InsSciDE

Inventing a shared Science Diplomacy for Europe

A Horizon 2020 project involving 11 European countries, 2018-2021 and targeting Diplomats, Scientists and Researchers, and Policy makers

Deliverable D9.5b

Impact Assessment Feedback (2 of 3)

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ABSTRACT

InsSciDE (*Inventing a shared Science Diplomacy for Europe)* seeks to engage historians of science and technology, networks of diplomats and scientists, and experts of strategy and policy makers, to increase understanding of science diplomacy and offer frameworks and guidelines for its use. This report outlines impacts of the InsSciDE project according to criteria outlined by D9.5a Impact Assessment Criteria. It takes quantitative and qualitative approaches to reporting impact and assesses the overall progress and trajectory of the project.

In the three years since the project's launch, InsSciDE has accumulated and projected a rich knowledge base of science diplomacy that is affording insight into the complex history and nuanced applications of the practice. Our assessment points to InsSciDE's impact constituting a significant foundation with which a multitude of follow-up actions are possible. With members having established new international connections, opened up effective avenues for interdisciplinary dialogues and integrated SD into courses and events at their respective institutions, InsSciDE is well-positioned to continue and expand its legacy in the final phase of the project. Furthermore, considering the reactions and support garnered from stakeholders and reported by members, the assessment suggests that InsSciDE's future outputs are on track to serve as valuable resources in the continued theoretical and practical work on science diplomacy by the EU.

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Acronyms

CSA	Case study author
D	Deliverable
DG	Directorate General
EC	European Commission
EU	European Union
GA	Grant Agreement
H2020	Horizon 2020
KPI	Key performance indicator
SD	Science Diplomacy
STS	Science, Technology, Society
WP	Work package
WPL	Work package leader
WSDS	Warsaw Science Diplomacy School

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Foreword

This assessment elaborated at the close of three years' activity of our Horizon 2020 project InsSciDE reveals impacts, changes and gains for both the beneficiaries of the grant, and external stakeholders. Academia and practice both have seen InsSciDE bring insights, tools and concepts that – through the networking created by our participative and teaching events and the visibility afforded our social media presence – will move the cursor of science diplomacy in our European countries.

While it is traditional to measure the impact of research through such quantitative indicators as volume and prestige of journal publications, InsSciDE from its inception aimed for a richer, denser impact, and gave itself the means to account for and illustrate such qualitative impact. To give a kaleidoscopic view, this foreword can do no better than to quote first Professor Pascal Griset (Sorbonne University), InsSciDE Coordinator, in his introduction to our 30-month technical report, and then observations by our monitors in their review reply, submitted to the Research Executive Agency of the European Commission.

> *The second phase of our project allowed us to consolidate the achievements in terms of **network structuring and increasing interactions** between work packages. In diverse ways, depending on the WPs and on the previous links existing or not between the members, it was also possible to consolidate the interactions and to **bring out dynamics that had not always been anticipated**.*
>
> *The First Open Conference (Krakow, Jan. 2019) **validated, in action, the principle of bringing together stakeholders (scientists and diplomats), academics and early career learners**. It highlighted the consortium's ability to identify (through the work of our specialized supporting work packages) and then to appropriate high-performance interaction methodologies.*
>
> *These dynamics have **highlighted all the value, but also all the difficulty - well known - of interdisciplinary work**. InsSciDE can undeniably be placed in this lineage. Intense debates have unfolded; in addition to the meetings organized and planned by the consortium, more informal and no less fruitful exchanges have taken place. An internal seminar devoted to theoretical questions related to Science Diplomacy very quickly brought together a representative group of all the partner teams. This reflects the creative dynamic of our consortium, its capacity to **generate and sustain innovative initiatives** and, fundamentally, the intellectual and scientific commitment of its members. All in all, the result has been a high level of precision and exigency for the planned deliverables but also, in a less visible way for those outside the consortium, **intermediate tools, which will nourish in the future numerous studies in the history of science and technology as well as in political science.***
>
> *The case studies are progressing in a regular way and - this is fundamental - in a very visible manner both within the consortium and among academic peers and practitioners. The success of the thematic workshops has been decisive in this respect. These very high-level meetings, associating actors and researchers of the consortium or invited researchers, have allowed **cross-fertilization and moreover, beyond the differences in approach - not only inevitable but desirable – a significant convergence of views on fundamental problems**. This objective, which has been considered from the outset as a priority for the success of the project, seems in our opinion very substantially achieved. Scientifically, **the historical case studies confirm their relevance for the analysis of science diplomacy in Europe.** Already several authors have produced, and in some cases published, **academic articles that will mark the advancement of knowledge and already find an echo within the scientific community**. The*

members of the consortium are very ***active in the major symposia on the history of science and technology as well as in the major events organized in the history of diplomacy.***

