

# A more comprehensive report

UNITED NATIONS  
OFFICE FOR OUTER SPACE AFFAIRS

## ANNUAL REPORT 2018



UNITED NATIONS

**THE UNITED NATIONS OFFICE  
FOR OUTER SPACE AFFAIRS (UNOOSA)**  
IS RESPONSIBLE FOR ADVANCING INTERNATIONAL COOPERATION  
IN THE PEACEFUL USES OF OUTER SPACE AND HELPS ALL COUNTRIES  
USE SPACE SCIENCE AND TECHNOLOGY TO ACHIEVE  
SUSTAINABLE DEVELOPMENT.

BRINGING THE BENEFITS  
OF SPACE TO HUMANKIND

V.19-02633

[WWW.UNOOSA.ORG](http://WWW.UNOOSA.ORG)

# New thematic chapters

## CONTENTS

Foreword ..... 1

**1** **4**  
**UNOOSA: ROLES AND RESPONSIBILITIES**

**2** **8**  
**HIGHLIGHTS OF 2018**

UNISPACE+50 ..... 8  
 Kenya deployed its first satellite through the KiboCUBE programme ..... 10  
 European Global Navigation Satellite System and Copernicus: Supporting the SDGs ..... 10  
 The Interoperable GNSS Space Service Volume ..... 11  
 Brochure on near-Earth objects and planetary defence ..... 12  
 Launch of the Space4Water portal ..... 12  
 Nepal includes space technologies in 2018 Disaster Risk Reduction Policy ..... 13  
 Orbital opportunity with Airbus ..... 14  
 Space solutions for the Pacific ..... 15  
 UNOOSA partnership with the Ministry of Science, Technology and Higher Education of Portugal and the AD-Air Centre ..... 16  
 "My planet, my future: space for the Sustainable Development Goals" exhibition at United Nations Headquarters in New York ..... 16  
 United Nations/Germany High-level Forum ..... 17

**3** **20**  
**FOCUS: ACCESS TO SPACE 4 ALL**  
 Access to Space 4 All portfolio ..... 20

**4** **26**  
**LEVERAGING SPACE FOR DISASTER RISK REDUCTION AND MANAGEMENT**  
 What is UN-SPIDER? ..... 26  
 UN-SPIDER Knowledge Portal ..... 27  
 Activations of the International Charter "Space and Major Disasters" ..... 27  
 Technical assistance to Member States ..... 28  
 Other activities on space for disaster management ..... 33

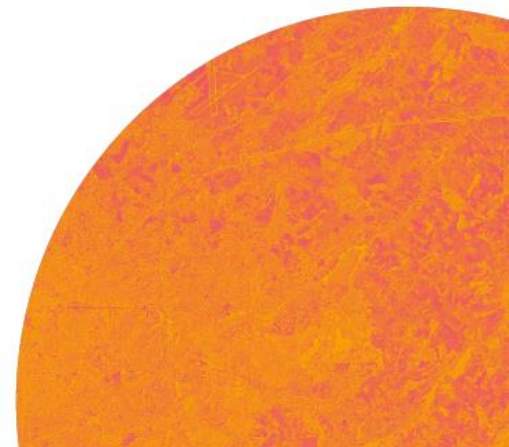
**5** **36**  
**SPACE4SDGs**  
 Space4Women ..... 37  
 Space4Water ..... 38  
 Space economy for SDG 8 and 9 ..... 38  
 SDG17: new partnerships ..... 39  
 Other Space4SDGs activities ..... 40

**6** **44**  
**SPACE EDUCATION**  
 Regional Centres for Space Science and Technology Education ..... 44  
 Research and training opportunities ..... 46

**7** **52**  
**INTERNATIONAL COOPERATION IN OUTER SPACE**  
 UNISPACE+50 ..... 52  
 UN-Space ..... 54  
 COPUOS ..... 54  
 COPUOS sessions in 2018 ..... 56  
 Other 2018 COPUOS highlights ..... 57  
 Other 2018 international cooperation activities ..... 58

**8** **62**  
**SPACE OBJECTS REGISTRATION**

**9** **68**  
**UNOOSA IN NUMBERS**  
 Interview with Scott Kelly, United Nations Champion for Space ..... 70  
 List of abbreviations and acronyms ..... 72



