

D1.5 FIRST PROGRESS REPORT ON RESEARCH CLUSTERS WP1

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1 LIST OF ABBREVIATIONS

Abbreviation	Meaning
BAST	Beijing Association for Science and Technology
CEATEC	China Europe Association for Technological and Economic Cooperation
CIPDA	China Intellectual Property Development Alliance
CTSA-CCUS	China Technology and Strategic Alliance for CO2 Capture and Storage
DoA	Description of the Action – annex 1 to the GA
EC	European Commission
EU	European Union
EUCCC	European Union Chamber of Commerce in China
NCCS	Norwegian CCS Research Centre
WIPO	World Intellectual Property Organisation
WP	Work package

2 EXECUTIVE SUMMARY

After the kick off of the ReConnect China project in November 2022, WP1 members had discussions about the plan of Year One (M1-M12). The most important target is to achieve the tasks of WP1 of the ReConnect China project, especially for its deliverables. Meetings of WP1 were organized by IN with WP1 members after the first Scientific Board Meeting of ReConnect China.

There are some deviations for the deliverables within the Task 1.3 of WP1. The adjustments are as follows:

Task 1.3 China's Advances in Frontier Technologies (leader: IFRI, UTURKU, ELCANO)

1. The "China's approach to Artificial Intelligence" was slightly adjusted to "China's Artificial Intelligence Ecosystem" (UTURKU-M24) and will be delivered within M20 (before 30 June 2024), four months earlier than planned.
2. Technical standards in Artificial Intelligence (IFRI-M20) moved to M17 (March 2024)
3. Semiconductor technologies by ELCANO will be delivered in M12 (Oct 2023)
4. Quantum technologies (IFRI-M16) will be postponed to M23 (September 2024)
5. Space technologies (IFRI-M6) will be delivered within M12 (Oct 2023)

Therefore, with the joint efforts of WP1 members, there will be seven deliverables in total of WP1 in the first year (M1-M12), as follows:

- **D1.1** Report on the results of the research cluster on EU-China research cooperation (co-patent/co-publication analysis)
- **M1.1** ST&I co-operation areas (and non-areas) related to big data (ZSI-M11)
- **M1.1** Current patterns, drivers, barriers and challenges, as well as future co-operation options between China and EU in the big data-related scientific fields (ZSI-M11)
- **M1.3** Advanced semiconductor technologies (ELCANO-M12)
- **M1.3** Space technologies (IFRI-M12)
- **M1.4** China's acquisitions and outbound investments to the EU (IAI-M12)
- **D 1.5** Summary Report of WP1 (IN-M11)

Before the end of M11, five of these will be delivered, with two more in M12 (M1.3, M1.4).

There were also some human resources adjustments in WP1 during the M1-M11. Mr. Henning Kristoffersen has boarded from the 1st of June as the Country Director of IN China, as well as the Commercial Counsellor of the Royal Norwegian Embassy in Beijing, while Mr. Rolf Peter Almklov moved back to Innovation Norway Nordland office, and will no longer be involved in this project. All

the positions and responsibilities of Mr. Rolf Peter Almklov in ReConnect China are replaced by Mr. Henning Kristoffersen, as formally informed to UGent.

Ms. Federica Marconi has also boarded IAI in May 2023, and Mr. Aurelio Insisa in M11. They will work with the IAI ReConnect China team for the deliverables of Task 1.4. IFRI is also considering to have a new trainee to join their ReConnect China team soon.

3 INTRODUCTION

ReConnect China aims to answer the question in which domains collaboration of the EU with China is desirable, possible or impossible. The question in which domains EU collaboration with China is desirable, possible, or impossible starts from the acknowledgment that in the modern geopolitical and geo-economic world, the EU and China stand in a perpetual dynamic relationship with each other. This project therefore identifies the following key fields on which the EU should upgrade its independent knowledge: Science & Technology, Economy & Trade, Domestic Governance, and Foreign Policy. To carry out this project, a database which will provide access to new sources of information will be developed. The independent knowledge that will be generated in this project will bring together stakeholders and experts in a Europe-China Knowledge Forum. The project also envisages to enhance awareness on China among the general public and youth.

