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# Climate Change and Sustainable Urbanization as part of Europe-China S&T relations

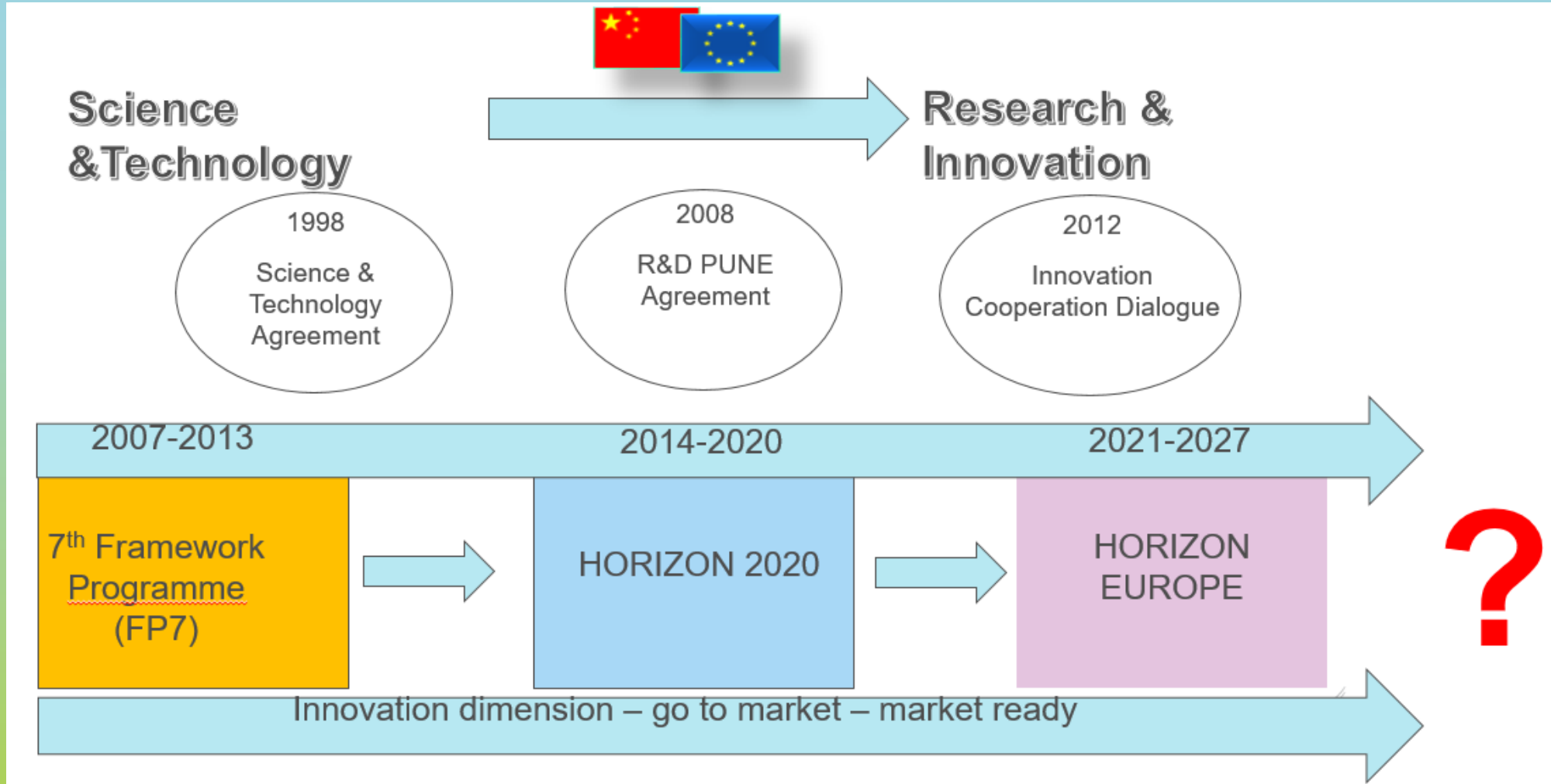
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Building the Green, Digital and Inclusive City of the 21st Century  
12 January 2024



# EU-China S&T relations evolving in time





# EU-China CFM under H2020

❑ As from 2014 EU FP Horizon 2020 ceased to fund automatically BRIC + Mexico applicants → Co-Funding Mechanisms needed

❑ Direct funding to CN participants still possible if:

- ❑ Chinese contribution “essential” for the successful outcome of the project
- ❑ Partner, but non-Beneficiary, in specific programs where the reimbursement of costs is based on flat-rate allowances (e.g. MSCA)

❑ 2015: EU-CN agreement to co-fund projects in 5 flagship initiatives and with MOST in 9 additional areas of MOST priority interest:

- ❑ food, agriculture and biotechnologies
  - ❑ environment and sustainable urbanisation
  - ❑ surface transport
  - ❑ safer and greener aviation
  - ❑ biotechnologies for human health and the environment
- } MOST 175M€ (3 flagships +9 areas)/EU 300 M€
- MIIT 11 M€/EU 15 M€
- NSFC 10 M€/EU 30 M€

