

Global PPP Effort

Small Satellites Development Facilities

To Deliver Commitments for UNISPACE+50 &
Space 2030 towards SDGs

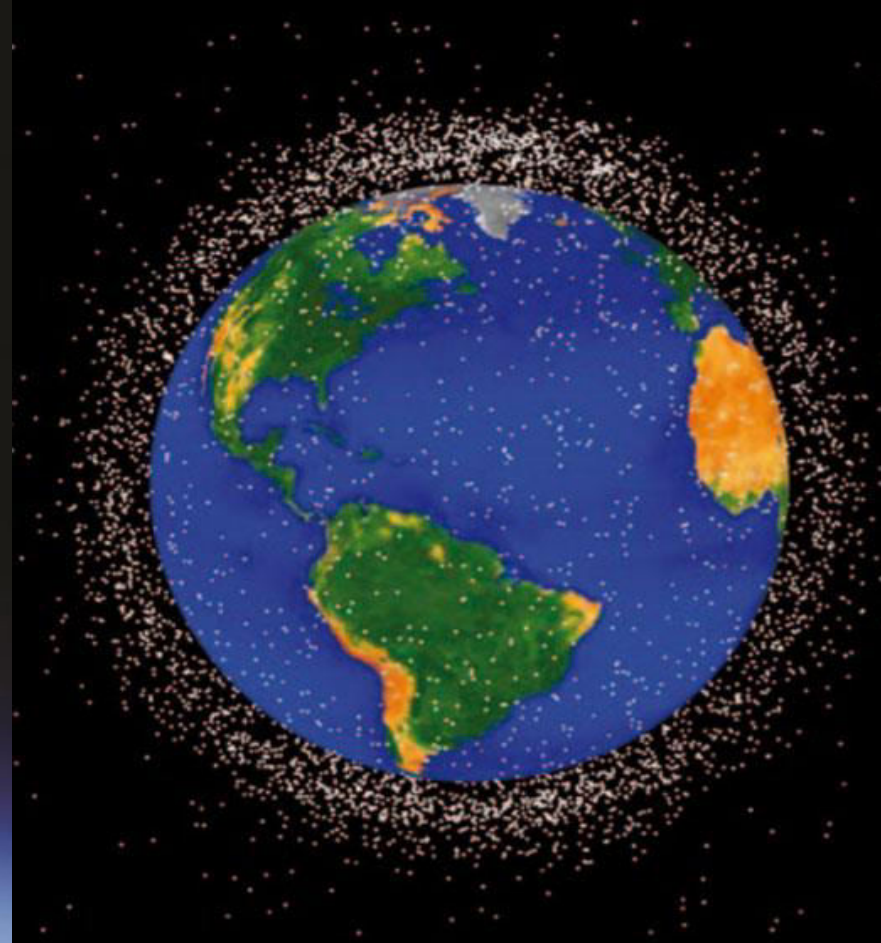
CANEUS Contribution to
United Nations
Global Capacity-Building