The case studies highlight the actors of science diplomacy, their modes of action and communication. Their operative character to ***support a dynamic of training and acculturation*** *is also demonstrated. Phase 2 has indeed validated this hypothesis. The exchanges between the members of the consortium and the actors of the present time have moreover allowed the* ***evolution of some of the questions addressed by the researchers****. This interaction has also inspired them to* ***change the way they present their results in order to offer a real training medium****.*

Our activity was significantly impacted by the COVID 19 crisis. The agile transfer of several meetings to digital format has maintained the progress of the WPs' work. The Warsaw Science Diplomacy School must be distinguished in this ensemble. Its transformation into a very interactive online event, thanks to the commitment of the consortium members concerned, not only compensated the (very regrettable) impossibility of meeting in Warsaw, but also enabled the ***creation of a really innovative organization, teambuilding and teaching procedures****. The interaction between students, practitioners and academics was thus particularly successful. More specifically, the* ***emergence of a group spirit among the students was noticed and warmly welcomed by the students themselves****. A "cohort" spirit has emerged and this is undoubtedly, along with the quality of the education saluted by all, a real success. The enthusiasm of the students and instructors and the no less enthusiastic professionalism of the Warsaw and Paris support and design teams have thus* ***validated a new tool which, although it will not replace live encounters, offers us a particularly valuable method.***

The webinar "Actors' perspective: Science diplomacy and the cross-sectoral impact of COVID 19", opened by Ms. Maria Cristina Russo, in four workshops brought together actors and academics on the theme of health diplomacy. Gathering an average of 50 attendees and a total of over 200 views of the recorded proceedings it testifies to this flexible and innovative spirit of adaptation within the consortium.

Practitioners continue to follow InsSciDE and to react to its initiatives as well as to contribute to these. This network has grown and is now established with long-lasting relations, especially with the Academies of Sciences but also with the Diplomatic Corps of many Member States. The link with the External Action Service of the European Union is also strengthened by exchanges with its science attachés.

The communication of the project has gained a really professional dimension and has found, on social networks, the web or through an intelligent use of the personal networks of the members of the consortium or their institutions, a ***visibility in very strong progression****. The action of the consortium also finds its meaning in the* ***strengthened and deepened relations with the S4D4C project****. Regular exchanges between project leaders, the commitment of researchers from each team to be present and contribute to events organized by the "sister" project, exchanges of information and joint initiatives give all their meaning to this Cluster.* ***Projects are currently being developed to extend, beyond the end of the two H2020 projects themselves, the dynamic of partnership****.*

The InsSciDE team is now very visible. It produces, communicates and has become, in its own way, a player in the world of Science Diplomacy. *In phase 3 it still has to consolidate its results and, beyond*

traditional peer-reviewed publications, to make its results, analyses and advice even more broadly accessible in a coherent, easy and pedagogical manner.

--Excerpted and edited from Prof. P. Griset, in Periodic Technical Report Part B, 26 November 2020.

§§§

In the context of increased necessity of ensuring international scientific cooperation to navigate through Covid-19 crisis, the impact of InsSciDE on the understanding of ***the role that diplomatic legacy of Europe has to play in governing globalisation has become [further] evident.*** *By securing knowledge integration on the grounds of multi- and interdisciplinary collaboration between the Consortium, practitioners and other stakeholders, InsSciDE contributed to further* ***bridging the gap between academia and actual users of science diplomacy; as well as countries and regions****.*

[The project] contributes to both scholarly reflection and practical advances in science diplomacy. Elements of ESD-Theory and ESD-Strategy, tested in […] Warsaw Science Diplomacy School and backed by insights from the case studies, further confirm the policy assumptions and give ***historical background and depth to the interpretation of the current geopolitical trends at EU and global levels****.*

[Activities] and their results ***respond to the need for societal innovation in the field of science diplomacy****. [InsSciDE] paves the way to bring science diplomacy in Europe into a dialogue between researchers, practitioners and other stakeholders, thereby* ***contributing to a novel co-creation process*** *at the interface of science, technology and foreign policy. Notably, the exploration of historical and contemporary context of SD practices, discourses and infrastructures* ***serves to identify both what enables and what impedes international and global cooperation****. Clear focus of tensions between multilateralism and national interests results in a more realistic conceptualisation of SD practices and their exposure to multi-polarisation.*

Made visible as a key player in the world of science diplomacy*, the project is building its legacy by bringing together representatives of both practitioner and academic cultures.*

Considering that during a substantial part of RP2 the project was implemented under restricted conditions due to Covid-19 pandemic, ***it has to be underscored that the progress in achieving the project objectives is impressive****. The Consortium* ***turned negatives into positives*** *and capitalised on computer-mediated interactivity, openness and costeffectiveness of dissemination and training events transferred online. In a highly demanding context of confinement, it* ***created a truly participatory and inclusive environment*** *for pursuing a dynamic process of networking with multiple stakeholders; in fact, even widening the stakeholder participation.*

--Excerpted and rearranged from the European Commission

Research Executive Agency's External Review Report, 4 December 2020.

