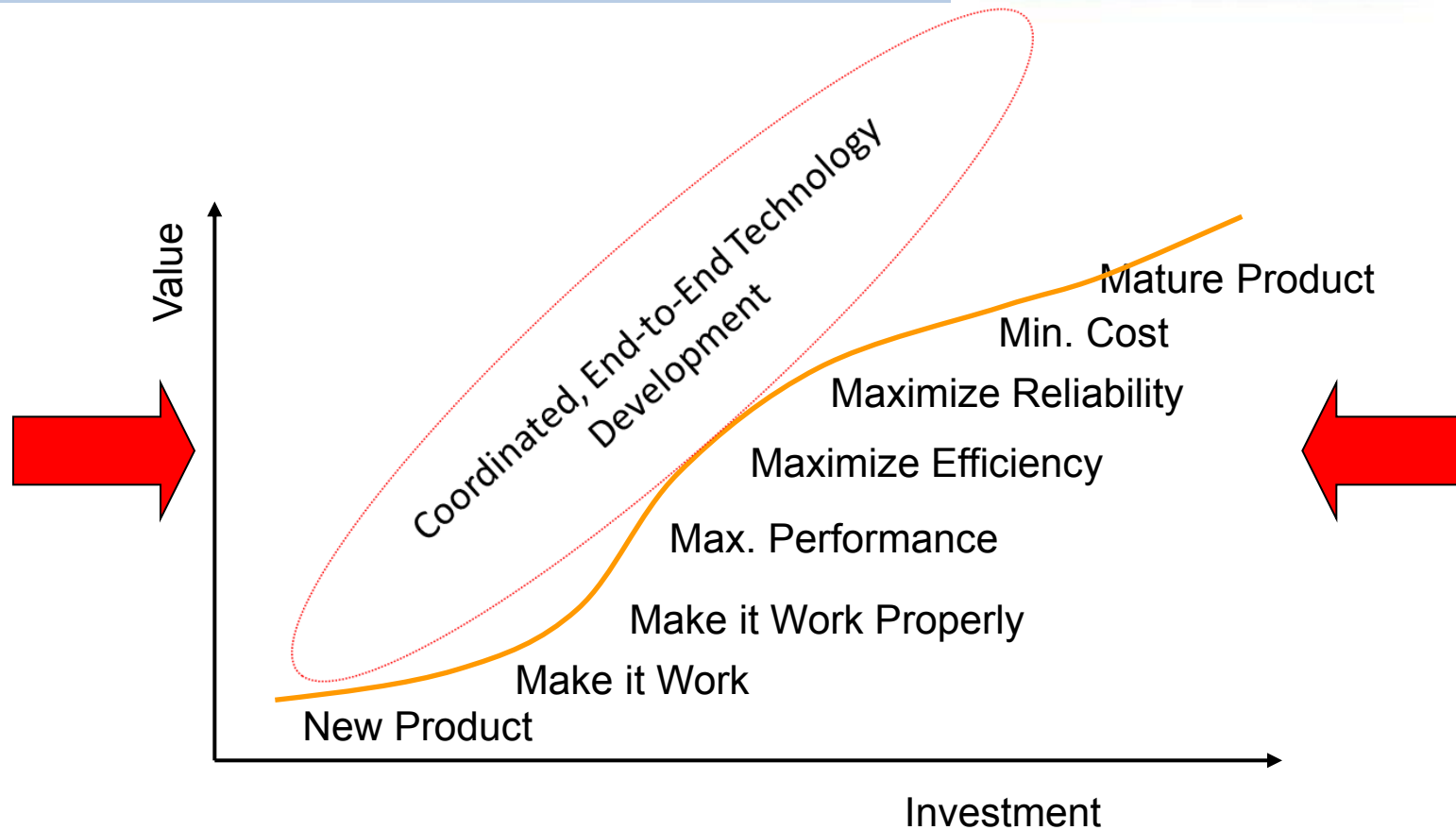
As a "hands on" organization, CANEUS is focused on the practical aspects of transitioning emerging technologies rapidly and efficiently by bringing together technology developers, aerospace end-users, governmental policy makers and investors from across the world