3.1 Deliverable scope

This report is based on the works, activities and events of members Task of WP1, focusing on the deliverables from each Task. There are four Tasks in WP1:

Task 1.1 EU-China research cooperation (co-patent/co-publication analysis) – (Leader: ZSI, Members: IN, IFRI, IAI, UTURKU)

Task 1.2 The legal and regulatory aspects of S&T development - (leader: IN, Member: IAI, UGent)

Task 1.3 China's Advances in Frontier Technologies (Leader: IFRI, Members: UTURKU, ELCANO)

Task 1.4 Economic Dimension of S&T cooperation (Leader: IAI, Members: IN)

This report is a periodical summary about WP1 during M01-M11, some plans of Year One (M1-M12) have also been mentioned. As the leader of WP1, IN has applied to extend the delivery time of D1.5, just in order to cover more deliveries into this report, because five deliveries will be delivered in M11 (Sep 2023) while two more in M12. It is impossible for D1.5 to cover all the deliverables in the same month, since only one deliverable (D1.1) has been submitted in the middle of M11 so far, while all other deliverables are still coming. We expect that they will be delivered by the end of M11 as planned.

3.2 Reference documents

1. EU Grant Agreement, including the DoA – annex 1 to the GA

2. Proposal of ReConnect China - HORIZON CL2-2021-TRANSFOMATIONS-01
3. Consortium Agreement
4. EU guidelines for project implementation and documentation
5. D1.1 Report on the results of the research cluster on EU-China research cooperation (co-patent/co-publication analysis)

4 WORK AND DELIVERABLES OF WP1

4.1 Work and Deliveries of Task 1.1

Task 1.1 EU-China research cooperation (co-patent/co-publication analysis) – (Leader: ZSI, Members: IN, IFRI, IAI, UTURKU)

Within the first eleven months of the project (M1-M11), the work in T1.1. focused on desk research, data gathering, data processing and data preparation in regard to analysing EU-China STI cooperation as well as on writing the task's main report titled "D1.1 Report on the results of the research cluster on EU-China research cooperation (co-patent/co-publication analysis)". By conducting a desk research, we aimed to get a better overview of the current state of EU policy-making vis-à-vis China in the fields of science, technology and cooperation (STI). Against this background, we concentrated on the collection and analysis of documents dealing with STI policy-making with China and/or attendant aspects, such as foreign interference, reciprocity and standards of research cooperation, risks related to cooperation etc., and directly originating from official bodies related to EU policy-making, including the [EC Joint Research Centre](#), [DG for Research & Innovation](#), the [European Commission](#) or the [European Council](#). The assessment of these documents provided the basis for developing our public report (D1.1). Preparatory work for the report included the establishment of access to the databases needed, the sourcing of data (using search queries, which were specifically designed to allow for data harvesting in Clarivate's Web of Science for co-publication and in the European Patent Office's PATSTAT database for co-patent analysis) and its preparation in order to be integrated into the report. In July 2023 we started our actual work on the report, including several revisions and a feedback loop with T1.1. partners over the following months. The final version was submitted to UGent for submission to the EC on September 11, 2023.

Other than that, ZSI still continues its work on two short policy briefs stemming from the analysis done in the public report. They are supposed to be ready by the end of September 2023. In regard to events, Philipp Brugner (ZSI), jointly with a colleague from Bruegel, representing the sister project of ReConnect China ("DWARC" - China Horizons) took part in the EU-SPRI 2023

conference in Sussex/UK in June 2023 to present a short paper on R&D funding for clean energy technologies in China. For the development of this short paper, the co-patent data was particularly conducive.

On the 27th of Feb 2023, Philipp Brugner gave a presentation in the "EU-KNOC 2.0 Core China Group meeting: Upgrade of independent knowledge on contemporary China in Europe - presentation of DWARC and ReConnect China" with both ReConnect China and DWARC.

4.2 Work and Deliveries of Task 1.2

Task 1.2 The legal and regulatory aspects of S&T development - (leader: IN, Member: IAI, UGent)

Because the deliverables of Task1.2 were planned to be submitted at a later stage within the programme, therefore, its work in Year One focused on networking and partner searching for the preparation of further studies.

During the period from M1to M4, IN has updated its headquarters office for the ReConnect China project, organised meetings separately with Ms. Silje Brit Horrisland Whist, the Acting Head of EU Programmes, and Mr. Espen Warland, Special Advisor for EU Programs, as well as Ms. Masae Asada from the Financial Department for the financial arrangements of the project. Separate meetings were also had with Mr. Felipe Aguilera-Børresen, the Leader of IPR Team IN and Mr. Ivar-Jo Baunbæk Theien, the Leader of CCUS/Hydrogen of IN. IN Beijing also had a separate meeting with Mr. Magnus Jorem, the Science Counsellor of Norwegian Embassy in Beijing, for the promotion and support of the project.

