



# Europe and China in Space: Exploring the Cooperation Potential

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## Europe and International Cooperation

### *What European space actorness?*

Result of the complex interplay between three main constituencies >

- Triangular governance structure (ESA -EU-National actors)

Institutional divergences and distinct views on strategic goals, but >  
Europe as a unified, though *sui generis*, space actor:

- Progression towards coordinated (integrated) governance
- Common strategy for *international* space relations

### *International cooperation one of the most striking feature of Europe's space policy.*

- ESA/EU as a **mechanism** of international cooperation (art 2)
- ESA/EU as a **actor** of international cooperation (art

### *Strong ties all over the world*

- international cooperation **programmatically-driven** in the case of ESA
- international cooperation more **politically-driven** in the case of the EU



# 1. Past Sino-European Space Cooperation

Europe and China boast long-standing record of cooperation dating back more than 30 years.

## ESA level

- 1979: First ESA delegation to China – 1980 first Cooperation Agreement
  - 1992: China's participation in the Cluster programme (4)
  - 1997: ESA's participation Double Star programme (2)
- Constellation of six satellites
- 1997: Agreement for using ERS data 5 pilot projects for flood monitoring, rice cultivation, oceanography....
- ↳ Dedicated EO application programme: Dragon 1 (2005-08), Dragon 2 (2008-12) Dragon 3 (2012-16)

## National Level

- France, Italy, Germany and UK bilateral projects covering Space Science, Space applications, TT&C
- Industrial cooperation for delivery of industrial products and services (Thales-Alenia, Airbus)

## EU Level

- With the gradual involvement of the EU, cooperation acquires political profiles
- Directed to support the policy of “constructive engagement“.
- 2003 White Paper on Space: *International cooperation is not simply a matter of scientific collaboration on technologies and applications, but is in function of serving the widest possible spectrum of the EU's objective*

## 2. The Galileo Experiment (2003-2008)

### 30 October 2003: Galileo Satellite Navigation Cooperation Agreement

- Cooperative activities for technological development, industrial manufacturing, service /market development
- China-EU GNSS Technical Training Cooperation Centre
- China member of the GJU > around 12 projects contracted
- 200 M€ of investment (5 M€ entrance)

China largest non-EU partner in Galileo



*“Never before have the EU and China embarked on a cooperation project of the same magnitude as in Galileo. The project goes well beyond industrial issues. It entails a strong strategic component, which will have far-reaching consequences on future Sino-European political relations”.*

### Political Drivers:

- Deepen the scope and impact of EU-China strategic partnership
- Geo-technological balancer: counterweight the US primacy to promote *technological* and *political* autonomy.

### The Debacle:

US Pressures >> July 2008 >> China excluded from participation

Motives: **a)** questions of technology transfer and IPR enforcement; **b)** the challenge to Galileo coming from *Beidou* about the use of the same frequencies; **c)** China's 2007 ASAT test; **d)** US wrath and pressures.

## 3. Recent Developments

### ESA level

TT&C assistance trough for China's Chang'e missions (2007, 2009, 2013) and Tiangong programme  
Mutual Cross Support Agreement between ESA and CLTC

### National Level

**DLR:** SIMBOX on Shenzhou 8 (October 2011)

**CNES:** China-France Oceanography Satellite (CFOSAT) and Space Variable Object Monitor (SVOM)

**ASI:** scientific payloads for the China Seismo-electromagnetic satellite (CSES) > 08/2017

### EU Level

Annual meetings within the EU-China Space Dialogue Mechanism  
EU-China 2020 Agenda for cooperation

- Information exchange in EO, Geo-science, Space science, Exploration
- Reinforcement of cooperation in Space Science and Space Applications
- Deepen exchange and cooperation in human spaceflight



2013 - 2014 Exchange Visits and High Level Meetings

2014 Three Projects with the European Astronaut Centre

2014 Cooperation agreement between ESA-CMSA for the creation of a Human Spaceflight Consultation Committee.

### Soft Cooperation or Functional Moves?



## What Potential for Future Cooperation?

The path towards closer cooperation with China in both the political and space arena seems clear

- Ties deepening at ESA, EU and National level with functional moves
- Evolution of the International landscape pushes Europe to rethink cooperation approaches. **How?**
- Given convergence in the priorities and direction of space exploration between China and Europe **the will to engage in cooperative ventures is becoming stronger!**

### Potential for Cooperation:

- Alongside relevant strongholds, cooperation potential bedevilled by numerous weaknesses
- Invaluable opportunities offset by inherent risks at both space and political level

*Europe currently left with the “dilemma of either not expanding cooperation with China, a restriction that it wants to avoid, or of risking the wrath of the USA, which it neither wants, nor most probably can afford, to do”.*

### How to overcome? By Bridge Building

- Leveraging longstanding partnership with Washington and maturing relations with Beijing
- To act as match-maker between isolated players and trailblazer for a multilateral space endeavour
- Securing active involvement without dilemma of choosing between mutually exclusive partnership

## Bridge-Building: The Way Forward?

### Is There a Basis for such Effort?

- Goal consistent with the policy orientations at European level (Prague, Lucca, etc..)
- US overtures vis-à-vis China (NASA, OSTP, ...) What about Trump?
- China's interest in cooperating with the US.

The crafting of a multilateral endeavour might, however, prove difficult and putting forward this strategy would be slow. Many Political, Legal and Technical issues to be solved:

- Paradigm shift vis-à-vis China (symbolic participation in the ISS programme?)
- Creation of a fully-fledged cooperation mechanism. What model should be adopted?

Benefits would, however, exceed burdens:

- Being a bridge-builder would enhance Europe's profile in the space arena, avoid duplication of efforts and provide a stepping-stone for future human Mars exploration
- Politically, it would project European geopolitical skills and European values, and undermine negative rifts and confrontational stances in international relations

The crafting of a *real and enduring* multilateral partnership in Space as a catalyst for broader cooperation on Earth.

*Thank you for your attention!*

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