CANEUS was the first international organization created in 1999 to address the "Valley of Death" problem that afflicts the Space sector and to propose a coordinated, end-to-end solution



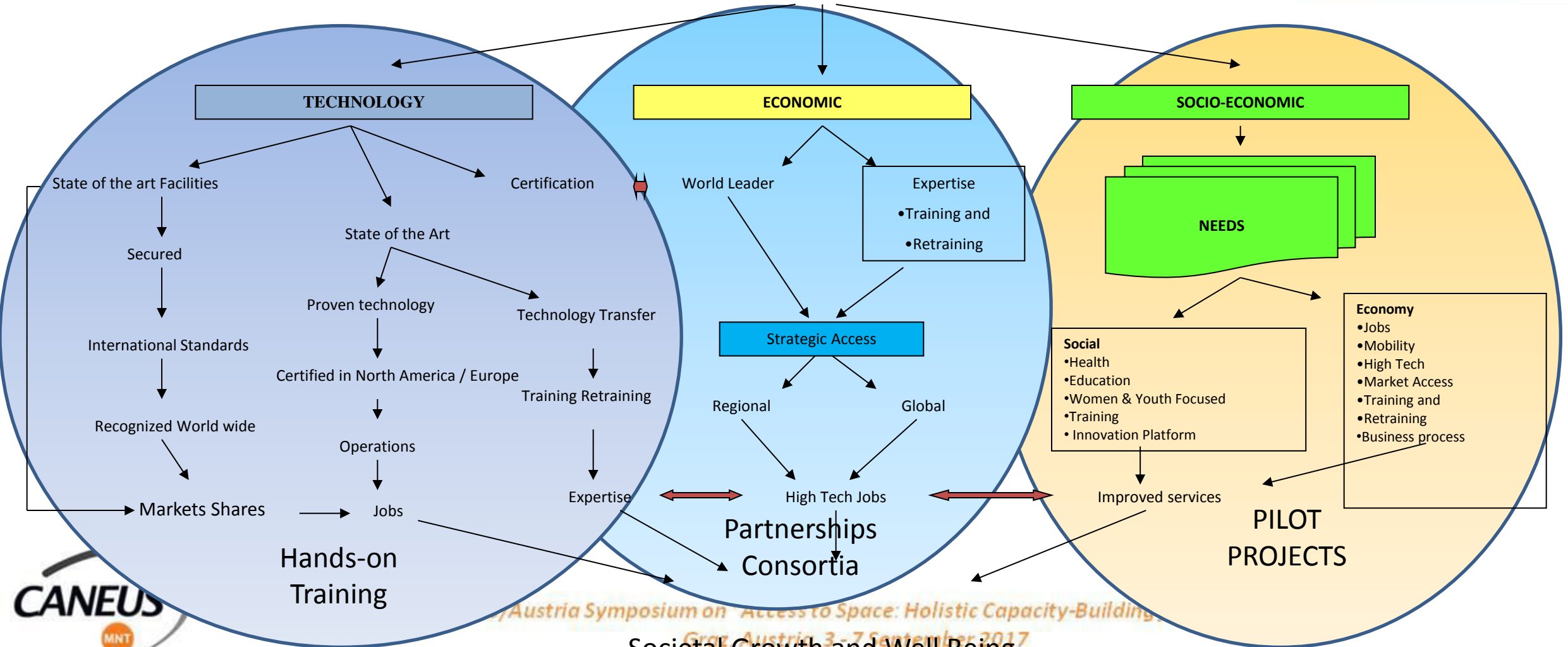
- Maximize Return-on-Investment for emerging technologies and laterally **compress the S-Curve**
- Pursue a **coordinated, end-to-end technology development** strategy
- Promote rapid insertion by creating **application pull**