# New visual identity for UNOOSA

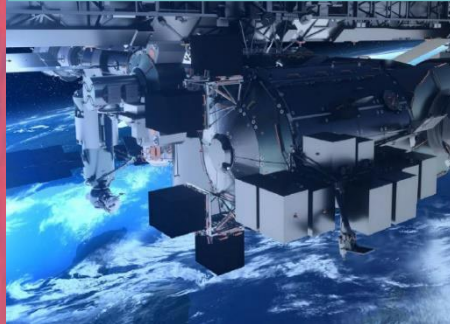


# Focus: Access to Space 4 All

## China Space Station



## Airbus



## KiboCUBE



## Sierra Nevada



## Research opportunities

### Fellowship programme for Drop Tower Experiment Series (DropTES)

Through this fellowship programme, which started in 2013 and is open to all Member States, UNOOSA promotes space education and research in microgravity, particularly in developing countries.

The teams of students selected for the programme can carry out experiments on microgravity science at the Bremen Drop Tower in Germany. These experiments, which consist of four drops or catapult launches, can build capacity for both hardware and human space missions.

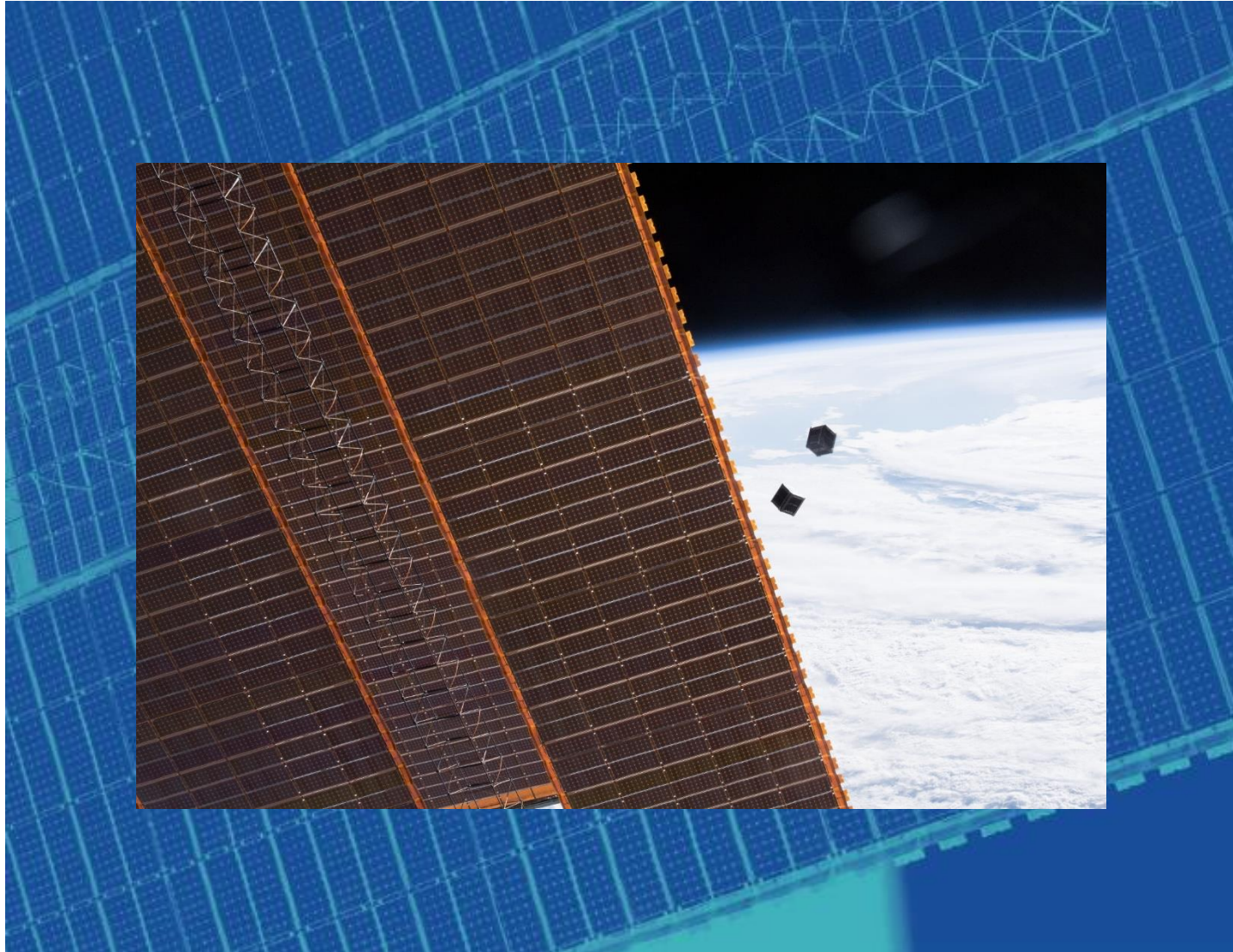
The team selected for the fifth cycle of the DropTES in 2018, from the National Institute for Laser, Plasma and Radiation Physics of Romania, produced a potential solution to the increasing drug resistance of pathogenic infections for long-lasting space missions in the future. In 2018, the sixth cycle of the fellowship opened for applications.