Milind Pimprikar
CANEUS Chairman

CANEUS Vision

SPACEWAY 2 EMPOWERMENT



Thousand Eyes in the Sky

CANEUS Vision

SPACEWAY 2 EMPOWERMENT

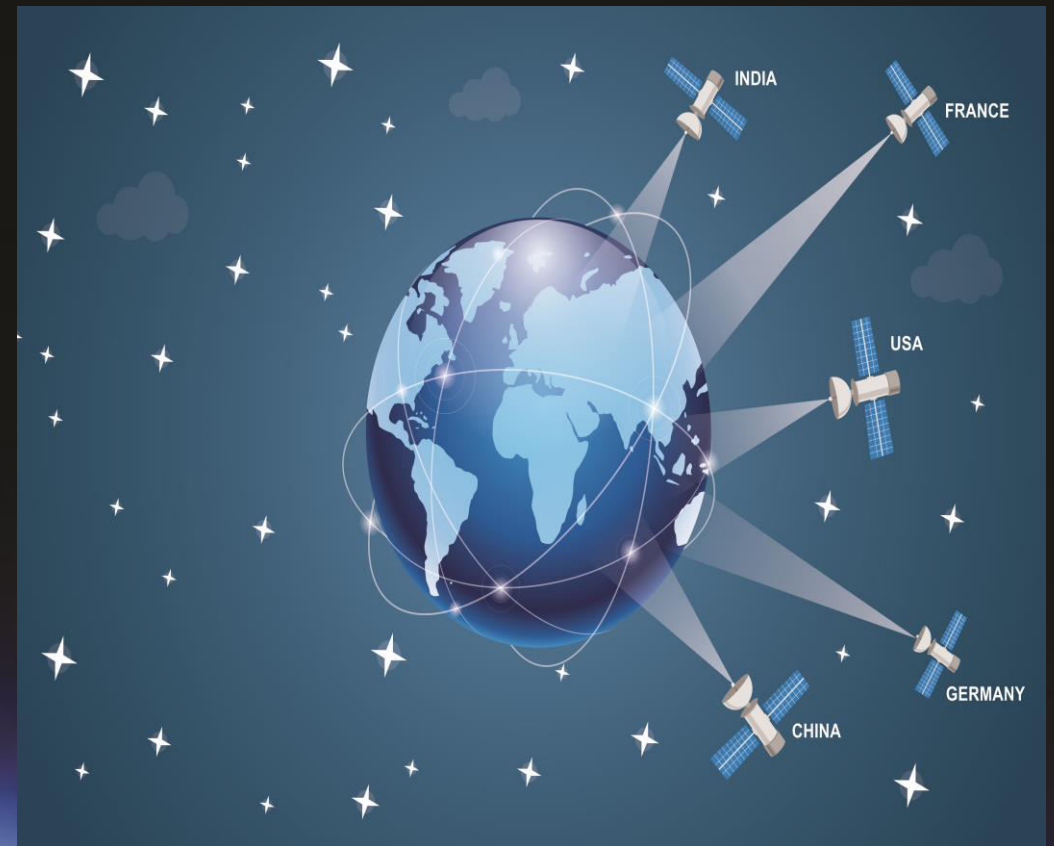
Thousand
eyes in
the sky



SPACEWAY 2 EMPOWERMENT

Shared Infrastructure Amongst Countries Those Lacking Facilities

SPACEWAY 2 EMPOWERMENT



Thousand Eyes In The Space

CANEUS Shared Model

SPACEWAY 2 EMPOWERMENT

To develop local training & capacity building to understand the space tech and benefit of the real-time information

4

Each member state will join with one to many small satellites as their contribution for shared uses