3. Building on CANEUS – UN Decade+ Proven Partnership



CANEUS' New and Innovative Overall Capacity-Building Approach



4. CANEUS' Small Satellite Global Initiatives

- CANEUS Small Satellite Consortium established in 2004
- Created Standards with AIAA
- Developed Launch Portal with NASA, ESA
- Undertook Shared Small Satellite 30 Nano-Satellite AIS Constellation with NRL
- Initiated Global-Sat Constellation in cooperation with UN-OOSA
- Limited Objective Demonstrations for Maritime monitoring in Chile, Argentina, Mexico, Vietnam, etc.
- University small satellite programmes at International Space University and worldwide

4. CANEUS' Small Satellite Initiatives in India

2013 - VICAS with DRDO and ISRO

2013 and 2014 - Small Satellite workshops with IIST

2014 - Small Satellites & Sensors for Disaster Management with IISc

2014 - Sensors & Materials for SHM /IVHM with NAL

2014 – Cube Sat launch agreement with Antrix

2015 - Nanotechnology for Advanced Aerospace Vehicles in India (NAVIN) PPP Consortium with IISc

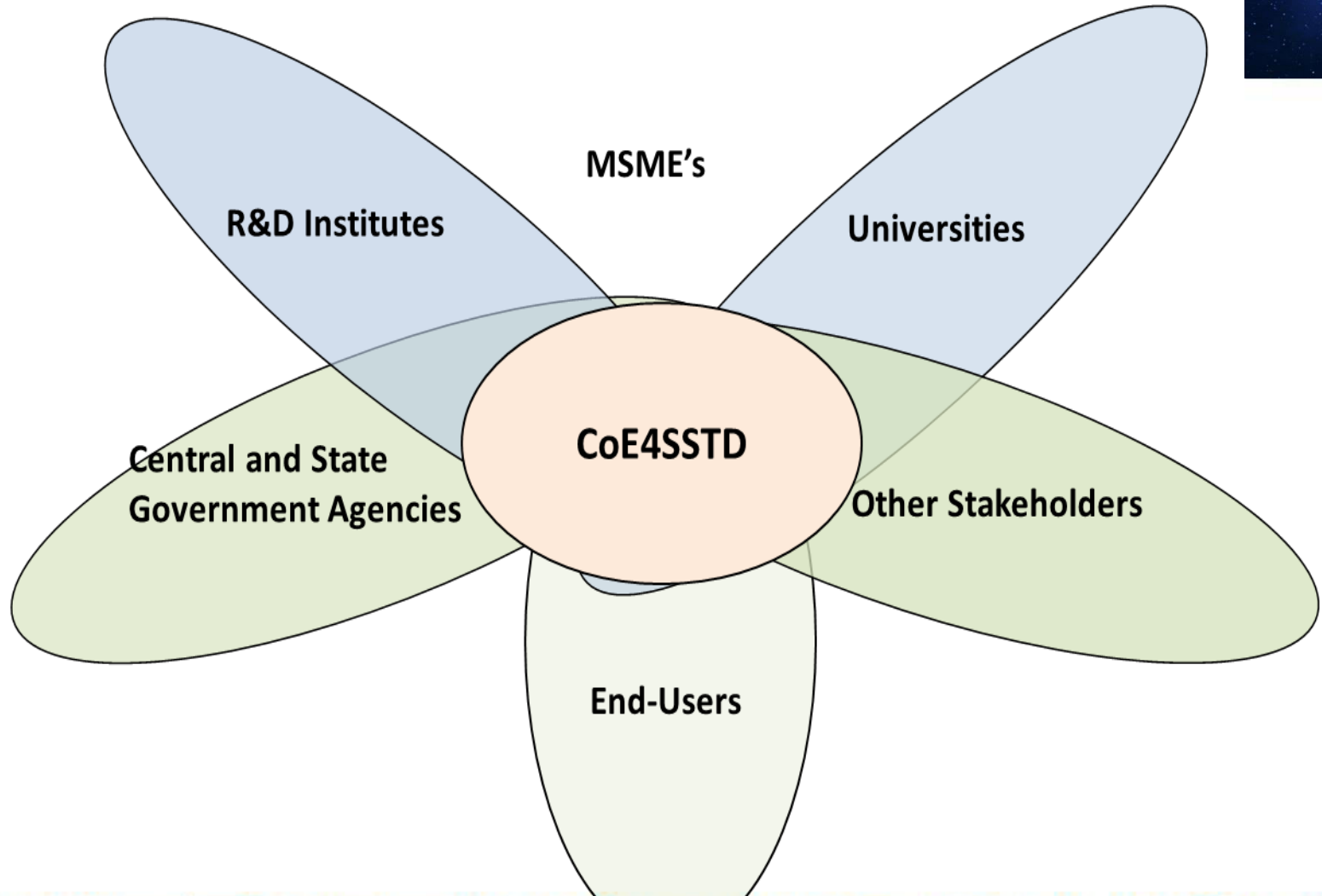
2015 - STEM Skill Development Session with Dr. Chidambaram, PSA