Personnel costs not eligible in MOST/MIIT/NSFC grants

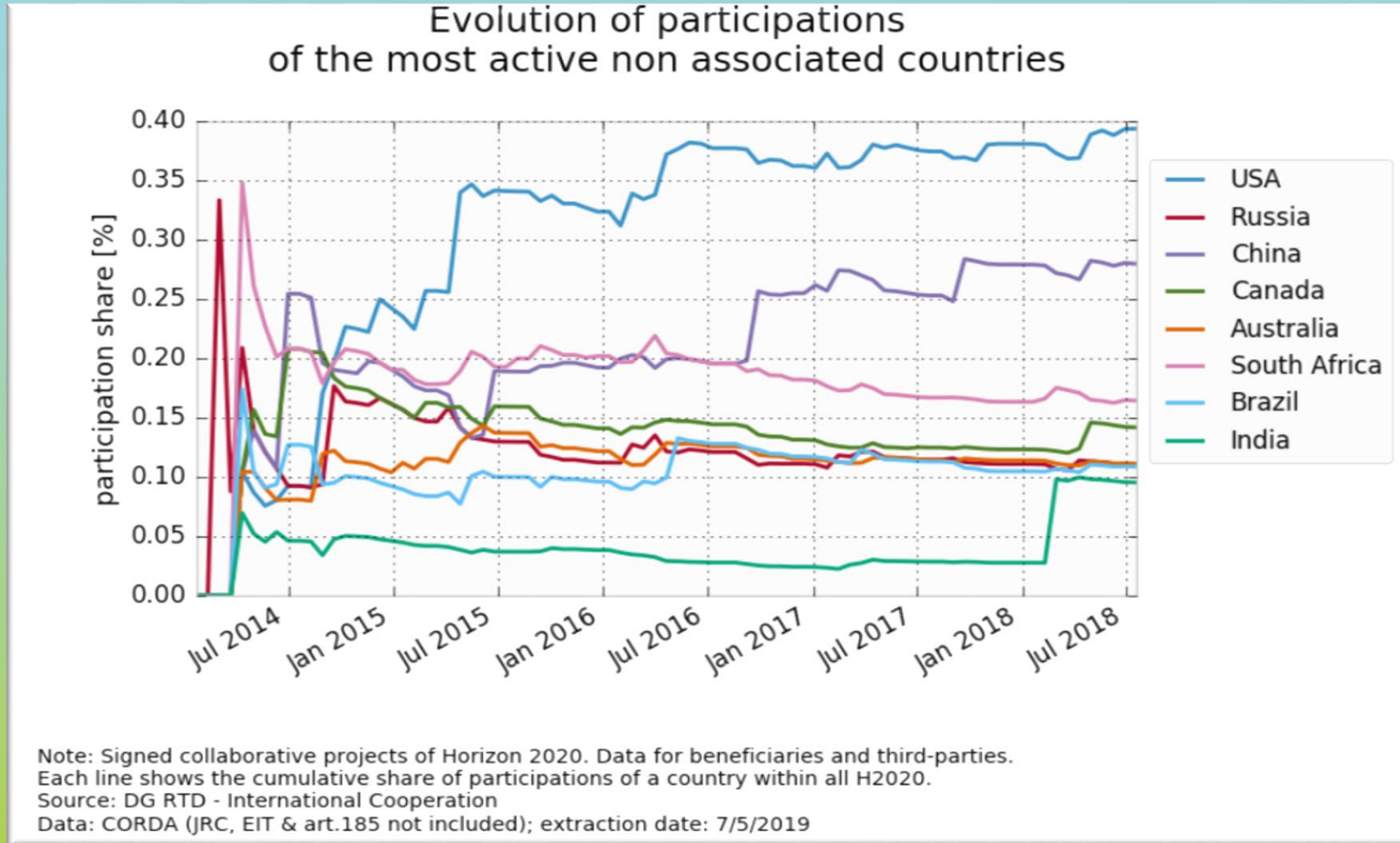
15% spent

75% spent

❑ The CFM contributed to strengthen STI cooperation between the EU and China in agreed research areas of mutual interest. China is currently (on 31 December 2020) the 2<sup>nd</sup> most active non-associated third country in H2020 with 595 participations in 269 signed grants



# Impact of the CFM with non-associated 3<sup>rd</sup> countries under H2020





# EU-China flagship initiative on Sustainable Urbanization in H2020 (1)

Joint declaration on the EU-China Urbanisation Partnership (2012) by President Barroso and Premier Li

EU-China Joint Workshop on Urban Innovation, held in the city of Foshan in May 2013 to reinforce the Research and Innovation dimension