1



To work in collaboration environment under the guide line of UNOOSA

3

To be owner of ground station in one country set up after survey and feasibility

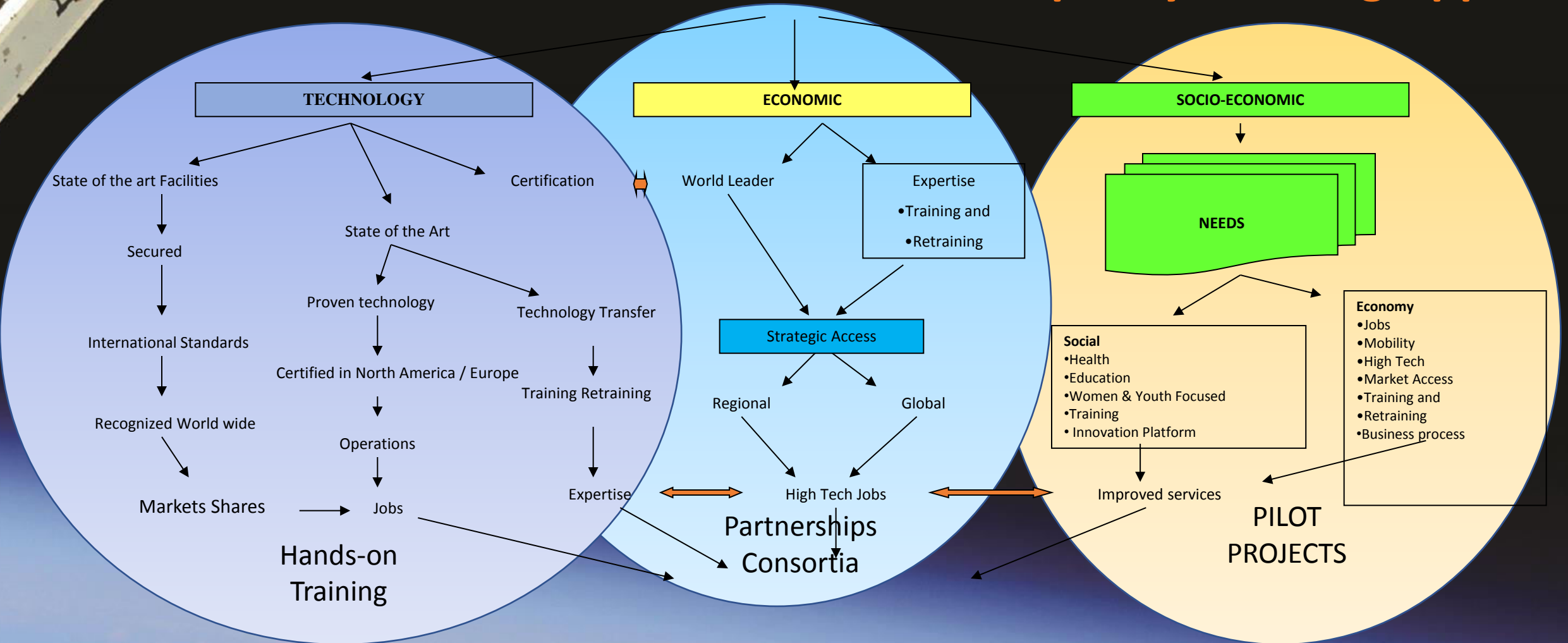
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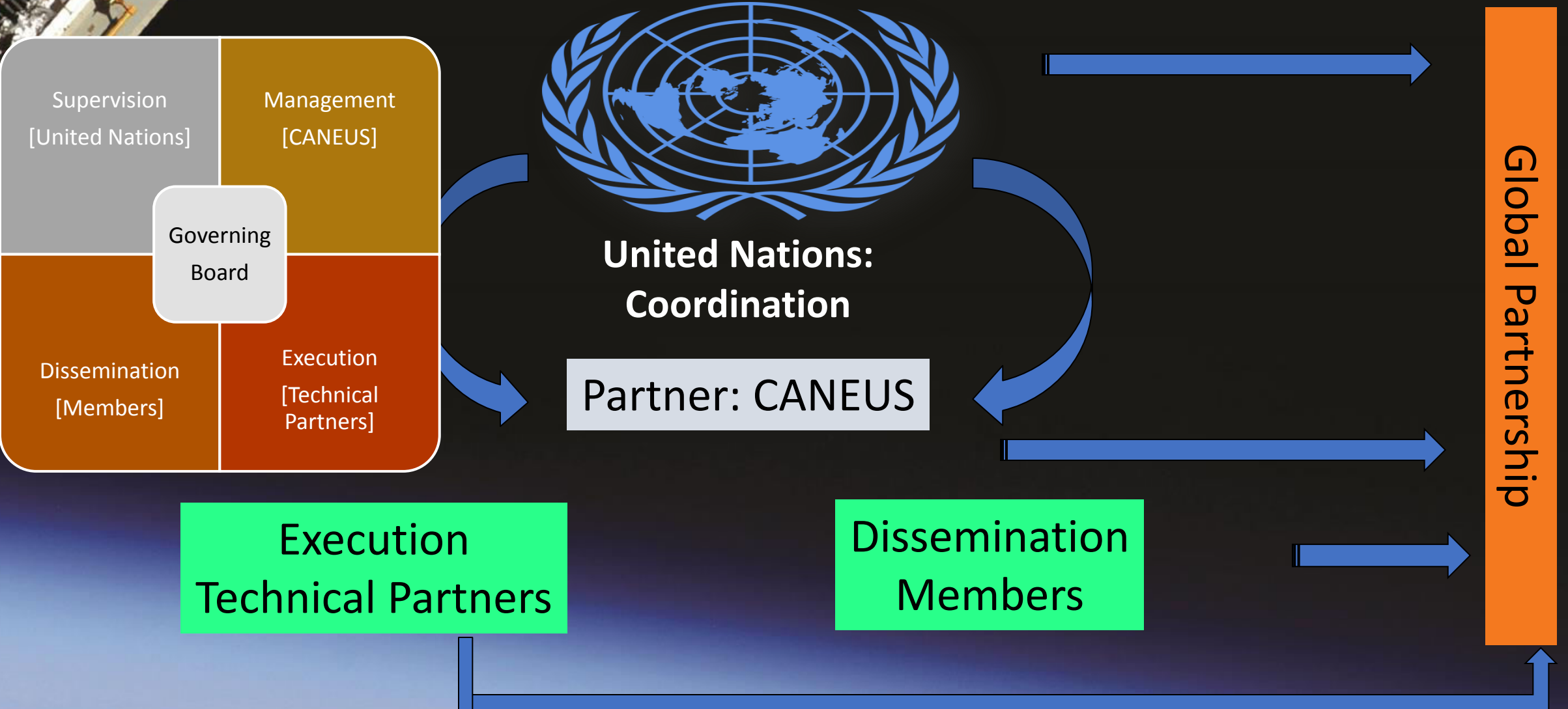
Thousand Eyes In The Space