1. Introduction

1.1. InsSciDE Summary

The Horizon 2020 funded project InsSciDE (Inventing a shared Science Diplomacy for Europe), seeks to engage historians of science and technology, networks of diplomats and scientists, experts of strategy and policy makers, to increase understanding of science diplomacy (SD) and better use it. Under the hypothesis that Europe and the Member States have multiple channels through which science and diplomacy could be effectively used in statecraft, and a history of this use, it is believed that this capital is fragmented and under-utilized. Thus, the capital for science diplomacy needs to be revealed, formulated, and communicated efficiently, recognizing the need to develop its conceptual bases and to elaborate tools to help European science diplomacy emerge and flourish. InsSciDE is working to establish a process through which new knowledge on science diplomacy in Europe fuels the elaboration of shared policy and training tools. Over the course of the four-year[1] project, InsSciDE engages historians and strategy analysts to investigate how science diplomacy has emerged in Europe in the past, the extent to which it has been successful, and how it can contribute European synergy in science diplomacy at a global scale.

In order to answer these questions and produce theoretical and strategic frameworks for effective European science diplomacy, the project brings together scientists and diplomats to share their perspectives, and together develop their key skills and networks of lasting quality. The main themes of study are Heritage, Health, Security, Environment, and Space. InsSciDE is working to produce a history of science diplomats' networks and of the roles played by national academies of science or technology. Open meetings are held to promote dialogue, reflexivity, skills building, and interprofessional linkages. Outputs feed a training programme for 50 young scholars or practitioners and a library of training materials for widespread use.

1.2. Report Summary

Milestone project events such as the First Open Conference in Krakow and the Warsaw Science Diplomacy School successfully connected diverse stakeholders and illuminated new framings of SD through in-depth discussions centred on the InsSciDE case studies. Internally, the project has served as an effective cross-European focal point for researchers to convene on the topic of SD and explore its meaning across contexts and disciplines. Discussions fostered among InsSciDE members, through means such as the closed Internal Theory Seminars or the open DHST Commission, are helping to drive forward discourse on the theory and concept of SD and to lay the groundwork for public recognition of a more inclusive and realistic picture of the practice. The growing prominence of InsSciDE on social media shows that interest in science diplomacy is expanding, while the exponential spikes observed in response to posts about InsSciDE publications and events indicate that InsSciDE's outputs are useful and appreciated. Evidence from surveys, WPLs' direct input and social media engagement suggest that training opportunities and public webinars are the most valuable products for InsSciDE followers, while publications and closed seminars are elevating SD on the radar of diverse scholars and stakeholders.

[1] In light of delays caused by the COVID-19 pandemic of 2020, it is planned to request a project extension of one-half year.

2. Project Objectives and Intended Impacts

In this section we outline the objectives, intended impacts, stakeholders and outputs of the InsSciDE project. These elements will underpin our assessment of the project's impact as of month 36 and its future direction.

2.1. Project objectives and intended impacts

The InsSciDE Grant Agreement states that InsSciDE targets major impact in four areas:

a) The expected impact specified in the call;
b) Competitiveness of European enterprise;
c) Environmental, social and societal issues;
d) Humanities and social science research.

In the Grant Agreement, InsSciDE maps out specific means and deliverables to contribute to each of the anticipated impacts (see Annex A of the present report).

The central goal of the project is to create a platform whereby new knowledge on past and present diplomacy informs the construction of tools for practitioners, the EU and member states, in the form of historical, theoretical and strategic insights, training materials etc. The project aims to create an inclusive and innovative dialogue, highlighting the contribution of science academies and networks of science diplomats to addressing global challenges.

Action goals of the project include:

- demonstrate how and why science diplomacy has, or has not, been used in Europe to connect and coordinate Member States when addressing global challenges;
- map this knowledge into theoretical and strategic frameworks;
- provide direction for policy at EU and Member State levels;
- promote dialogue, self-reflexivity, and networks among practitioners and other stakeholders; and
- disseminate the project findings to a global audience to sustain their use.

InsSciDE's objectives have links with the UN's Global Goals for Sustainable Development (SDGs), in particular:

Goal 3: Good Health and Well-Being
Goal 9: Industries, Innovation and Infrastructure
Goal 13: Climate Action
Goal 14: Life Below Water
Goal 16: Peace, Justice, and Strong Institutions
Goal 17: Partnerships for the goals

InsSciDE's case studies target Health (SDG 3), Environment (13, 14, etc.), Security (cross-cutting target), and promoting peace and partnership (16, 17) through Heritage and Space. The project also seeks to understand and promote innovation (9) through international partnerships (17).

Through historical, interdisciplinary research, conducted on an ongoing basis in close contact with practitioners, the InsSciDE project generates historical insights with a forward-looking perspective, creating policy insights and strategic frameworks.