2015 -16 Nano Satellite development Programme across India



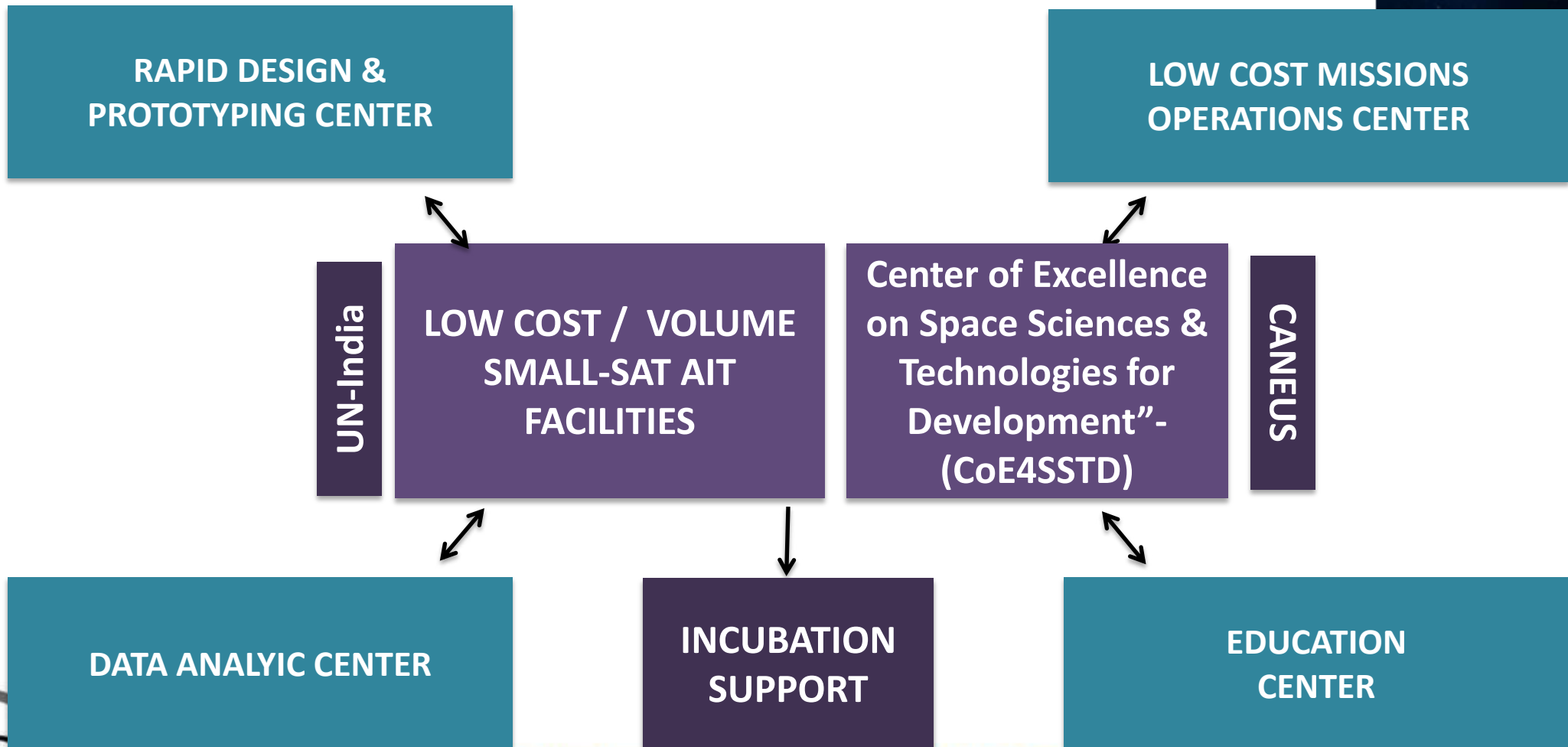
5. Forthcoming Infrastructure in India to Serve Cross Sectoral and Integrated Applications

