



# The Outlook for Europe-India Cooperation in Space

5<sup>th</sup> ORF Kalpana Chawla Annual Space Policy Dialogue  
Delhi, 30 April 2019

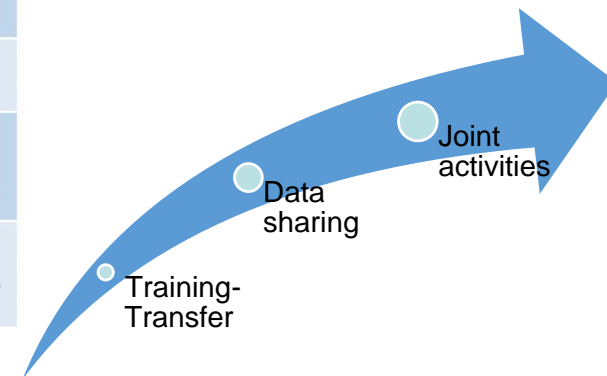
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# Europe and India: A Long Standing Cooperation...

## Key features

- ❑ More than 50 years of cooperation at both national and pan-European level
- ❑ Major partners: CNES, ESA, DLR, ASI, UKSA, EUMETSAT, EC
- ❑ Reliable, mutually-beneficial and multi-dimensional cooperation
- ❑ Functional to the emergence of India as spacefaring nation

Category	Missions
Tech Transfer - Capacity Building	<ul style="list-style-type: none"> <li>• France (Rohini, Viking engine)</li> <li>• ESA (APPLE)</li> </ul>
Joint Missions	<ul style="list-style-type: none"> <li>• France (Megha Tropiques, SARAL)</li> </ul>
Payload Accommodation	<ul style="list-style-type: none"> <li>• ESA (Chandrayaan-1 instruments)</li> <li>• Italy (ROSA)</li> <li>• Germany (MEOSS, MOS, SIR-2)</li> <li>• Sweden (SARA)</li> </ul>
Ground Station Support	<ul style="list-style-type: none"> <li>• Norway (Svalbard, Tromso)</li> <li>• Germany (Neustrelitz)</li> </ul>
Data Sharing & Applications	<ul style="list-style-type: none"> <li>• ESA (ERS-1, ERS-2)</li> <li>• EUMETSAT (IODC, Metop, Jason...)</li> <li>• Germany (Airborne Campaign, IRS data reception)</li> </ul>
Satellite Launch Services	<ul style="list-style-type: none"> <li>• Arianespace (more than 20 launches)</li> <li>• ISRO (PROBA, AGILE, SPOT-6, SPOT-7, Hylas-1, STRAND-1, DMC-3, BIRD...)</li> </ul>



## ... With a Higher Potential

### ESA- ISRO Cooperation

- ❑ Activities pursued in a piecemeal, erratic manner
- ❑ No major initiative since Chandrayaan-1 cooperation

### EU-India Relations

- ❑ Strategic partners since 2004
- ❑ Key agreements but fewer projects
- ❑ Space for long disconnected from broader policy objectives of EU-India partnership