2.2.InsSciDE Outputs and Media for Engagement

The InsSciDE project engages with its audiences and stakeholders using case studies, a variety of knowledge documents, events, and web-based communication tools. These tools and outputs constitute the means through which InsSciDE aims to achieve its objectives; it is through them that the project demonstrates and explores the uses of SD, 'maps' this knowledge, provides policy advice, promotes dialogue within InsSciDE and UNESCO networks, and disseminates the project's findings. This deliverable report assesses the impacts created by applying these tools and providing these outputs.

Case Studies

At the heart of InsSciDE's output is a database of case studies, drawing on interviews and archives and further developed in direct contact with practitioners. They reveal and connect European experiences of science diplomacy in 5 thematic areas: Heritage, Health, Security, Environment and Space. The thematic research is complemented by two transversal research strands: one exploring science diplomacy as a social practice, and the other placing science diplomacy into political science theoretical and strategic frameworks. Case study research will be used to generate a Case Library: a printed and online collection of harmonized materials for case-based learning which will be disseminated to foreign ministries and many other end users.

Guidance documents, best practice reviews and policy briefs

InsSciDE's case studies, field experience, and higher-order theoretical and strategic frameworks are designed to generate dialogue with practitioners and other stakeholders. Insights from this dialogue and from case studies will be used to generate guidance documents, best practice reviews, finalized frameworks and policy briefs, which will be handed to policy- and decision-makers. These documents will offer recommendations and guidance at strategic, operational and support levels.

Events

InsSciDE designs and hosts a range of events to facilitate interactions between different stakeholders. InsSciDE is also represented at external events to promote its research, expand its reach, and generate interest in the project.

Website, Social Media, and Newsletters

The InsSciDE website is used to showcase the project: its aims, themes, outputs, events and personnel. As case studies and public deliverables are completed, they are uploaded to the project website (as DOIs or PDFs). InsSciDE also jointly manages the EU Science Diplomacy Cluster[2] website (science-diplomacy.eu), which collects content by all three H2020 SD projects - S4D4C (site host), InsSciDE and EL-CSID – providing a base to grow a more permanent platform for EU SD after the projects end.

[2] The EU Science Diplomacy Cluster consists of InsSciDE, S4D4C and EL-CSID. They share a website: https://www.science-diplomacy.eu/ and a LinkedIn group: EU Science Diplomacy https://www.linkedin.com/groups/8643726/

InsSciDE has a presence on Facebook[3] and Twitter[4] to generate engagement and interest in the project, to share and draw attention to events that InsSciDE organizes or endorses, and to foster engagement with InsSciDE case studies and deliverables. LinkedIn is used to establish connections with relevant stakeholders, primarily through a group that is shared across the EU Science Diplomacy Cluster. Once the connection is established, it is then possible to invite them to contribute to and disseminate their own science diplomacy activities there. Through LinkedIn, the project aims to create an open forum for all members to discuss science diplomacy topics.

InsSciDE releases a periodic newsletter, updating an opt-in mailing list and online readers on project developments.

2.3.Stakeholders

Stakeholders are parties that will be affected by operations, objectives and results of the project. InsSciDE has a wide range of stakeholders, including scientists, professional diplomats, policy makers, universities and other academic institutions, academics across multiple fields, early-career professionals and the general public.

InsSciDE engages with these audiences in different ways. Case studies and research outputs may be more geared towards academic communities; strategic and best practice guidelines and policy briefs which are grounded in case study research and dialogue are aimed at policy and decision makers; training is developed for early career professionals; and InsSciDE's online presence is a more inclusive space to engage wider audiences as well as provide information pertinent to specialized audiences.

3. Criteria and Methodology of Impact Assessment

3.1.General Remarks

The purpose of InsSciDE's impact assessment is both instrumental and intrinsic. Firstly, it helps fine-tune process, strategies, methodologies and outputs, as the project continues; moreover, it is essential for project partners, funders and stakeholders to know how impactful the project has been, and to understand on this basis how SD itself can contribute to European goals. The assessment:

- Signals how InsSciDE's events and outputs contribute to anticipated impacts;
- Discusses effects on project members' external work, considering InsSciDE as a new framework for research, an interdisciplinary scholarly network and a platform for raising and addressing issues with the status quo of SD;
- Reports quantitative and qualitative indications of success in creating specific impacts and reflects on the progress made or trajectory ahead if not yet attained;
- Identifies lessons coming to light in project members' research, which although not yet independently validated constitute InsSciDE knowledge development.

Embracing the principle of reflexivity, the impact assessment (like the project coordination process) is tolerant of the natural and differing progressions of each WP and focuses on their preferred means of stakeholder

[3] InsSciDE Project: https://www.facebook.com/insscide
[4] @insscide_eu: https://twitter.com/insscide_eu

engagement. Our assessment identifies areas of impact and specific outcomes through a bottom-up approach. It rejects a 'one size fits all' approach, while nonetheless systematically examining how the impacts align with overarching goals and impact objectives outlined in the Horizon 2020 Call and InsSciDE's Grant Agreement. The approach taken – asking our research participants to reflect on the experience of developing their science diplomacy inquiry – also helps decipher next steps for EU science diplomacy research and application and informs other deliverables of the project.