In order to get a better knowledge about EU-China IPR cooperation, IN Beijing has also joined the IPR Working Group of the [European Union Chamber of Commerce in China](#) (EUCCC) in M5, seeking for partners both from Europe and China for the IPR workshop and policy brief preparation.

IN has also visited the [WIPO office in China](#) in order to build cooperation in the future for ReConnect China in M6. In M7, IN had a meeting with [China Intellectual Property Development Alliance](#) (CIPDA), in order to seek for China IPR challenges and EU-China cooperation in this field.

For the CCUS sector, IN has built up contacts with the China Technology and Strategic Alliance for CO2 Capture and Storage Technology Innovation ([CTSA-CCUS](#)), and with the [Norwegian CCS Research Centre](#) (NCCS) CCUS Center. IN joined the 7th International CCUS Forum in Beijing during M5 for networking with potential partners both in China and in Europe. IN has had a separate meeting with the [UK-China \(Guangdong\) CCUS Centre](#), analysing the cooperation between Europe and China in this field.

IN also had a meeting with the Beijing Association for Science and Technology (BAST) in M8, visited the International Scientific and Technological Organizations Cluster Zone in Beijing. IN had

discussions about the policy and regulatory issues between Europe and China, and expressed primary intention for a joint workshop in the future.

In M9, IN had a meeting with the [China Europe Association for Technological and Economic Cooperation](#) (CEATEC) in Beijing, where the ReConnect China project was briefly introduced and cooperation in EU-China S&T workshops and EU-China cooperation and competition in EV and battery sector were discussed.

The above-mentioned parties can be potential cooperation partners for the workshops of Task 1.2 in the future.

4.3 Work and Deliveries of Task 1.3

Task 1.3 - China’s Advances in Frontier Technologies (Leader: IFRI, Members: UTURKU, ELCANO)

Work on the five Policy Briefs constituting a broad picture of China’s advances in “frontier technologies” has advanced at different speeds over the course of the first year of the project, with publication only set to begin from M12.

List of Policy Briefs, authors and expected publication dates for Task 1.3		
Space Technologies	Marc Julienne (IFRI), Paul Wohrer (IFRI)	30 October 2023 (M12)
Advanced Semiconductors	Raquel Jorge (ELCANO)	31 October 2023 (M12)
Technical Standards in Artificial Intelligence	John Seaman (IFRI)	31 March 2024 (M17)
China’s Artificial Intelligence Ecosystem	Junhua Zhu (UTURKU), Mikael Mattlin (UTURKU)	30 June 2024 (M20)
Quantum Technologies	Marc Julienne (IFRI)	1 September 2024 (M23)

2 BRIEFS FOR 2023 (Space; Semiconductors)

Two of the five briefs – 1) space technologies and 2) advanced semiconductors – should be published by M12. Much of the desktop and field work, interviews and overarching analysis for these briefs has been completed during M1-11.

Notably, publication of the first brief on Chinese advances in space-related technologies was delayed in large part because the lead author (Marc Julienne, IFRI) will participate in an international conference on China’s space program organized in New Delhi by the Center for Contemporary China Studies (CCCS) in mid-October 2023. Exchanges during this conference will

be used to develop and fine-tune the author's analysis. Moreover, a co-author (Paul Wohrer, IFRI) was also brought on board to provide specific expertise on space-related technologies. Publication is expected by the end of M12.

Work on the second brief on advanced semiconductors (Raquel Jorge, ELCANO) has advanced as planned and publication is expected to be on schedule for the end of M12.

3 BRIEFS FOR 2024 (Artificial Intelligence x 2; Quantum Sciences)

Work on the 3 briefs to be published over 2024 is still in its initial stages of documentation, data collection and initial analytical work and is expected to ramp up as the project enters into its second year.

4.4 Work and deliveries of Task1.4

Task 1.4 - Economic Dimension of S&T cooperation (Leader: IAI, Members: IN)

During the initial eleven months of the project (M1-M11), IAI's focus within Task 1.4 was primarily directed towards desk research, aligning with the core objective of evaluating the economic dimension of S&T cooperation between the EU and China. The overarching aim was to assess the potential advantages and drawbacks inherent in the EU-China relation.

IAI embarked on the development of two policy briefs aimed at delineating strategies for the EU to safeguard its technological expertise and assets, all while fostering collaboration with Beijing. To navigate this multifaceted relationship effectively, especially in the domains of economics and technology, it was crucial to conduct a comprehensive analysis that offers insights that can contribute to foster dialogue and raise awareness among policymakers, stakeholders, and the broader public.

