

Eighth Meeting of the Inter-Agency and Expert Group on Sustainable Development Goal Indicator (IAEG-SDGs)

Agenda Item 11: SDG implementation and monitoring- geographic information systems case studies and best practices

Stockholm, Sweden November 2018

Space for the Sustainable Development Goals (Space4SDGs)

Hui Du

United Nations Office for Outer Space Affairs





United Nations Office for Outer Space Affairs (UNOOSA)

- ❑ Mission: Promote international cooperation in the peaceful uses of outer space
- ❑ Vision: Bringing the benefits of space to humanity
- ❑ Main programmes and platforms
 - Secretariat to UN Committee on Peaceful Uses of Outer Space (COPUOS), International Committee on Global Navigation Satellite Systems (ICG), Space Mission Planning Advisory Group (SMPAG)
 - UN Programme on Space Applications
 - UN-SPIDER Programme
 - UN-wide coordination - UN-Space
 - UN Register of Space Objects
 - Space law and policy
 - ...



UNITED NATIONS
Office for Outer Space Affairs



International Committee on
Global Navigation Satellite Systems

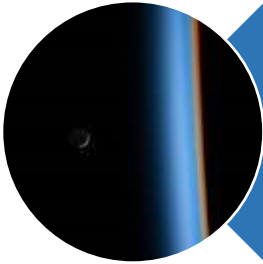


UNITED NATIONS
Office for Outer Space Affairs

UN-SPIDER
www.un-spider.org



Roles and Responsibilities



CAPACITY BUILDER: UNOOSA brings the benefits of space to humankind by building space capacity for non-space-faring countries



GLOBAL FACILITATOR: UNOOSA plays a leading and facilitating role in the promotion of peaceful uses of outer space



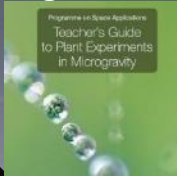
GATEWAY: UNOOSA is the main UN agency on space matters and coordinates UN activities using space-related technology to improve human conditions globally.