### EUMETSAT-ISRO partnership

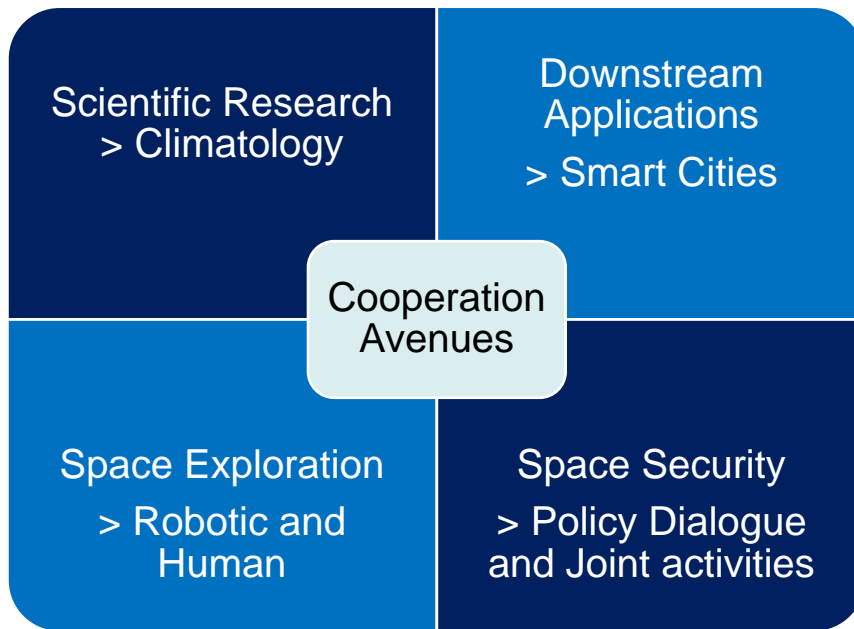
- ❑ Reliable and structured relations on meteorology and oceanography
- ❑ Weaker than other EUMETSAT partnerships

### Member States / Industry

- Special relation with CNES
- Unsystematic cooperation with ASI, DLR, UKSA,
- Unexplored cooperation potential from European industry (ASD, TAS)

Presence of concrete barriers (programmatic, industrial, regulatory) and lack of strong political commitment,  
but room for overcoming them and expand cooperation in many areas

## Gaining New Momentum....



### Future Cooperation Avenues

- Multiple stakeholders  
(National/European, Public/Commercial)
- Multiple drivers (Political, Programmatic, Business)

### ESA

- Renewal of cooperation agreement with creation of joint WGs
- New cooperation areas: remote sensing, space science, human spaceflight, TT&C and space safety.

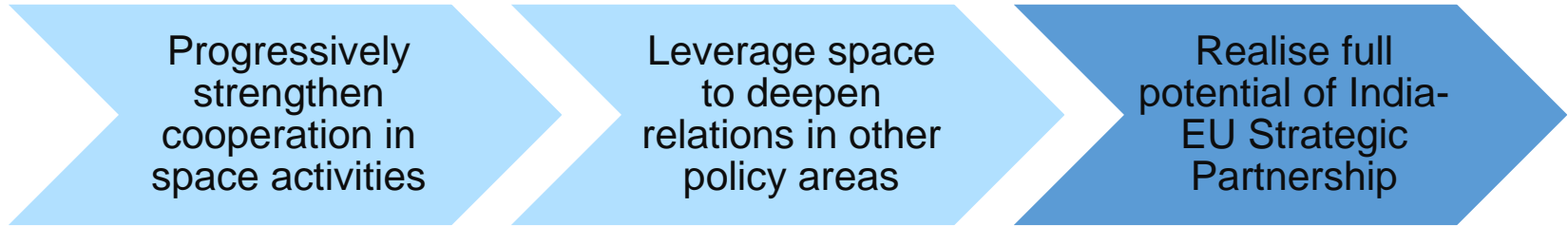
### EUMETSAT

- Long-term cooperation plan for the IODC service
- Access to respective satellite data

### EC

- 13<sup>th</sup> EU-India Summit > New Impetus
- 2018 Agreement on Copernicus
  - Free, full and open access to Sentinel data and ISRO data
  - Use Copernicus to support the objectives of the EU-India strategic partnership
- H2020 GNSS.Asia initiative

# Nurturing Europe-India Space Engagement



## Individual Requirements: Europe

- Unified and mutually reinforcing diplomacy towards India
- more coordination among European constituencies

## Individual Requirements: India

- Involvement of more stakeholders in the partnerships
- Transparent and comprehensive regulatory framework based on national space policy

## Common Requirements

- Enhanced policy dialogue
- dedicated institutional mechanism within the EU-India partnership architecture
- Real political will and backing to transform shared interest into common efforts

*Thank you!*

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