The two policy briefs are grounded in desk research, which encompassed extensive literature reviews and data analysis sourced from open-access databases. Our team conducted an examination of the available data, discerning prevalent patterns, potential risks, and promising opportunities within EU-China S&T cooperation. These activities formed the bedrock upon which the policy briefs were developed.

Furthermore, it is noteworthy that the key findings and conclusions derived from these two policy briefs will feed into a broader report [D1.4], which will comprehensively present the outcomes of the research cluster on the Economic Dimension of S&T Cooperation. This report will expound upon the identified axes and main topics covered in the policy briefs, namely (1) China's acquisitions and outbound investments in the EU and (2) the EU's technological dependencies on China. This report will be disseminated publicly to ensure widespread access to the primary findings by M22.

Given that only one of the deliverables for Task 1.4 is slated for submission by 2023, with the other two scheduled for August 2024, IAI has channelled its primary efforts into the writing process of the first policy brief and into the research activities to lay the groundwork for the second policy brief and the report.

In summary, the activities conducted in the development of the two policy briefs and the report can be summarized as follows:

- **China's acquisitions and outbound investments to the EU** (IAI: Federica Marconi, M12 – October 2023): The research activities, primarily consisting of desk research and comprehensive literature review, were successfully completed during the timeframe of M1-11. This progress aligns seamlessly with the originally planned schedule, and we are on track to finalize the policy brief by the end of M12. IN also contributed with some referential reports and materials concerned.
- **The EU's technological dependencies towards China** (IAI: Federica Marconi, M22 – August 2023): Although this policy brief is scheduled to be completed by the end of M22, IAI has proactively undertaken preliminary steps. We have already conducted a process of material selection and identification, primarily through desk research and a thorough literature review. This preparatory work has taken into account the thematic similarities with the policy brief on China's acquisitions and outbound investments to the EU, which is due to be finalized by October 2023.
- **Report on the results of Research cluster on the Economic Dimension of S&T cooperation** (M 22 – August 2023). preliminary preparations for this report were undertaken by IAI during M1-M11, laying the foundation for the comprehensive analysis that will be presented in the final document. During the reporting period, the IAI team has actively engaged in discussions concerning the structure and content of this report, building upon the data and information that have been collected thus far.

Throughout M1-11, the IAI team has also actively participated in various meetings and internal workshops (e.g. internal workshop – June 5; informal consortium meeting – June 22; Scientific Board meeting – September 1; WP1 meeting – September 19). These engagements aimed to support the planning of the activities in the project, to report progress and to share achievements in our work. Moreover, in order to get a better knowledge about the topic “China's acquisitions and outbound investments to the EU”, Federica Marconi had the chance to attend several conferences and events (i.e. Celis conference in Berlin, May 2023). While IAI has undergone internal reorganization in response to changes in research staff, there have been no observed deviations or adverse impacts on our progress towards achieving our objectives. Additionally, it is noteworthy to mention that Aurelio Insisa has recently joined the IAI as a Senior Fellow within the Global Actors Programme. Aurelio Insisa will be actively contributing his expertise to the ReConnect China project.

5 OTHER WORK AND ACTIVITIES

In the framework of a science diplomacy workshop organised by the COST Association for new COST (European Cooperation in Science and Technology) Actions on 28 June 2023, ZSI researcher Gábor Szüdi had the chance to present the co-operation risks and potentials with China (as an example of a 'non-like-minded country') within collaborative R&I projects, using the tools of science diplomacy. The presentation highlighted the differences between the EU and Chinese interpretation of STI co-operation and science diplomacy, drawing also on national examples, explaining the inherent tensions that might be successfully mitigated by the ongoing work in ReConnect China. The workshop therefore served also as an excellent opportunity to introduce high-level researchers from all around Europe (principal investigators of COST Actions in manifold thematic areas) the thematic foci and strategic priorities of ReConnect China.

On 20th July, IN joined the S&T workshop organized by Beijing Association for Science and Technology and 761 Space (Beijing) Technology Co., Ltd., for EU China S&T cooperation and investment. Dr. Gao Peng introduced the ReConnect China project in general and the works of WP1.

6 CONCLUSIONS (= FINAL SECTION)

With the joint efforts from all members of WP1, we expect the total of five deliverables will be delivered within M11, although there were some deviations from the original plan, which have been approved by UGent. Therefore, WP1 will accomplish its works and targets for the period of M01-M11.

There is a total of seven deliverables planned to be delivered in Year One (M1-M12) of the programme, with five of them delivered within M11, and two more in M12. WP1 will have fulfilled its tasks in Year One with all these deliverables. Relevant human resources have also been adjusted, contributing to the success of the implementation of the ReConnect China project.