Access to Space: Human Space Technology

Micro/hypergravity Simulation

Access 2 Space

Teacher's
guides



DropTES



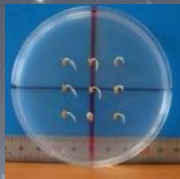
China Space
Station



ESA
Centrifuge



ZGIP



KiboCUBE



SNC
Dreamchaser



Expected
2018-

Airbus

Expected
2018-

2013-2016

2013-2016
-... 2019

2016-2019

2016-

2016-

High Schools

Research Centres / Institutions

Governments and IGOs

Universities and Academics

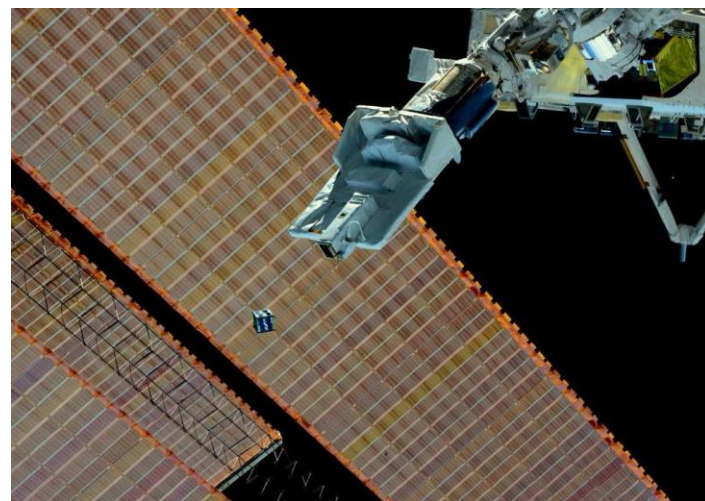
Space Agencies

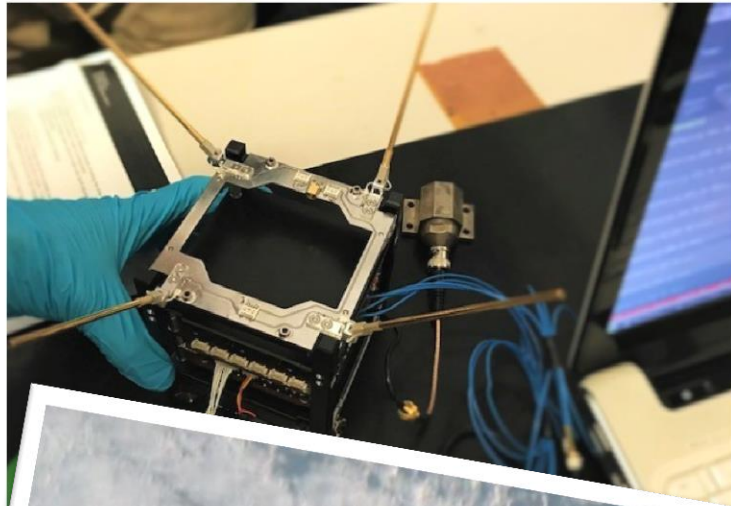


Orbital opportunities

- OOSA and JAXA provide access to space to non space-fairing Member States
- Free deployment of CubeSats from the ISS, Japanese Experiment Module (Kibo).
- **1st round:** University of Nairobi, Kenya
- **2nd round:** Universidad del Valle de Guatemala, Guatemala
- **3rd round:**
 - (1) Mauritius Research Council, Mauritius
 - (2) Surya University, Indonesia
- **4rd round : Open for applications**

KiboCUBE





1st round: “1KUNS-PF”



Image Credit:
JAXA/University of Nairobi



Contribution to the SDGs



Provide precious hands-on opportunities for students in universities.



Offer the opportunity for developing countries to develop space technology domestically and build basic elements for a potential space industry and inspire innovations in the countries.



Reduce the “space gap” between space-faring nations and non space-faring nations. Countries benefiting from the programme become space-faring countries.



Cooperation in outer space is of great importance for world peace. Ensure the compliance of international space law and play an important role in supporting new space-faring nations to develop national space law.



Triangular cooperation (Japan-Kenya-Italy-UNOOSA), south-south cooperation, technology transfer.



Access to Space: Earth observation data

- ❑ Free high quality EO data for countries by cooperation with multi-stakeholders:
 - DigitalGlobe;
 - Airbus Defense and Space;
 - China High Resolution EO Data Archive;
 - Copernicus and others.





Access to Space: solutions and knowledge

- UN-SPIDER Knowledge Portal: Space4DisasterManagement

<http://www.un-spider.org/>

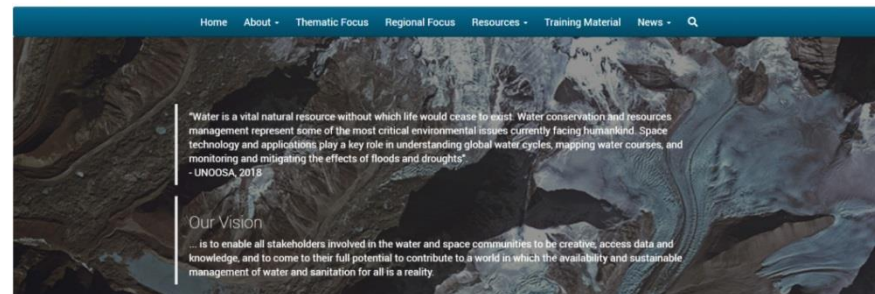
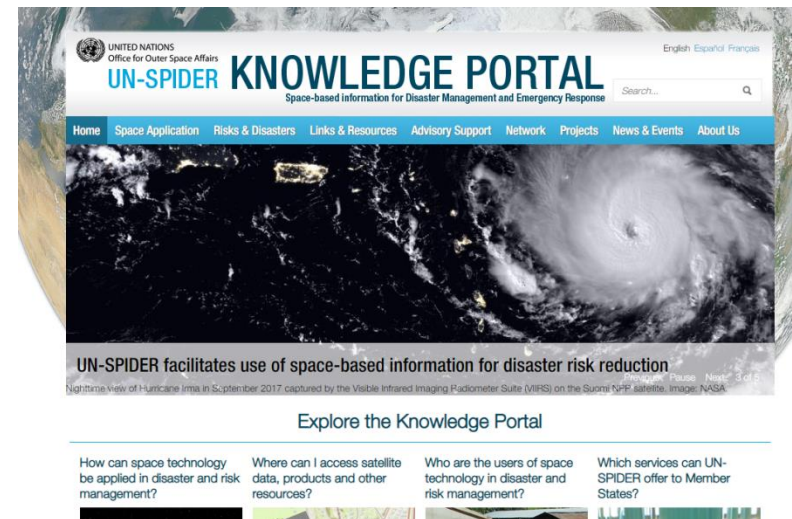
- Space4Water Portal in collaboration with Prince Sultan Bin Abdulaziz International Prize for Water. *Launched in October 2018*

<http://www.space4water.org/>

- Space4SDGs Portal – Under Construction

<http://www.space4sdgs.org/>

- Space Solutions Compendium (Open Database) – under construction in collaboration with ESA
- Global space user need repository – Under Planning





Network of UN-SPIDER

2 field offices +
23 RSOs



Myanmar

- 2012 – UN-SPIDER Technical Advisory Mission
- Key recommendation: Establishment of "Hazard Response and Operations Centre"
- Follow up programmes jointly with Government, UNDP, OCHA and HABITAT
- Impact:
 - Emergency Operation Centre (EOC) established with "Remote Sensing Unit";
 - Trained personnel in remote sensing/GIS are available at EOC;
 - Disaster Management Training Centre conducts courses in remote sensing/GIS
 - NSDI and one map policy under consideration
 - Over 100 personnel trained
 - RRD became Authorised User of the International Charter