The programme is run by UNOOSA in collaboration with the Centre of Applied Space Technology and Microgravity (ZARM) and the German Aerospace Centre (DLR).

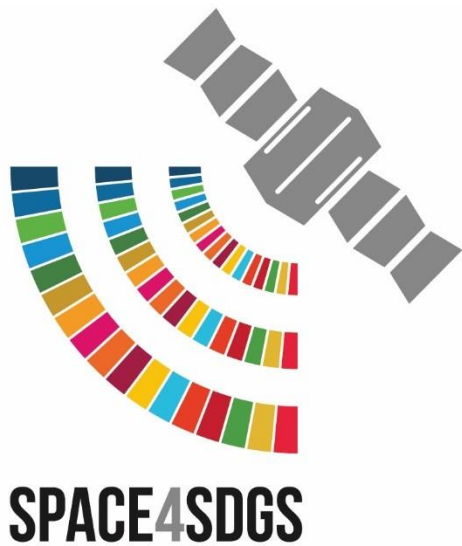
### Cooperation with the European Space Agency to help developing countries access space technologies

UNOOSA and the European Space Agency (ESA) laid the ground for a future cooperation agreement to provide capacity-building to developing countries for accessing and using space-based technologies to plan, measure and monitor their actions under Agenda 2030. A joint statement declaring mutual interest was signed in 2018, and the agreement is expected to be signed in 2019.

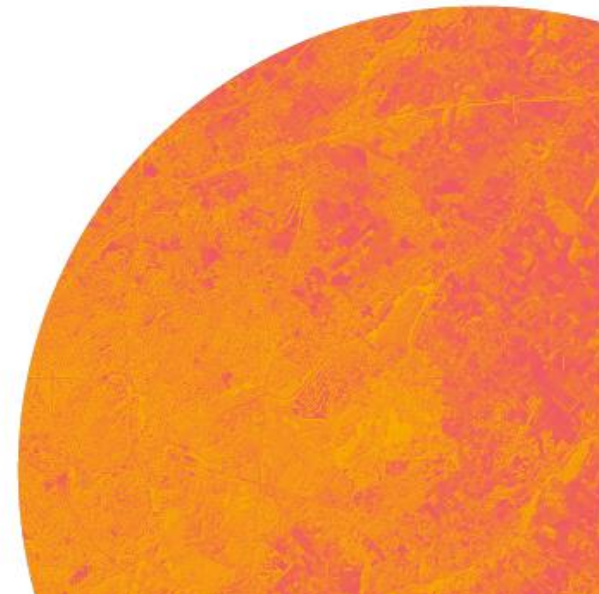
# 1<sup>st</sup> Kenyan satellite with KiboCUBE