From Shared Model Building on **CANEUS** – UN 10+ Years Proven Partnership

CANEUS' New and Innovative Overall Capacity-Building Approach



To Current UN Coordinated Global Partnership A CANEUS Initiative Launched at Sendai-2015



Evolution of the CANEUS Initiative

UNOOSA Coordinated Global Partnership

New Global Framework
for Sharing of Space Technology
and Data Standards To serve Nation's
Disaster Management Needs



CANEUS-UN MOU Signed

IAC, Mexico, 2016
UNOOSA Coordinated
Global Partnership



Mr. Giovanni RUM
Engaged as
Consultant
2017





Proposed Global PPP Model

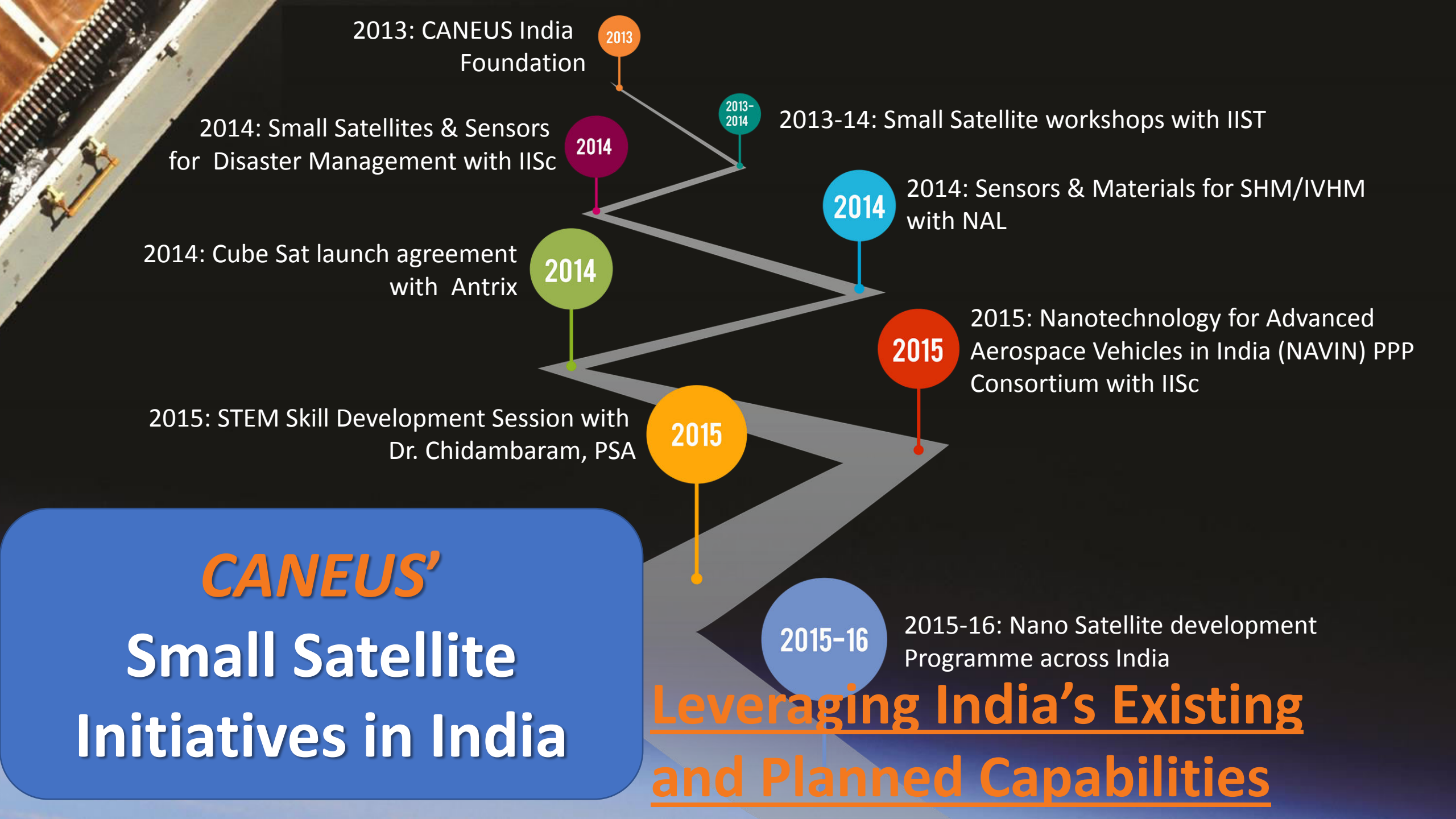
Infrastructure & Development Facility For Global Capacity Building To Support UNISPACE+50