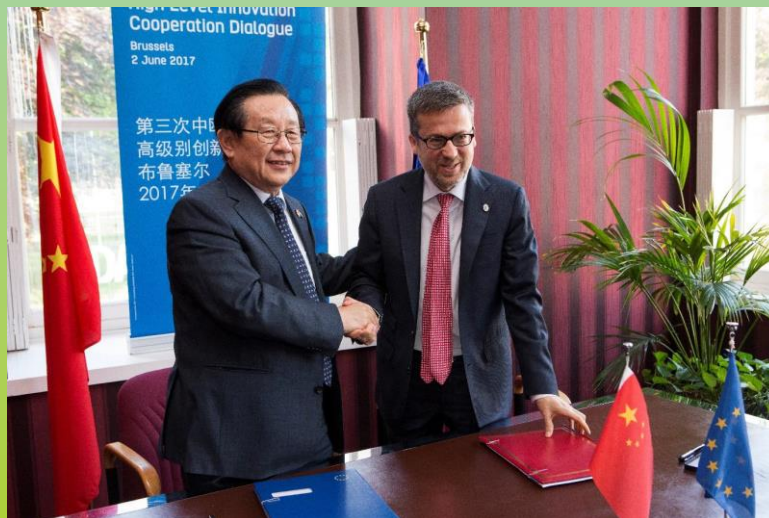
Two platforms of Sustainable Urbanisation Stakeholders were launched as pilot projects to pave the way to EU-China cooperation in this field

Topics of common interest on sustainable development, urban planning, green urban mobility, and sustainable energy solution for cities

Importance of innovation and socio-economic aspects in sustainable urbanisation

CFM set by MOST to support the flagship initiative on Sustainable Urbanization: > € 120M , 12 projects, 8 co-funded by MOST, successful co-funding rate of 67%.

Reasons for success





# EU-China flagship initiative on Sustainable Urbanization in H2020 (2)

**Two platforms of Sustainable Urbanisation Stakeholders** were launched as pilot projects to pave the way to EU-China cooperation in this field

“Demonstrating innovative nature-based solutions in cities” + R&I Action on Urban Planning  
→ **8 research projects**, 4 of them were co-funded by MOST through the CFM, Chinese participants in the remaining four projects were supported through other sources of funding

Strengthening international cooperation on sustainable urbanisation: “nature-based solutions for restoration and rehabilitation of urban ecosystems”  
→ **2 research projects**, but low co-funding by MOST

## Synergies with other EU initiatives

thematic components under the FAB flagship (Urban agriculture) and under the flagship on Surface Transport (emissions in urban road transportation system, urban mobility, sustainable electrification in large urban areas)

several EU funded programmes have translated the political will into concrete actions and focused on delivering more concrete outcomes, notably by using the opportunities provided by the EU's International Urban Cooperation programme (IUC)