# Highlighting how UNOOSA supports the SDGs



<u>5</u>	<b>36</b>	<u>8</u>	<b>62</b>
<b>SPACE4SDGs</b>		<b>SPACE OBJECTS REGISTRATION</b>	
Space4Women .....	37		
Space4Water .....	38		
Space economy for SDG 8 and 9 .....	38		
SDG17: new partnerships .....	39	<u>9</u>	<b>68</b>
Other Space4SDGs activities .....	40	<b>ADMINISTRATIVE DATA</b>	
		Interview with Scott Kelly .....	70
		List of abbreviations and acronyms .....	72
<u>6</u>	<b>44</b>		
<b>SPACE EDUCATION</b>			
Regional Centres for Space Science and Technology Education .....	44		
Research and training opportunities .....	46		
<u>7</u>	<b>52</b>		
<b>INTERNATIONAL COOPERATION IN OUTER SPACE</b>			
UNISPACE+50 .....	52		
UN-SPACE .....	54		
COPUOS .....	54		
COPUOS main sessions in 2018 .....	56		
Other 2018 COPUOS highlights .....	57		
Other 2018 international cooperation activities .....	58		

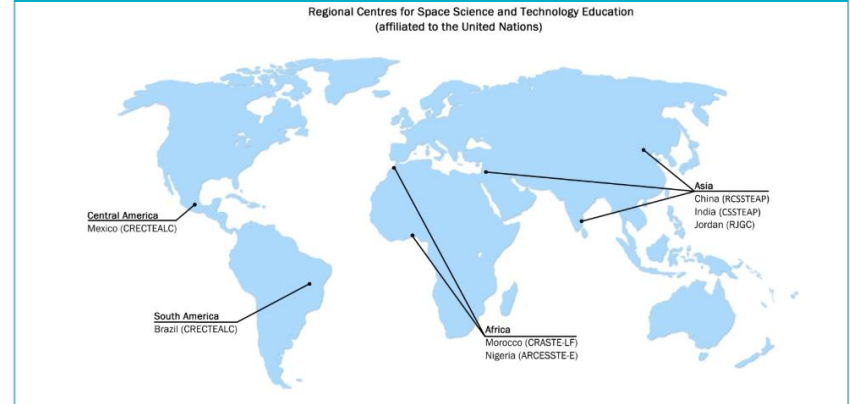


# Space education

## Engaging youth



## Regional centres



## Education opportunities

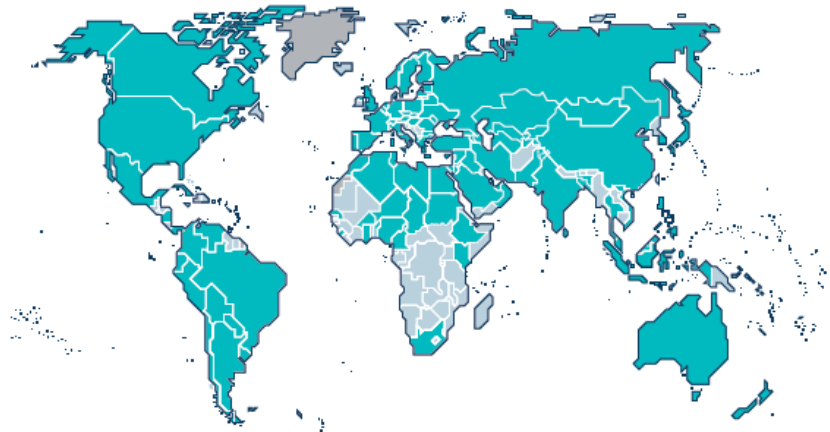
- UN/Japan Fellowship Programme for Postgraduate study on Nano-Satellite Technologies
- Master in Navigation and Related Applications
- Training Programme on Global Navigation Satellite Systems
- UN/Argentina Workshop on the applications of GNSS
- Workshop on the space weather effects on GNSS operations at low latitudes
- UN-SPIDER/SENACYT Seminar: Science and technology, its applications in disaster preparedness and response in case of disasters in Guatemala
- UN/Brazil Symposium on Basic Space technology

...and much more

# COPUOS the fastest growing UN Committee



COPUOS members

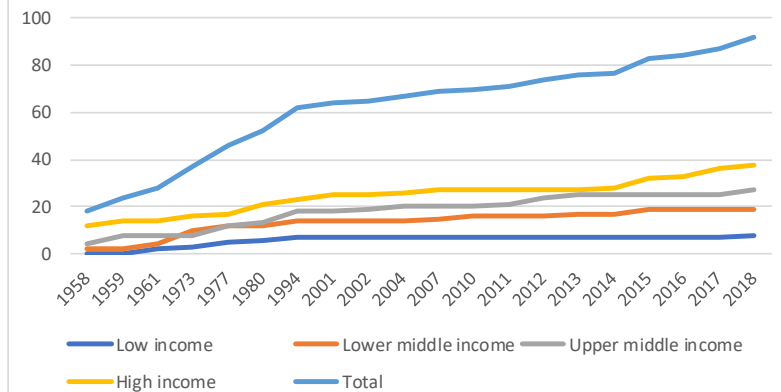


**COPUOS membership\* by World Bank income level**

High income	38
Upper middle income	27
Lower middle income	20
Low income	7
<b>Total</b>	<b>92</b>