- With **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**.
- The UN-OOSA HLF (UN A/AC.105/1129), identified the need and benefits 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.



Leveraging CANEUS' Small Satellite Global Initiatives

- CANEUS Small Satellite Consortium established in 2004
- Standards with AIAA, 2006
- Launch Portal with NASA, ESA, 2008
- Shared Small Satellite 30 Nano-Satellite AIS Constellation with NRL, 2010
- Limited Objective Demonstrations for Maritime monitoring in Chile, Argentina, Mexico, Vietnam, etc., 2011-2014
- University small satellite programmes at International Space University and worldwide, 2011-15
- UN-OOSA Coordinated Global Partnership Initiative, 2015
- MOU under Make-in-India to establish Global Capacity Building Facilities in India, 2016



2013: CANEUS India Foundation

2013

2014: Small Satellites & Sensors for Disaster Management with IISc

2014

2013-2014

2013-14: Small Satellite workshops with IIST

2014: Sensors & Materials for SHM/IVHM with NAL

2014

2014: Cube Sat launch agreement with Antrix

2014

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

2015

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

2015

2015-16: Nano Satellite development Programme across India

2015-16

CANEUS' Small Satellite Initiatives in India

Leveraging India's Existing and Planned Capabilities

CANEUS' Global Capacity Building Facilities

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

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

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

Located in the Aerospace Manufacturing and Innovation Knowledge Hub of India



○ Low Cost Volume Manufacturing - AIT of Small Satellites in MIHAN-India

○ Center of Excellence on Space Sciences & Technologies 4 Development CoE4SSTD Andhra-Pradesh

**CANEUS in Collaboration with UN-OOSA
Commemoration Event
Planned Next Week
November 16th, 2017
Bangalore, India**

Infrastructure to Serve Cross Sectoral Integrated Applications for UN Member States

RAPID DESIGN &
PROTOTYPING CENTER

LOW COST MISSIONS
OPERATIONS CENTER

UN-India

LOW COST / VOLUME
SMALL-SAT AIT
FACILITIES

Center of Excellence
on Space Sciences &
Technologies for
Development"-
(CoE4SSTD)

CANEUS

DATA ANALYIC CENTER

INCUBATION
SUPPORT

EDUCATION
CENTER



Facility Mandate and Services

Goals

- 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 UNOOSA Coordinated constellation, thus offers much more to the end user than just a satellite.