## Synergies with EU-MS initiatives

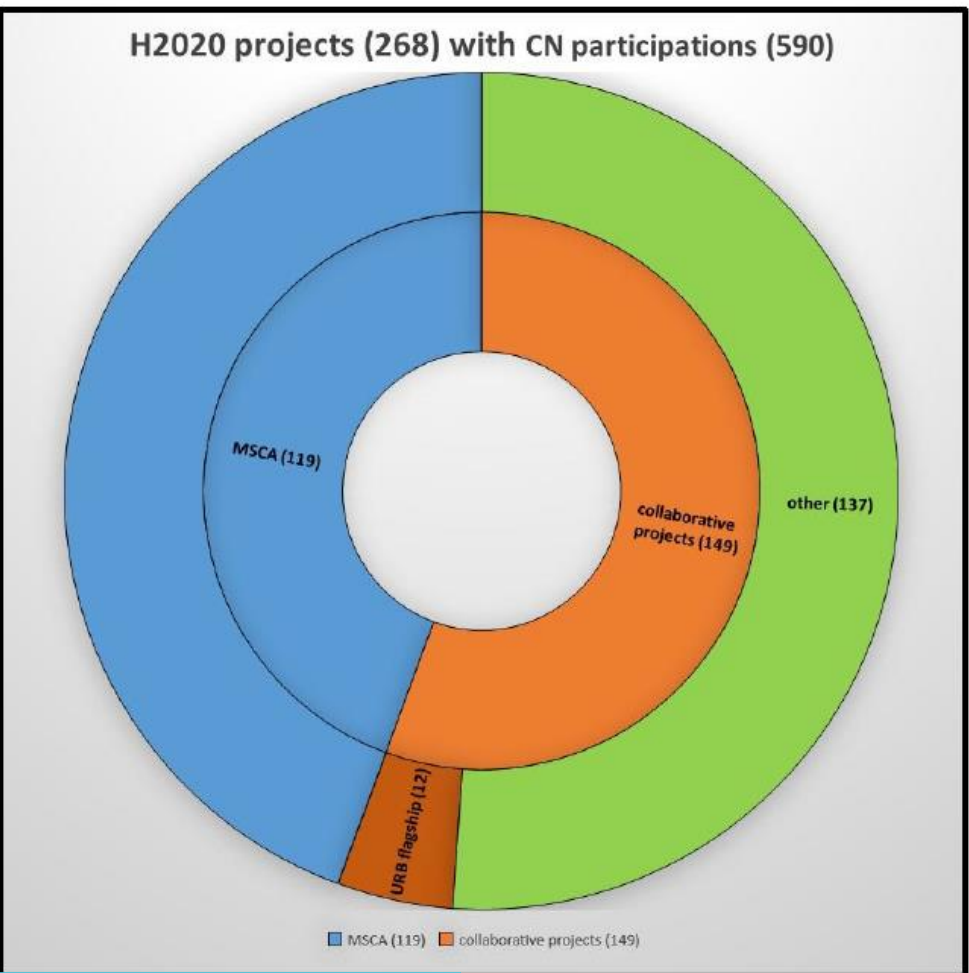
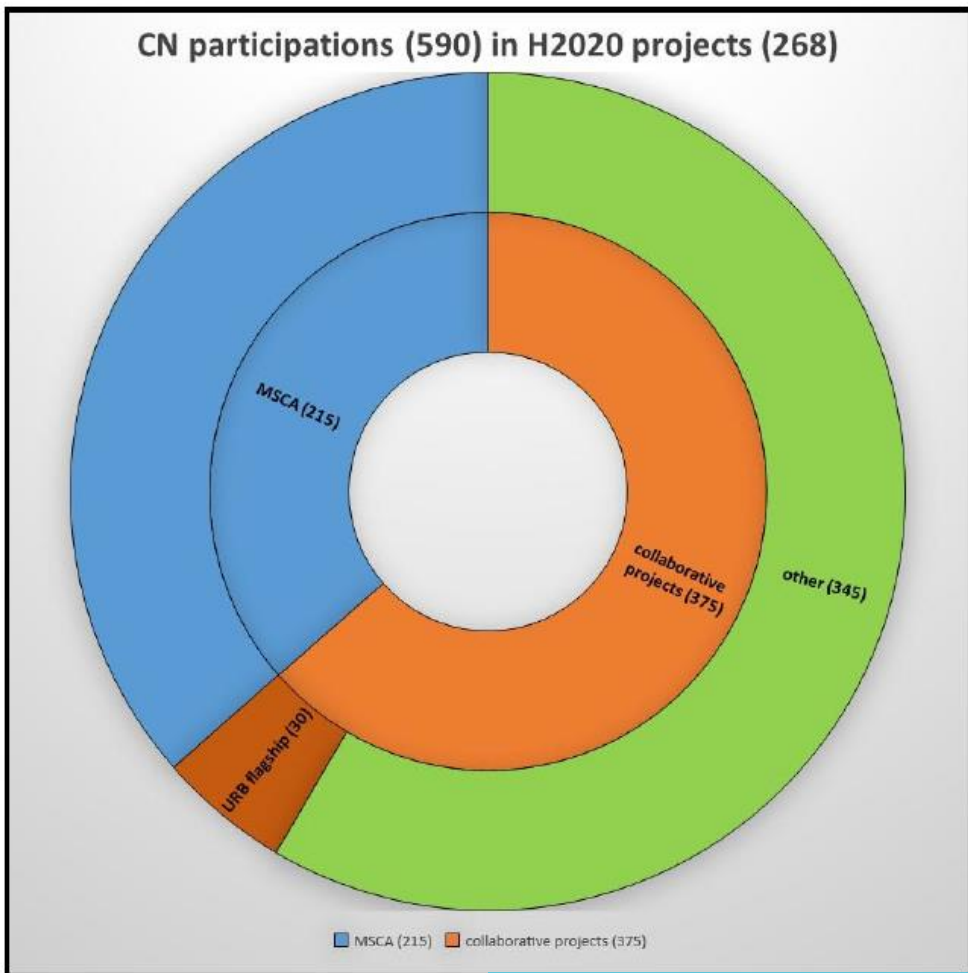
JPI Urban Europe engages selected EU Members States and Associated Countries, in addition to the European Commission

JPI Urban Europe addresses global urban challenges of today, developing a EU R&I hub on urban matters for European research solutions

Long-term cooperation between NSFC and JPI Urban Europe to set joint calls



# EU-China flagship initiative on Sustainable Urbanization in H2020 (3)

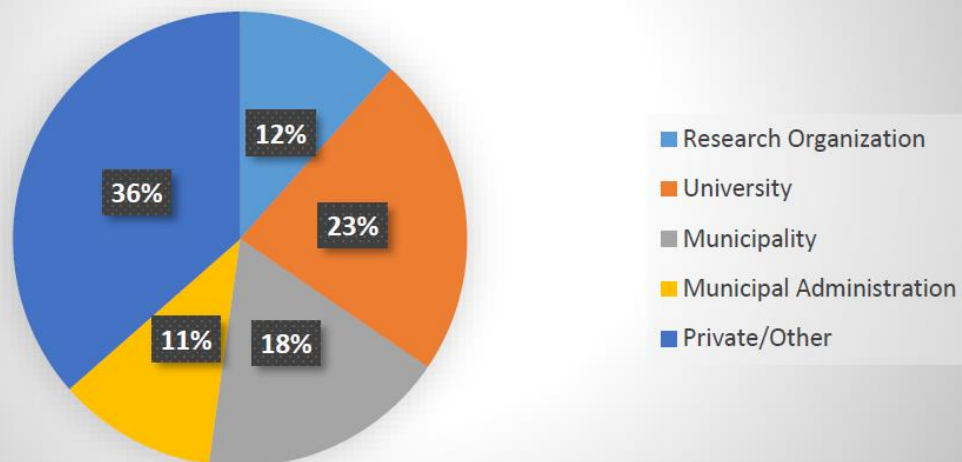


The Urbanization flagship represents a significant portion of H2020 collaborative projects with Chinese participants (30), accounting for 8% of all H2020 Chinese entities participations in collaborative projects.