3.2. Methodology

3.2.1. Criteria and Indicators

This deliverable is the second in a planned series of three. It builds on its preceding complement: Deliverable 9.5a Impact Assessment Criteria. D9.5a contains detailed criteria and indicators constructed to assess InsSciDE's progress towards impacts anticipated in the Horizon 2020 Call, Grant Agreement and elsewhere (see Annex B).

The broad criteria for assessing the impact of the project were outlined as follows in D9.5a:

1. Does the project achieve the impacts specified in the Horizon 2020 Call and the project Grant Agreement?
2. How does the project fare against the European Commission's Horizon 2020 Key Performance Indicators (KPIs) and Cross-Cutting Issues?
3. Does the project achieve other key impacts agreed upon by project representatives?

We have chosen in this edition of the deliverable series to focus on the first and third of these questions[5]. The report is centered on how InsSciDE has responded to the twelve impact goals tied to the H2020 call and Grant Agreement and outlined in D9.5a:

1. Impact the foreign policies of the EU and its member states

2. Provide enhanced coordination between the EU Member States and between the EU and its international partners

3. Provide in-depth insights into the multiple ties and mutual influences between Europe and its neighbours, former colonies, other countries and regions, especially in the scientific sphere

4. Acknowledge the multiple sources of today's European diversity, (and) provide' strong policy implications, not just for scientific and cultural policy, but also for immigration, integration, education and external policies.

5. Facilitate Europe's future engagement with third countries

[5] The remaining question focused on H2020 KPIs and Cross Cutting Issues will examine publication data of scientific papers and the structural makeup of the project, such as gender distribution in the consortium and financial contributions. These indicators will be most useful in the final impact assessment of the project, D9.5c, and are therefore not included in the present report.

6. Contribute to the competitiveness of European enterprise

7. Generate original and extensive research on science diplomacy addressing global challenges in environment, security, heritage and health.

8. Create links between the social sciences and humanities in areas 'traditionally closed to these disciplines – for instance in Space'.

9. Create a new network of academics and practitioners in science diplomacy.

10. Raise awareness among stakeholders that they can be practitioners of science diplomacy.

11. Show that the language of science diplomacy doesn't have to be complicated.

12. Foster dialogue between diplomatic and scientific communities.

InsSciDE's achievements or strides towards these impact goals are presented in this report as a synthesis of the following data:

- Input from project members
- Indicative outputs (publications, events, etc.) and their reached audience
- Monitoring of cross-cutting indicators (online response and engagement).

Additionally, the impact assessment dissects in detail:

- Outcomes of individual milestone events
- Effectiveness of key communication tools
- Reach of InsSciDE publications.

3.2.2. Input from Project Members

The methodology of the Impact Assessment aims to illustrate and account for the broad spectrum of impacts *directly and indirectly* attributable to the project. In a diverse and humanistic project like InsSciDE, conveying impact strictly in numbers may fail to account for a range of significant qualitative results. Therefore, a large portion of the report is constructed upon reflections and reporting provided by members (Work Package Leaders – WPLs; and Case Study Authors – CSAs) in live interviews or written submissions.

Contributors were asked to consider the connections, developments and outcomes that have emerged from or within the project against the pre-determined impact assessment criteria. They were invited to think broadly about the impacts of their own or their WP's research, events, networking, stakeholder engagement or other SD-related activities.

Impact Interview Document

To guide the input of project members, an 'Impact Interview Document' (Annex C), featuring the below *Table 2* and instructions, was distributed to all members by email. They were invited to reply by choosing 5-7 out of the 12 listed impacts, as a precaution against accounts being 'watered down' to fit across numerous categories of impact.

Reflections from project members were gathered in the following ways:

a) **Live interviews**: WPLs were requested to share their reflections in an online interview conducted by WP9's Christina Bürgi Dellsperger or Daniella Palmberg (UNESCO). WPLs were provided with the Impact Interview document beforehand and were asked to signal the impacts on which they would focus. The conversation evolved naturally along the points in the table and beyond, often running to 45 minutes or more.
b) **Written remarks**: Other WP members were encouraged to volunteer written submissions in response to the Impact Interview document.