Implementation Approach: Existing Partnerships & 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



Implementation Approach: Existing Partnerships & Forging New Ones

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



Contributing to Regional Centres for capacity-building

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

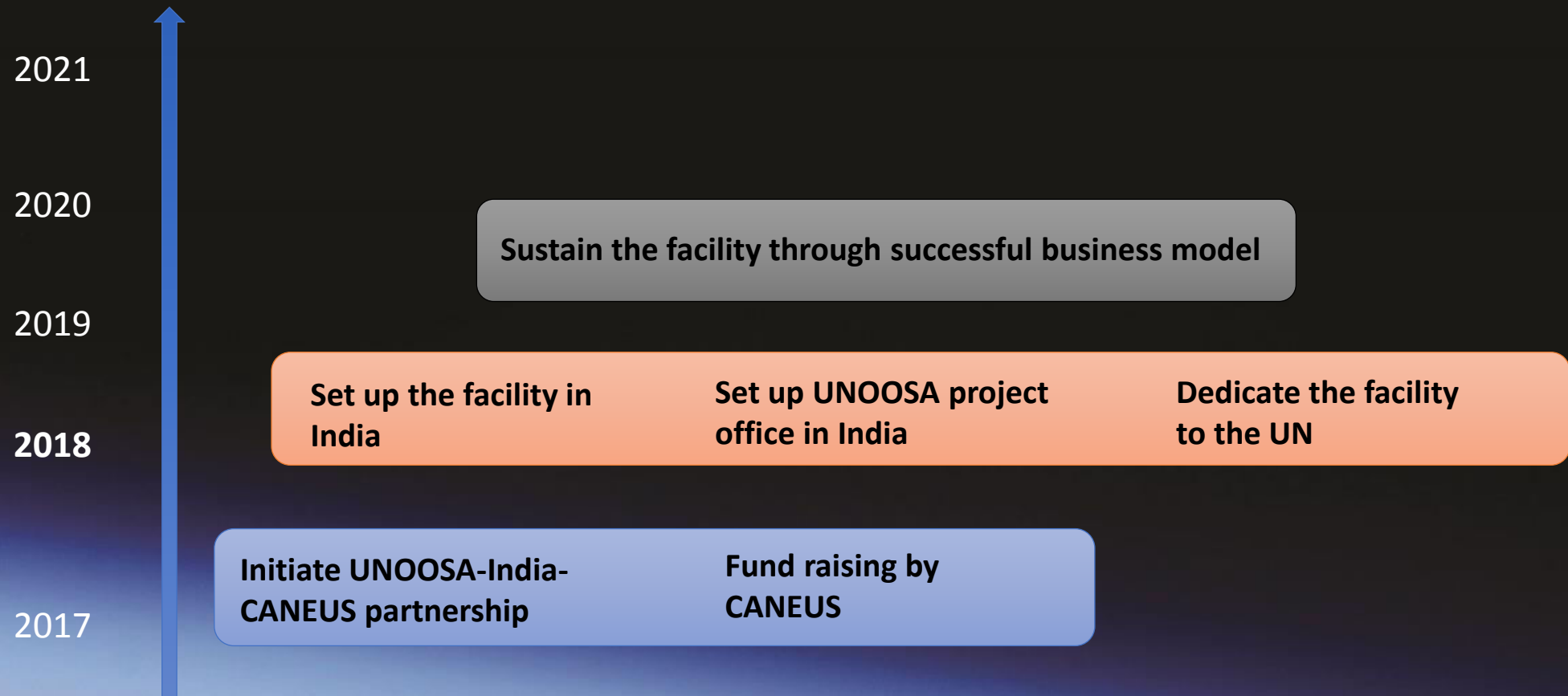
- Students at Regional Centres could send their designs for rapid prototyping and AIT
- CANEUS to provide full support for specific needs
- Hands-on training and demonstration

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

Proposed Implementation Timeline

The timeline envisions to ensure the facility's global partnership benefitting world community at large.



**INVITATION
TO GLOBAL PARTNERS TO JOIN THIS INITIATIVE**

Thank You!