Share of CN participations

# Impact of flagship initiative on Sustainable Urbanization under H2020

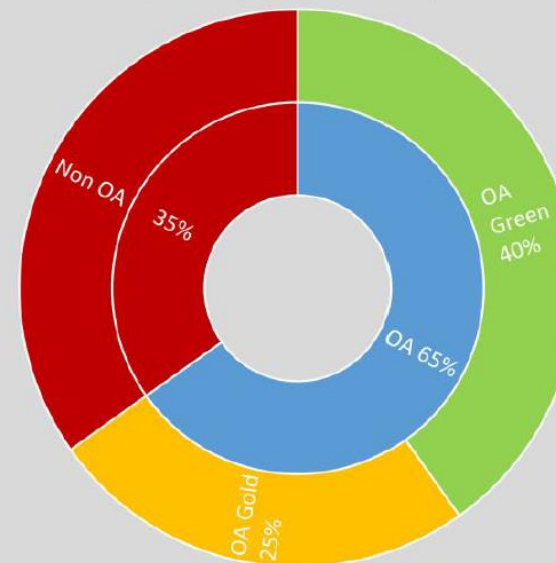
Types of Participants in flagship projects on Sustainable Urbanization



mobilize Chinese entities in cooperating with a variety of organizations, with a prominent role played by municipalities and other organizations linked to municipal administrations

Altogether, the two groups account for almost 30% of the total stakeholders taking part in H2020 projects of the Urbanization flagship.

OA modality of publications (113) produced by H2020 Urbanization projects



**>110**  
publications

**65%** in peer review journals and in OA mode





EUROPEAN UNION

# A stronger Europe in the World

*Commission political priority*



*“My Commission will be a **geopolitical Commission** committed to sustainable policies”.*

*“**Multilateralism** is in Europe’s DNA. It is our guiding principle in the world”.*

*“Europe will always fight for a **level playing field**”.*

*“In deepening our relationships, we will always be **guided by our values** and our respect for international law”.*

*“Europe should have a stronger and more **united voice** in the world”.*



# EU Global approach to research & innovation

## Introduction

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- ❑ Communication from 18 May 2021 – new international cooperation strategy
- ❑ Communication on *Global Approach to Research and Innovation* replaces international cooperation strategy from 2012 *Enhancing and focusing EU international cooperation in research and innovation: A strategic approach*
- ❑ 2012 Communication guided EU scientific and technological relations with third countries in Horizon 2020 boosted through flagship initiatives with regions as regions such as Africa, Canada, Japan, South Korea, **China**, India
- ❑ 10 yrs later the new Global Approach to Research and Innovation supersedes the previous strategy in order to respond to today's significantly different global context and to align the EU's international cooperation with its current priorities.

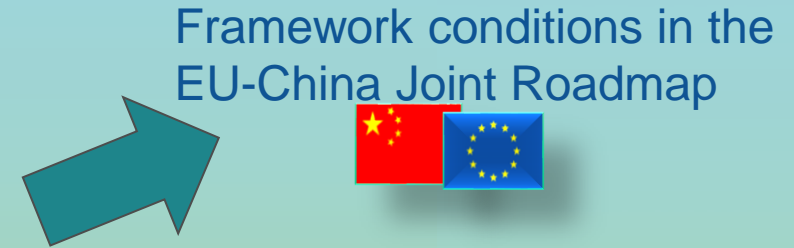


# EU Global approach to research & innovation

## Key actions (1)

### Promote openness and values in R&I

- Research ethics and integrity
- Gender equality, diversity and inclusiveness
- Open data and open science
- Standards
- Evidence-informed policymaking
- Science Diplomacy



### Pursue level playing field and reciprocity

- Targeted bilateral roadmaps with prioritized non-EU countries 
- Develop **guidelines dealing with foreign interference** that targets EU research organizations and higher education institutions 
- Present a **code of practice on smart use of intellectual property** in an international context 



# EU Global approach to research & innovation

## Key actions (2)

### Pool global efforts to tackle global challenges

- Strengthen marine cooperation through multilateral **All-Atlantic Ocean Research Alliance**
- Reinforce multilateral alliance **Mission Innovation** focus on breakthrough energy technologies
- Multilateral cooperation policies on **fair, healthy and environmentally friendly food systems**.
- Establish, through the **New European Bauhaus initiative**, an international knowledge management platform to disseminate information and share ideas and best practice.
- Build joint research activities on industrial issues**, to support EU leadership in the use of digital technology in the fight against climate change and environmental challenges.
- Shape strong **international digital partnerships** to match the 4 pillars of 2030 Digital Compass
- Contribute to M&L term agenda on **health security, preparedness and health system**
- Promote cooperation of EU-funded European platform trials with **the Access to COVID-19 Tools Accelerator (ACT-A)** partnerships and pursue the ACT-A objectives.
- Support a global health joint undertaking under the **European and Developing Countries Clinical Trials Partnership**.

### Modulate cooperation with third countries

- International cooperation actions** in calls for proposals in areas of mutual interest
- Research and innovation plans for Africa** and launch a comprehensive 'Africa Initiative'
- Agree on the **EU-China Joint Roadmap on STI cooperation** 
- Implement the Strategic Roadmap of the **EU-CELAC Action Plan on STI (2021-2023)** and support the **ASEAN-EU Dialogue on S&T**.