Table 1 *Impact Interview Table: guide for project members' impact assessment input. See more in Annex C.*

Impact	**Expected outcomes**	**Questions/Suggested talking points**
1. Impact the foreign policies of the EU and its member states	Assumptions clarified Values, goals and action plan: basis for informed policy Tuning and rising to best practices Competence and capacity built ESD on the research, debate agenda	a. What kind of **considerations** do you envision your WP being able to offer on the topic of **EU and member state's foreign policy**? *Examples may relate to insight into European values, assumptions, best practices for SD.* b. Has WP research or events received any **interest or reactions from actors involved in foreign policy**? *Examples include meetings, informal comments, established connections (including on social media), requests for more information, invitations to events or panels.*
2. Provide enhanced coordination between the EU Member States and between the EU and its international partners	Existing networks leveraged Inter-professional linkages created Skills transferred, awareness raised Policy options identified and argued Providing content to a European Center for Science Diplomacy	a. How might your WP contribute to '**enhanced coordination** between the EU Member States and between the EU and its international partners'? *Examples include WP research that may support evidence for policies in this vein, involvement of relevant representatives in SD events, dissemination of work to relevant actors.* b. How has the project strengthened existing or fostered new **international and/or interdisciplinary collaborations or connections** for WP members, internally or externally to the project? *Project members frequently cite new connections and initiatives that have been fuelled by past InsSciDE activities or resulting contacts, please elaborate here on any such experience. Examples include joint panels, workshops, co-publications with international partners.* c. How has your work with InsSciDE contributed to increased **awareness of SD or skills transfers?** *Examples include increased interest in InsSciDE or SD from students or colleagues; unprecedented SD related events at working institution, perhaps inspired by an InsSciDE event; invitation to events with diplomats or foreign policy actors.* d. Have your WP research or activities led to identifying **policy options** for diplomacy?

3. Provide in-depth insights into the multiple ties and mutual influences between Europe and its neighbours, former colonies, other countries and regions, especially in the scientific sphere	Political dimensions of Europe-world connections and mutual influence in the scientific sphere historicized Stock taken collectively of the exceptionally rich capital of experience in engaging globally through science and diplomacy interactions, and ways forward	*a.* How does your WP provide 'insights into the **multiple ties and mutual influences** between Europe and its neighbours, former colonies, other countries and regions, especially in the **scientific sphere'**? *Examples include direct evidence observed in research; project related activities that have deepened understanding of these relations, in the present or in history.* *b.* How has the project expanded/altered the view of **Europe-world connections** and mutual influence in the scientific sphere? *Example includes new perspective gained from research, events that have brought new insights on connections into the light.*
4. Acknowledge the multiple sources of today's European diversity, (and) provide' strong policy implications, not just for scientific and cultural policy, but also for immigration, integration, education and external policies.	Stock taken collectively of the diversity of aims, achievements, failures in meeting diversity Transferable experience of working under diversity	*a.* How does your WP research and activities 'acknowledge the multiple sources of today's **European diversity'** and how may it implicate policy in areas of '**scientific and cultural policy, but also for immigration, integration, education and external policies'**? *Examples may relate to evidence observed in research.* *b.* What has your involvement in InsSciDE **taught you about diversity**? *Examples may relate to the experience of working in a trans-European and interdisciplinary project or presenting the project in international or national contexts.*
5. Facilitate Europe's future engagement with third countries	Tightened links with scientific and state actors in Iraq and Syria Attraction of European knowledge and training products	*a.* *WP4 only*: Has InsSciDE research tightened links with scientific and state actors in Iraq and Syria? *b.* What kind of engagement has developed **between you or your WP and third countries**? Do you see it leading to any long term results or connections? *c.* Has your WP garnered **attention from scientist or political actors in third countries**? *Examples include interest in events, presentations or papers related to InsSciDE.*
6.Contribute to the competitiveness of European enterprise	Support given to European enterprise Progress made towards answering questions such as: which place should be accorded to European enterprise(s) in science diplomacy budgets and goals? How has multinational cooperation for space and telecommunications technology, for instance, been rendered possible by the intersection of science and diplomacy?	a. Has progress been made in your WP 'towards answering questions such as: which place should be accorded to **European enterprise(s) in science diplomacy** budgets and goals? How has **multinational cooperation for space and telecommunications technology**, for instance, been rendered possible by the intersection of science and diplomacy?' b. How has your WP **involved European enterprise** in activities or research? *Examples include invitations to events, dialogues initiated, interviews conducted.*
7. Generate original and extensive research on science	Assumptions clarified	a. How does your research contribute to understanding of **European values and how they impact foreign policy** and international cooperation?