- India is one of the leading nations in space technology and its commitment to use the technology for socio economic development is second to none.
- The eco-system offered by India is best suited to help fulfill the objectives set by UN-OOSA under UNISPACE +50 programme





5. Forthcoming Infrastructure to Serve Cross Sectoral and Integrated Applications



6. Main Goals of the Planned Facility and Knowledge Base



Goal

- To contribute to UNISPACE+50, especially to Thematic Priorities 1, 4, 5,6 & 7
- Enabling developing countries to use space based technologies to achieve targets of SDGs, Sendai Framework and Climate Change Agreement

Product and Services

- Design, construction, assembly, integration, test and launch of affordable, adaptable, sustainable and scalable small satellites with payloads customized to the needs of the developing countries
- Research, development, demonstration and capacity building facilities
- Each satellite produced at this facility is a potential contributor to a bigger constellation, thus offers much more to the end user than just a satellite.

7. Planned Implementation Approach Through Existing Partnerships and Forging New Ones



Development Phase

- Land at a strategic location offered by the State Governments of Maharashtra and Andhra Pradesh in India
- Infrastructure facilities offered by the Government at subsidized rate
- CANEUS to raise the funds through partnership with other stakeholders to cover the development and operational cost
- Funding to facilitate the project office of UNOOSA with staff and operational budget (initially 5 years duration)
- Setting up the facility to mark UNISPACE+50

Operational Phase

- Offering small satellites and capacity to the end users on cost recovery basis (demand is huge, which can further be enhanced through UN partnership and outreach)
- Contribution based on subscription usage
- Funding and/or assets and services can be rendered in support of the facility
- Funding from philanthropic organizations or other financial institution



8. Proposed Role of the Stakeholders, UNOOSA and New Partners



UNISPACE+50 Cooperation

UNOOSA

- Lead the partnership
- Set up a project office to work :
 - Overall supervision of the project
 - Awareness, advisory, capacity building targeted to benefit developing countries
 - Ensure accountability and build commitment of the stakeholders

INDIA

- Host Country
- Support the project as contribution to UNISPACE+50
- Liaison with existing Regional Centre (www.cssteap.org) for cross-cutting benefits

CANEUS

- Complement the UNISPACE+50 initiative
- Set up the Small Satellites development facility
- Undertake fund raising
- Prepare and implement business plan
- Facilitate technical capacity building

9. Proposed Role of the Regional Centres for capacity-building



Access to low-cost State-of-the-art Rapid Prototyping and AIT Facilities

- Students at Regional Centres could send their designs for rapid prototyping and AIT
- CANEUS to provide full support for specific needs
- Hands-on training and demonstration

