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

Ground Station | Training | Shared Satellite Infrastructure | Data Centers

Eco System Stake Holders

CANEUS GLOBAL CAPACITY PROGRAM

ROLE OF SMALL SATELLITE TECHNOLOGY

REAL TIME INFORMATION

SUSTAINABLE DEVELOPMENT GOAL

EMPOWERING MEMBER STATES

UNOOSA PROGRAM

SPACEWAY 2 EMPOWERMENT
Shared Infrastructure Amongst Countries Those Lacking Facilities

SPACEWAY 2 EMPOWERMENT

Thousand Eyes In The Space
CANEUS Shared Model

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

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

To work in collaboration environment under the guide line of UNOOSA.

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

SPACEWAY 2 EMPOWERMENT

Thousand Eyes In The Space
From Shared Model Building on CANEUS – UN
10+ Years Proven Partnership

CANEUS’ New and Innovative Overall Capacity-Building Approach

TECHNOLOGY
- State of the art Facilities
  - Secured
  - International Standards
  - Recognized World wide
- Markets Shares
  - Hands-on Training

ECONOMIC
- State of the Art
- Proven technology
- Technology Transfer
  - Certified in North America / Europe
  - Training Retraining
- Operations
  - Jobs
- Expertise
- Strategic Access
  - Regional
  - Global
- High Tech Jobs
- Training
- Retraining

SOCIO-ECONOMIC
- Expertise
  - Training and Retraining
- Social
  - Health
  - Education
  - Women & Youth Focused
  - Training
  - Innovation Platform
- Economy
  - Jobs
  - Mobility
  - High Tech
  - Market Access
  - Training and Retraining
  - Business process

NEEDS
- Partnerships
  - Consortia
- Improved services
- PILOT PROJECTS
To Current UN Coordinated Global Partnership
A CANEUS Initiative Launched at Sendai-2015

United Nations: Coordination
Partner: CANEUS

Execution Technical Partners
Dissemination Members

Supervision [United Nations]
Management [CANEUS]
Governing Board
Dissemination [Members]
Execution [Technical Partners]

Global Partnership
Evolution of the CANEUS Initiative

UNOOSA Coordinated Global Partnership

CANEUS-UN MOU Signed
IAC, Mexico, 2016
UNOOSA Coordinated Global Partnership

Mr. Giovanni RUM Engaged as Consultant 2017
• 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

2013-14: Small Satellite workshops with IIST

2014: Small Satellites & Sensors for Disaster Management with IISc

2014: Cube Sat launch agreement with Antrix

2014: Sensors & Materials for SHM/IVHM with NAL

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

**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 CoE4SSSTD
Located in the Aerospace Manufacturing and Innovation Knowledge Hub of India

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

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

Center of Excellence on Space Sciences & Technologies 4 Development CoE4SSSTD Andhra-Pradesh
Infrastructure to Serve Cross Sectoral Integrated Applications for UN Member States

- RAPID DESIGN & PROTOTYPING CENTER
- LOW COST / VOLUME SMALL-SAT AIT FACILITIES
- CENTER OF EXCELLENCE ON SPACE SCIENCES & TECHNOLOGIES FOR DEVELOPMENT” (CoE4SSTD)
- DATA ANALYTIC CENTER
- INCUBATION SUPPORT
- LOW COST MISSIONS OPERATIONS CENTER
- CANEUS EDUCATION CENTER
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.

- **2017**: Initiate UNOOSA-India-CANEUS partnership
- **2018**: Set up the facility in India
- **2019**: Set up UNOOSA project office in India
- **2020**: Dedicate the facility to the UN
- **2021**: Sustain the facility through successful business model

Fund raising by CANEUS
INVITATION
TO GLOBAL PARTNERS TO JOIN THIS INITIATIVE

Thank You!

CANEUS