# EU Global approach to research & innovation

## Specific cooperation/China

- ❑ The Communication reaffirms the position from 2019 Strategic Outlook
  - ❑ CN is a partner for the EU in tackling global challenges
  - ❑ CN is an economic competitor
  - ❑ CN is a systemic rival
- ❑ Joint EU-China Roadmap to establish agreed framework conditions and guiding principles for cooperation to reach a level playing field and reciprocity
- ❑ identify research fields in which cooperation could be mutually beneficial, such as climate science and biodiversity protection, circular economy, health, food, agriculture, aquaculture, and ocean observation.
- ❑ EU knowledge network on China to address research and innovation, bringing together Member States and the EU to discuss and share best practices and strategies and agree on common approach.
- ❑ EU should take measures to tap into China's new research and innovation potential and encourage universities and research institutions to ensure a higher degree of reciprocity and mutual benefit in their cooperation with China

**Reaching a level playing field and reciprocity will be conditional to developing cooperation with China!!!**



# EU Global approach to research & innovation

## Delivering the strategy: highlight actions

### Modulated cooperation with third countries

- Seek to agree on the **EU-China Joint Roadmap** on science, technology and innovation cooperation to secure a level playing field and reciprocity as a precondition for future cooperation.

### Safeguarding EU interests

- Work programme may limit participation in actions when there is a justified need to safeguard EU strategic assets, interests, autonomy or security.
- Work programme may limit participation of entities established in the EU or associated countries directly or indirectly controlled by non-associated non-EU countries, for duly justified and exceptional reasons, in order to guarantee the protection of the strategic interests of the EU.
- Provisions on exploitation, dissemination and right to object transfer of ownership and licenses to non-associated third-country entities in line with EU interest.



# CN participation in Horizon Europe

In April 2022 EU and MOST signed an Administrative Arrangement to co-fund CN participants in Horizon Europe projects, specifically:

- ❑ Two flagship initiatives
  - Food, Agriculture and Biotechnology
    - ✓ 4 topics=>5 projects in 2021-22
    - ✓ 4 topics=>5 projects in 2023-24
  - Climate Change and Biodiversity
    - ✓ 3 topics=>4/5 projects in 2023-24
  
- ❑ Other research projects, targeting low TRL projects (up to TRL4 = Technology validated in lab) and linked to the domains covered by the two agreed flagship initiatives



# CN participation in HE calls (2021-2023) (1)

## Key Figures - China

Programme: Programme HORIZON EUROPE | Select map level:  | Country: China | Country Group:

Net EU Contribution  $\uparrow$   
**423,1k**  
0,00% of HORIZON EUROPE

*Funding received by the project's participants after deduction of their*

Signed Grants  $\uparrow$   
**64**  
0,63% of HORIZON EUROPE

*Number of grant agreements signed, including suspended, terminated*

Participation  $\uparrow$   
**137**  
0,20% of HORIZON EUROPE

*Number of organisations involved in HORIZON EUROPE projects. One*

Unique Participation  $\uparrow$   
**104**  
0,50% of HORIZON EUROPE

*Number of unique organisations involved in HORIZON EUROPE*

Success rate  $\uparrow$   
**24,17%**  
23,11% Average

*Ratio of the retained applications to the total number of eligible applications received*

Eligible Proposals  $\uparrow$   
**249**  
0,42% of HORIZON EUROPE

*Proposals that have not failed at the eligibility or admissibility step of the evaluation, that have not*

Applications  $\uparrow$   
**575**  
0,19% of HORIZON EUROPE

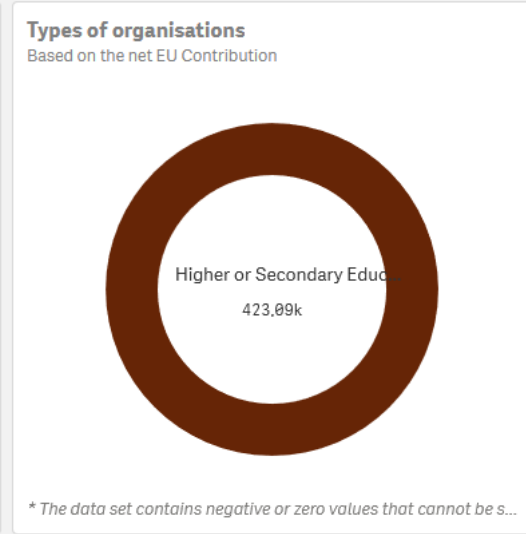
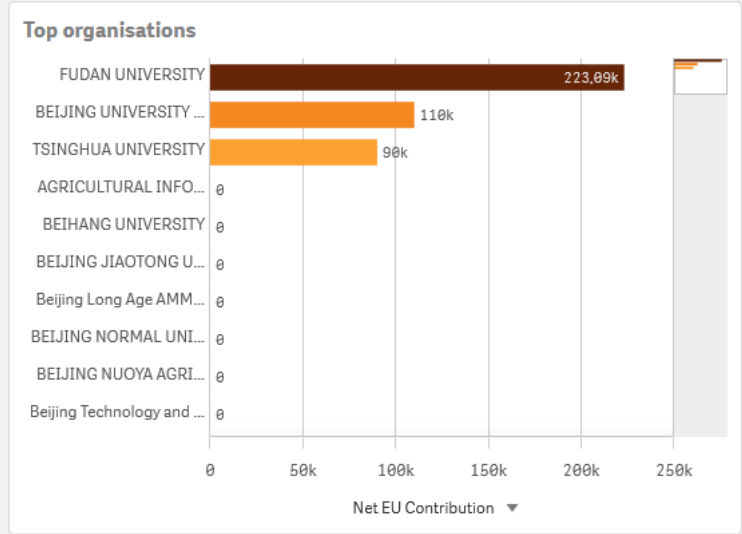
*Number of organisations applying for HORIZON EUROPE grants. One organisation applying in N*