\* COPUOS membership as of January 2019

Growth in COPUOS membership





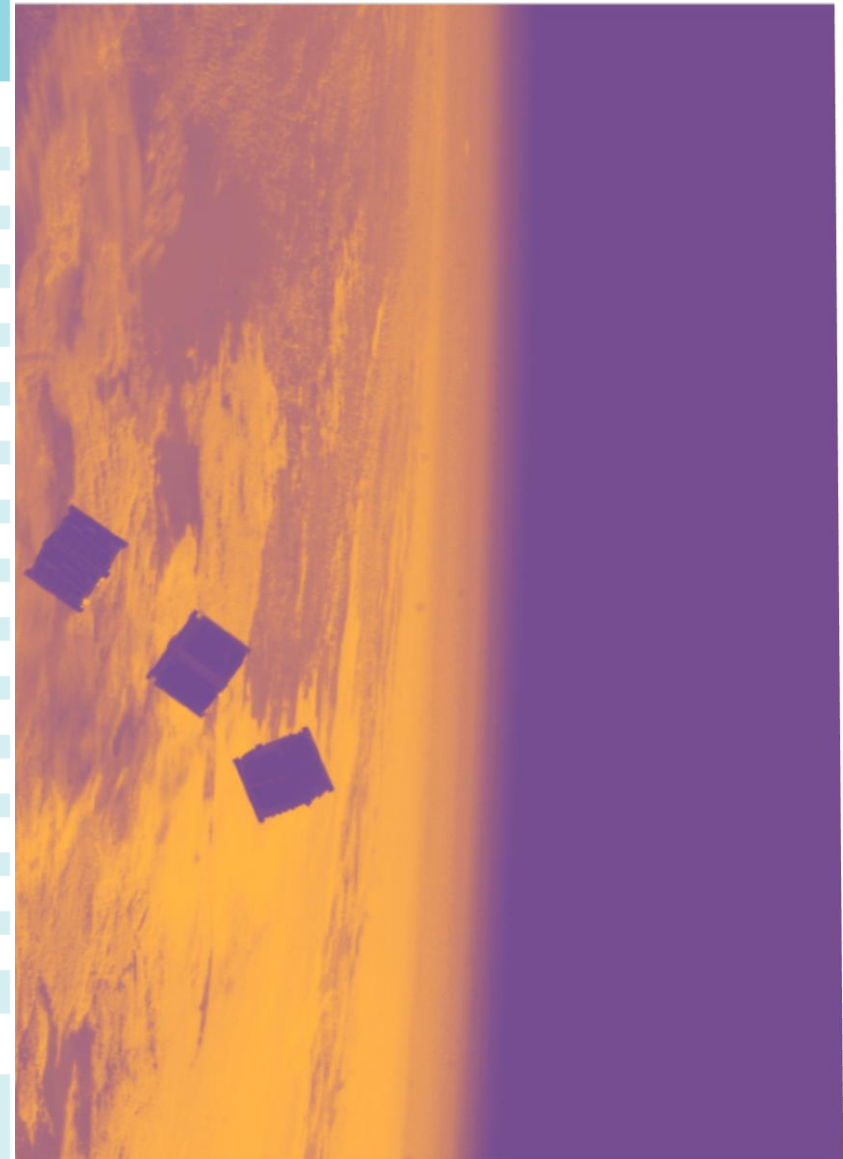
# UNISPACE+50

## A unique event

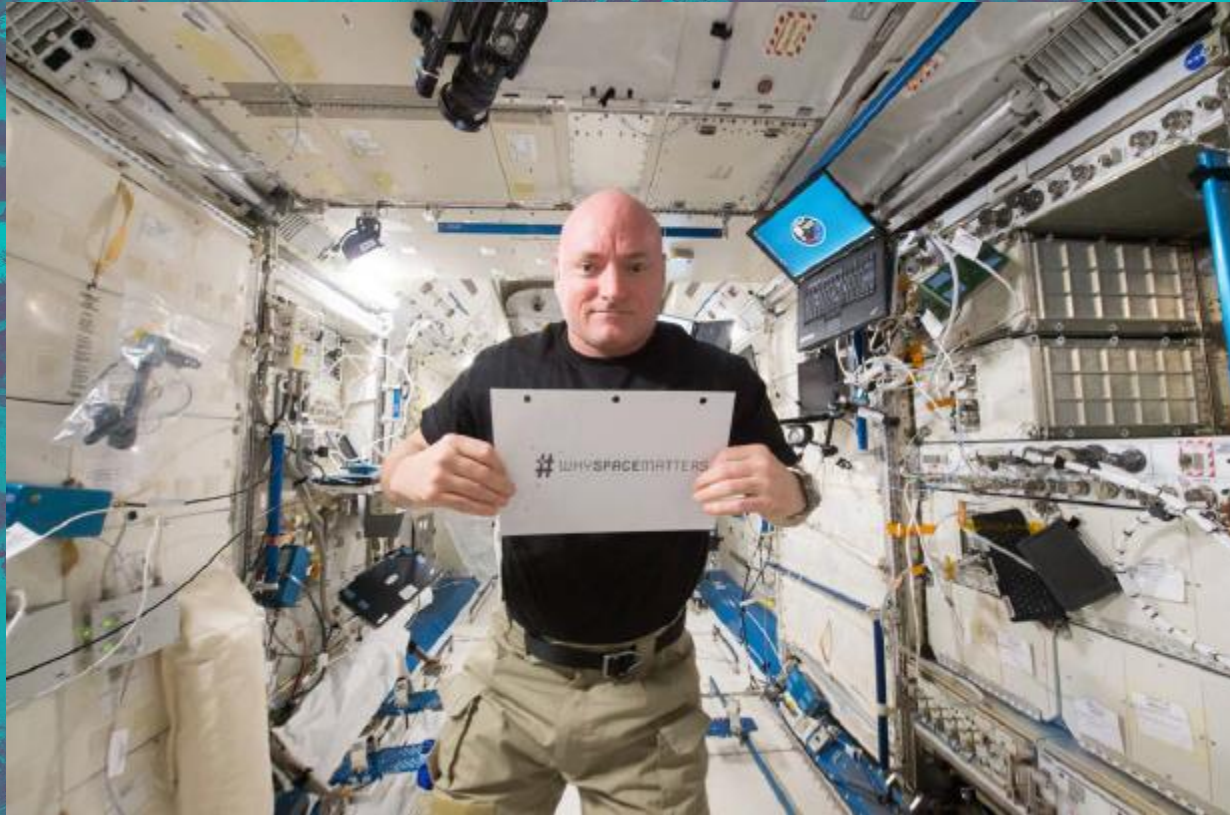


# Space object registration in 2018

Space objects registered in 2018				Notifications received in 2018 related to space objects previously registered	
State/Organization	Functional	Non-functional	Total	Re-entries	Change in status
Argentina	1				
Algeria	1				
Australia	3				
Belgium	0	0		1	
Brazil	2				
Chile	1				
China	47				
Denmark	2				
Finland	2				1
France	2	14		3	2
Germany	6				
Indonesia	2				1
Italy	2				
Japan	23	77		2	
Lao People's Democratic Republic	1				
Luxembourg	2			1	11
New Zealand	1	2		1	
Pakistan	2				
Republic of Korea	6				
Russian Federation	12			12	
Spain	1				
United Kingdom	7				2
United Arab Emirates	0	0			1
United States	99	8		12	
Uruguay	3				
Eumetsat	1				
Functional	<b>229</b>				
Non-functional		<b>101</b>			
<b>Total number of space objects registered in 2018</b>			<b>330</b>		
Number of space objects' re-entry reported to the Secretary-General				<b>32</b>	
Number of space objects' change in status (decommissioning, change of orbital parameters, including GSO position, etc.) reported to the Secretary-General					<b>18</b>



# Interview with UN Champion for Space



Thank you!