diplomacy addressing global challenges in environment, security, heritage and health.	Science diplomacy histories in relation to a global challenge clarified Values, goals and action plan: basis for informed policy Stock taken collectively of the exceptionally rich capital of experience in engaging globally through science and diplomacy interactions, and ways forward	b. In what ways is your research for InsSciDE contributing to a **unique outlook on science diplomacy and addressing global challenges**? c. In what ways is your WP contributing to **informing policy, based on 'values, goals and action plan'**? d. To what extent does your WP's research **reveal Europe engaging globally through science and diplomacy** interactions and point to **ways forward**?
8. Create links between the social sciences and humanities in areas 'traditionally closed to these disciplines – for instance in Space'.	Existing networks leveraged Inter-professional linkages created	a. What kind of **interprofessional networks** are you (or WP members) involved in **as a result** of your InsSciDE involvement? b. How have you managed **to leverage existing networks** in WP engagements? c. How has InsSciDE enabled or contributed to enabling '**links between the social sciences and humanities in areas traditionally closed** to these disciplines'?
9. Create a new network of academics and practitioners in science diplomacy.	Existing networks leveraged Inter-professional linkages created New collaborative projects established	a. What kind of **new inter-professional linkages** have resulted in connection with InsSciDE activities? b. Have **new collaborative projects** emerged from your involvement in InsSciDE? *Examples include projects with InsSciDE colleagues or others.*
10.Raise awareness among stakeholders that they can be practitioners of science diplomacy.	Increased self-awareness among science diplomacy practitioners	a. Has your engagement with the InsSciDE project **increased your awareness** of the variety of stakeholders that can be considered science diplomacy practitioners? b. What kind of success has been observed in **raising awareness** for who can be practitioners of science diplomacy? *Examples include an expansion in the disciplines represented among audiences members, discussions fostered in professional circles.* c. How has your WP contributed to increasing '**self-awareness among SD practitioners'**?
11.Show that the language of science diplomacy doesn't have to be complicated.	Science diplomacy concepts communicated clearly for broader audiences	a. In what ways has **your perception around the language of science diplomacy** changed with the InsSciDE project? b. In what contexts have you perceived **other people's perceptions of the language of science diplomacy change** in connection with InsSciDE activities? *Examples include evidence from InsSciDE or others' presentations, workshops, publications.* c. What efforts have you made to **make the language of SD less complicated**, and with what kind of results? *Examples may relate to the audiences, journals or events targeted for publicizing your SD related work.*

12.Foster dialogue between diplomatic and scientific communities.	Existing networks leveraged Inter-professional linkages created New collaborative projects established	a. How can **networks** that have emerged or been strengthened through InsSciDE contribute to **dialogue between diplomatic and scientific communities**? *Examples include connections made between science and diplomacy communities as a result of InsSciDE activities, events organized where both communities are present.* b. How has the project contributed to building **bridges between diplomatic, political and scientific communities**? *Examples include new collaborative projects, co-organized inter-professional activities.*

3.2.3. Indicative outputs and cross-cutting indicators

Project members' input is complemented with contextual details and related outputs from project archives and with cross-cutting indicators relating to social media, bibliometric and website analytics. Details of the methodology behind the latter quantitative metrics is referenced in Annex D.

4. Results of the Impact Assessment

4.1.Synthesis of inputs and analysis of impact

We summarize, quote and consolidate inputs from InsSciDE WPLs and CSAs, and from analysis of pertinent metrics, in order to deliver an overall portrait of InsSciDE's actual impact. The synthesis is ordered according to the 12 impact goals outlined in section 3.2.1 above.

1. Impact the foreign policies of the EU and its member states

Development of SD's theoretical role in foreign policy

InsSciDE's impact on foreign policy is found at the primary step of *clarifying meaning and applications of SD*. InsSciDE researchers argue that the term 'science diplomacy' is often applied idealistically and predominantly reflects a practitioner's standpoint, neglecting messy effects seen in the real world. The following reflection by Simone Turchetti (WP7 Environment) hints at the position of InsSciDE STS researchers:

> *"The project has demonstrated and continues to demonstrate that the notion of SD is still in a fluid state, entailing multiple meanings that are being appropriated by a variety of actors in the political landscape. To better reflect on its implications at foreign policy level is to first and foremost identify objectives for SD actions that are […] responsive [no longer to just] national interests but [also to] 'greater' (supra-national) interests, especially in terms of environmental protection, often extending to a global level."*

Indirect influence in foreign policy dialogues

The most frequent interactions between project members and foreign policy makers has been through professional engagements external to the project, where the influence of the project and its research is indirectly manifested in members' contributions. Rasmus Bertelsen (WPL2 Power with SD) explains that the positions and arguments he typically presents in his geopolitical discussions around the Arctic are naturally influenced by various research projects and experiences: *'InsSciDE is one ingredient in the dish I'm serving'*. As

an international relations expert specialized in the Arctic, Bertelsen regularly engages with foreign officials of the West and of Russia in high-level dialogue meetings that can be classified as *'science for diplomacy'*. Bertelsen notes that his advocacy and rationale for scientific cooperation on the Arctic, especially with Russia, and his assembly of insights into SD thereby reach a number of foreign policy actors, primarily involved in economic, political and scientific matters of the Arctic. He states that InsSciDE has afforded him a better understanding of the limitations and possibilities of SD, which he has brought forth in presentations and interactions with stakeholders. Examples of meetings attended include:

> Luncheon meeting of UN Ambassadors invited to Norway ahead of Security Council elections, where Bertelsen was a speaker discussing the value of scientific cooperation for peace and against climate change.
>
> Two meetings of the Arctic Security Roundtable of the Munich Security Conference, attended by Russian and Western military officials, national heads of security and a select few academics.

Bertelsen notes that his own position as an academic affords him more freedom to express political critiques than officials in the same forum.