### Participation by region (NUTS 3)

Region (NUTS 3)	Participation	Net EU Contrib
<b>Totals</b>	<b>137</b>	
Not Available	137	

*The filters are available only for country and NUTS levels.*



The designations employed and the presentation of material on the map do not imply the expression of any opinion whatsoever on the part of the European Union concerning the legal status of any country, territory or areas or of its authorities, or concerning the delimitation of its frontiers or boundaries.

ERC Principal Investigators $\uparrow$ <b>0</b> <small>0,00% of HORIZON EUROPE total</small>	EIC Participation $\uparrow$ <b>0</b> <small>0,00% of HORIZON EUROPE</small>	MSCA Participation $\uparrow$ <b>62</b> <small>0,50% of HORIZON EUROPE total</small>	Experts $\uparrow$ <b>75</b> <small>0,08% female evaluators</small>
Net EU contribution to ERC P... <b>0</b> <small>0,00% of HORIZON EUROPE</small>	Seal of Excellence $\uparrow$ <b>0</b>	MSCA unique participants $\uparrow$ <b>50</b> <small>1,01% of HORIZON EUROPE</small>	Proposals evaluated per exper... <b>10,37</b> <small>10,37 Average</small>

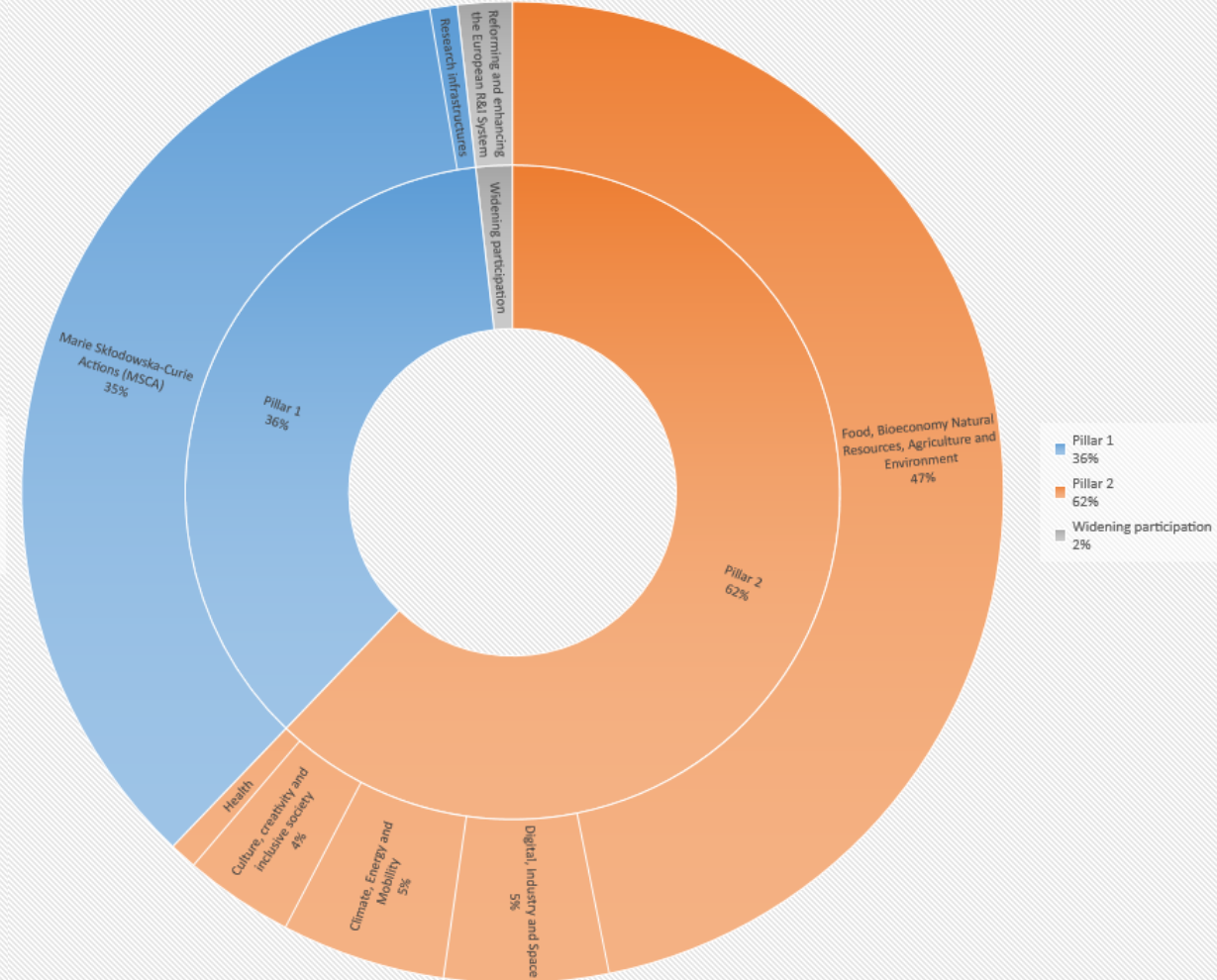
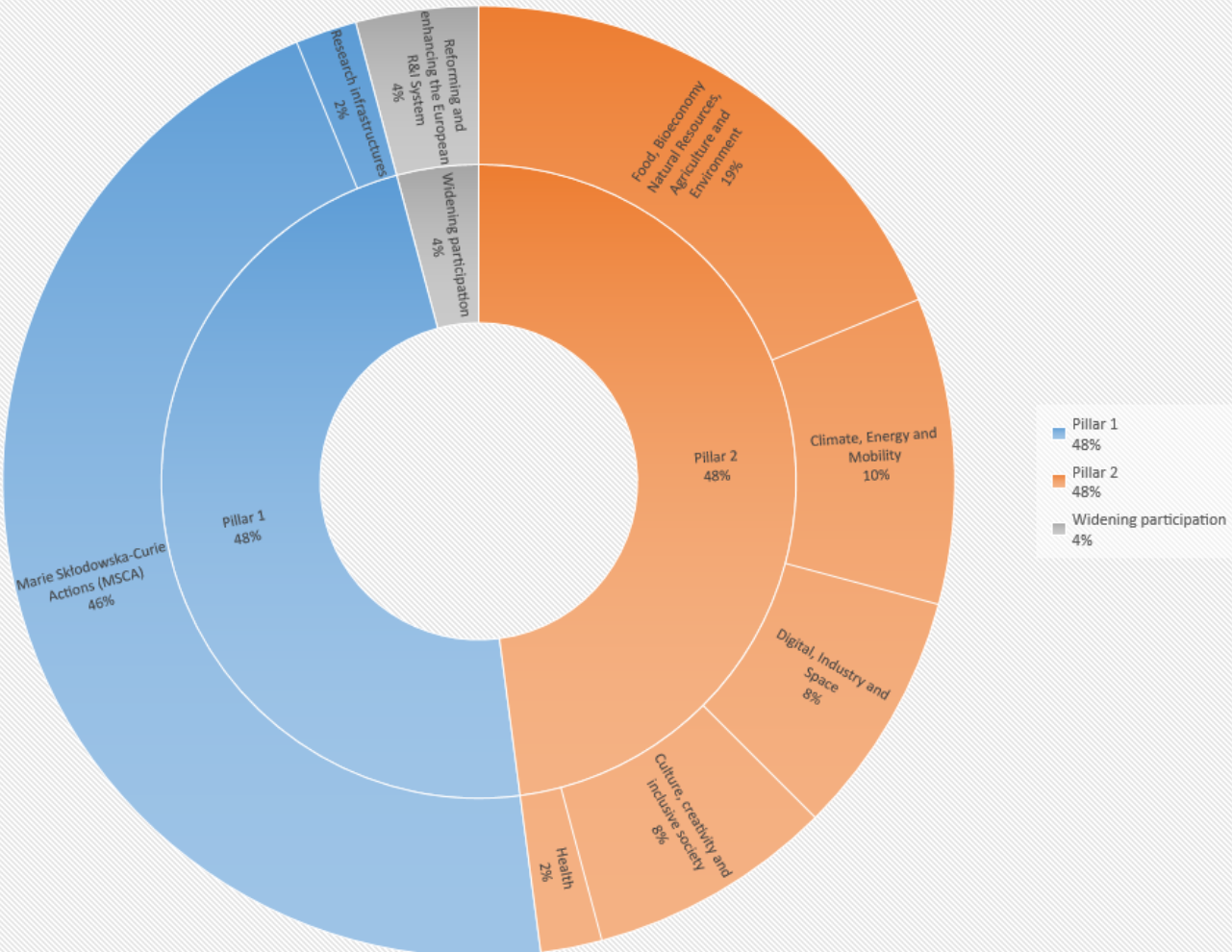




# CN participation in HE calls (2021-2023) (2)

Distribution of HE Grants (64) with CN participations (137)

Distribution of CN participations (137) in HE Grants (64)



Most applications target the Food & Agriculture and Climate Change and Biodiversity flagships  
 A total of 100 M€ is committed by both sides to invest in these areas of mutual interest to both EU and CN  
 data as of 10/01/2024



# Future Perspectives to continue the cooperation in Sustainable Urbanization

**Flagship initiative on Sustainable Urbanization no longer active under Horizon Europe**

**In April 2022 EU and MOST signed an Administrative Arrangement to co-fund CN participants in Horizon Europe projects**

**Collaborative research projects** in themes linked to the content of the Food, Agriculture and Biotechnologies (FAB) and the Climate Change and Biodiversity (CCB) flagship initiatives are **eligible to co-funding**