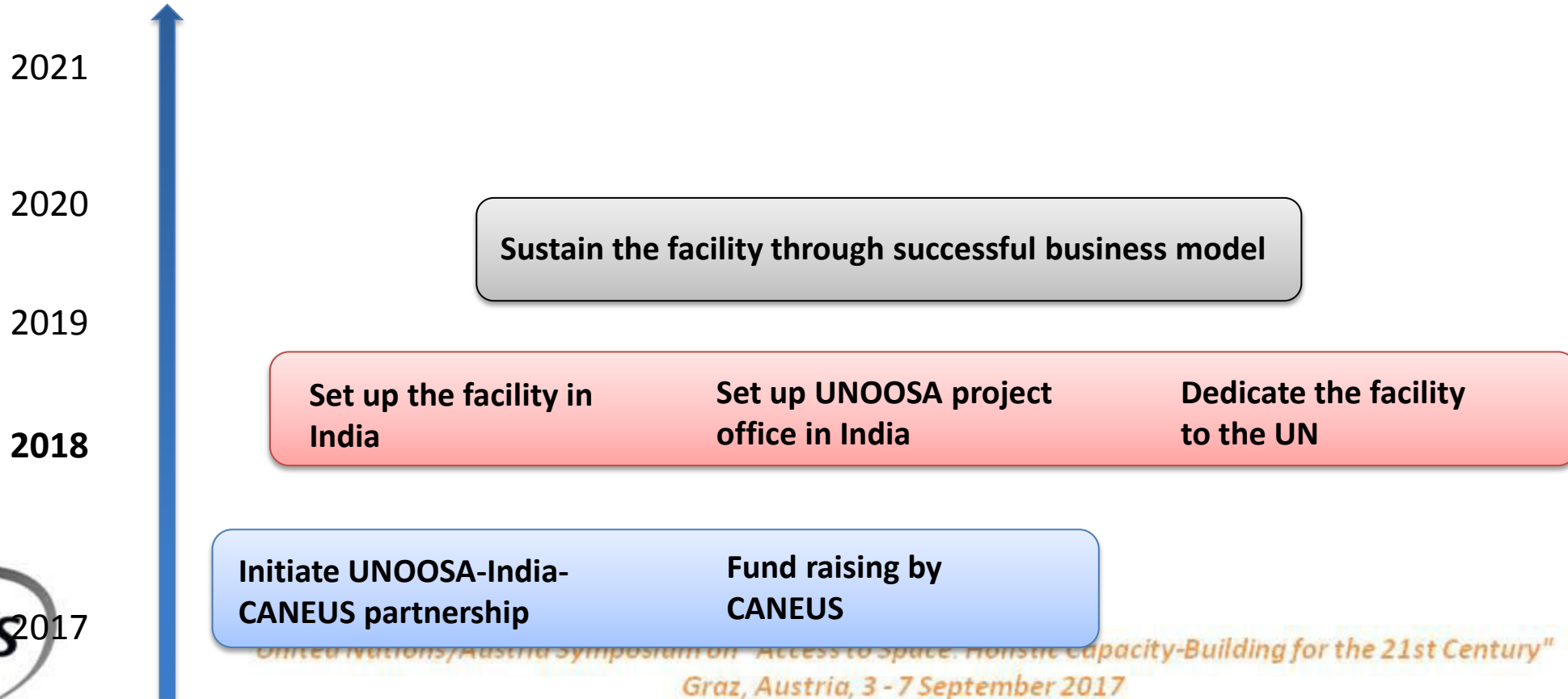
Leverage Knowledge Base of the Centre of Excellence

- Assist students to develop individual specific-need payloads
- Universities, Start-up ventures, and laboratories to benefit from the knowledge base
- Benefit from best of the breed international expertise

10. Proposed Implementation Timeline



The proposal envisions following timeline to ensure the facility is dedicated to UN in 2018 which could become the flagship contribution of India to UNISPACE+50. The project will mark global partnership benefitting world community at large.



INVITATION TO GLOBAL PARTNERS TO JOIN THIS INITIATIVE

Thank You!