2012

Technical Advisory Mission

2012

Meeting of donors and partners, and training on "Geo-Informatics for Disaster Risk Management in Myanmar"

2013-2015

Establishment of a remote sensing unit in the Ministry of Social Welfare, Relief and Resettlement (MSWRR)

2016

TAM follow-up and training on the "Use of Earth Observation Data and GIS Techniques for Landslide Hazard Mapping"

2017

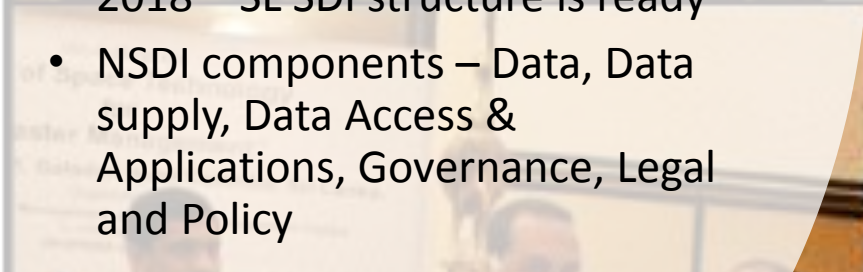
TAM follow-up and training on "Post-Disaster (Earthquake) Rapid Damage Assessment"

2017

Ministry of Social Welfare, Relief and Resettlement (MSWRR) becomes an Authorized User of the International Charter

Sri Lanka

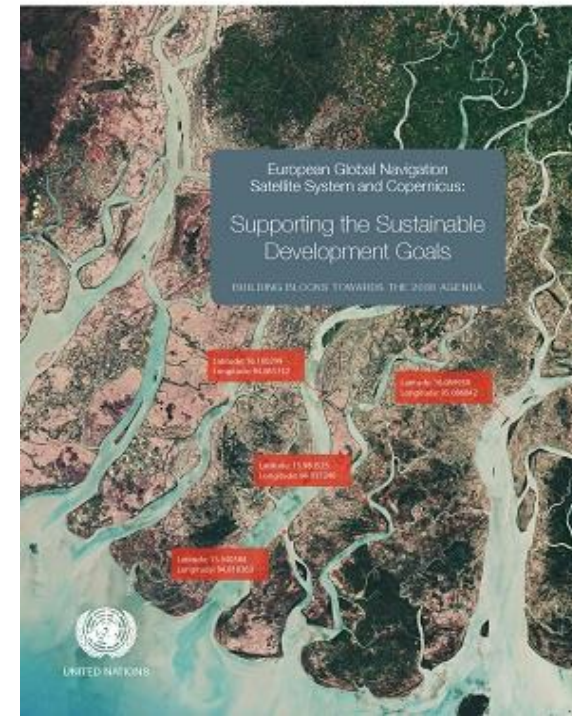
- 2011 – UN-SPIDER **Technical Advisory Mission** strongly recommended **NSDI**
- 2012, 2014, 2017, 2018 – Follow up and capacity building activities
- 2013 – **Sri Lanka Spatial Data Infrastructure (SL SDI)** approved by the Cabinet of Ministers
- 2018 – SL SDI structure is ready
- NSDI components – Data, Data supply, Data Access & Applications, Governance, Legal and Policy





Space4SDGs

- ❑ Joint study by UNOOSA and the European GNSS Agency:
 - All 17 SDGs are positively impacted by the benefits of space;
 - 65 out of 169 targets (almost 40%) benefit from EGNSS and Copernicus alone.
- ❑ SDG indicator metadata repository: space data is only integrated into the measurement of about 10 indicators out of 232.
- ❑ UNOOSA, as the UN gateway to space, is already building the components of the multi-stakeholder **global space partnership for the SDGs**:
 - Space user need study;
 - Open access to space solutions;
 - Capacity building activities;
 - Contribution to policy definition processes;
 - Awareness-raising and so on.





Symposium/Forum on Space Solutions for SDGs

- ❑ September 2018, Graz, UN/Austria Symposium on Space for the Sustainable Development Goals: stronger partnerships and strengthened cooperation for 2030 and beyond.
- ❑ 24-27 April 2019, Changsha, UN/China Forum on Space Solutions: Realizing the Sustainable Development Goals. Featured with match-making among space users and providers. Provide opportunities to engage more with Asia-Pacific.



Apply via <http://www.unoosa.org/oosa/en/ourwork/psa/schedule/2019/2019-un-china-forum-on-spacesolutions.html>

THANK YOU



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