Relationships at the European Commission

The project has successfully cultivated strong bonds with several influential actors who have helped elevate the visibility of InsSciDE in certain circles of policymakers. Many of these people have become reliable advocates and supporters of InsSciDE initiatives, participating in our events and channelling InsSciDE news through their networks. Their relationship with the project is a noteworthy indicator of InsSciDE's visibility and support at the level of the EC and the international SD community, and sketches the potential influence InsSciDE may have in their policy action.

> Marga Gual Soler has actively contributed as member of InsSciDE's advisory board. She consistently cites InsSciDE and the EU Science Diplomacy Cluster in her frequent presentations to students and stakeholders across the world. She moderated panels in which InsSciDE participated at two AAAS conferences: the Science Diplomacy Conference in September 2018 and the Annual Meeting in February 2019. Her capacity to raise InsSciDE's visibility in policy contexts is reflected in her prominence as a member of the High-Level Expert Advisory Group to former Commissioner for Research and Innovation, Carlos Moedas, and in her status as a pioneer in today's globalized SD community.[6]
>
> Maria Cristina Russo, Directorate-General for Research and Innovation at the European Commission, most recently expressed her strong support for InsSciDE in the opening address of InsSciDE's Covid-19 webinar series: 'Actors' perspectives: Science diplomacy and the cross-sectoral impacts of Covid-19'.[7]
>
> Halina Walasek, Policy Officer in charge of Science Diplomacy in the Directorate for International Cooperation at DG Research and Innovation has attended our virtual events, such as the Warsaw Science Diplomacy School (WSDS) open session, and disseminated InsSciDE news and invitations (such

[6] https://en.wikipedia.org/wiki/Marga_Gual_Soler

[7] *Actors' perspectives: Science diplomacy and the cross-sectoral impacts of Covid-19:* Four webinars hosted 24-25 September 2020 (UNESCO, CNRS). https://www.insscide.eu/news-media/news-and-events/article/watch-now-sd-covid19-and-more-from-insscide-webinars

as for the Covid-19 webinar series) to the EU Science Counsellors and the Directorate for International Cooperation.

2. Provide enhanced coordination between the EU Member States and between the EU and its international partners

Connecting early (SD)-career stakeholders

The events organized by WP1 (Engagement and Interface) affords opportunities for representatives of member states, the world-wide European 'neighborhood', and international partners to meet and connect, an important first step in enhancing coordination. The First Open Conference (January 2019) and WSDS (June 2020) are InsSciDE's most prominent open events[8] so far. At the former, leveraging the Academy of Young Diplomats, connections primarily occurred on a relatively junior level. WSDS participants exhibited an exceptionally wide range of seniority and affiliations. Considering the importance often ascribed to informal networks, these connections are potentially significant in enhancing international coordination in the future.

The First Open Conference was attended by diplomats-in-training from 50 countries. Through collaborative exercises and debates, the conference fostered connections between the early professionals who presumably will go/have gone on to be stationed at embassies across the world and around Europe. It was also attended by some key stakeholders from notable institutions, such as Conor Snowden, Senior Science Consultant at the British Council.

The network which emerged from WSDS 2020 can conceivably lead to future coordination between Member States due to the individual connections established among the 28 participants. Although at early points in their careers of SD, many students were already established professionals working in embassies, governments and non-profits in 10 EU Member States, as well as in Norway, Australia, Brazil, India, the US and more (representing 6 continents). Continued communication beyond WSDS and accounts of resulting small collaborative projects indicate a long-term network of SD actors.

Dialogues and networks cultivated with international partners

Some members have deemed it vital that the project stimulates dialogue and establishes connections with groups on different continents working on common themes and with shared ambitions for SD. Bertelsen (WPL2 Power with SD) often emphasizes in presenting his WP, the importance of cross-cultural exchanges, highlighting that the non-Western world has the strategic advantage of a generally much deeper understanding of the West than vice versa. Furthermore, InsSciDE has been a key stimulus for several members in forging more international collaborations:

- Collaboration with non-European partners in Brazil (at the Institute of International Relations of the University of Sao Paulo) through the project 'Intercontinental science diplomacy: the case of EU-Brazil cooperation', funded by the Sao Paulo Foundation between 2017 and 2019[9] and co-led by Simone Turchetti (WP7 Environment). Further extension of this collaboration is

[8] The pilot workshops organized in Paris in 2018 also gathered significant sets of actors: Space (June) and Heritage (November). The first was composed of senior diplomatic and industrial personnel from three continents whereas the latter also included a large graduate student coterie of French, European and Middle Eastern origins.

[9] Project Intercontinental science diplomacy: the case of EU-Brazil cooperation http://www.fapesp.br/10723#2017

especially visible in the participation of Turchetti and Pierre-Bruno Ruffini (WP3 expert collaborator) in the Innovation and Science Diplomacy School in Sao Paulo in the summer of 2019 and 2020[10].

- The DHST Commission on Science, Technology and Diplomacy[11], a world-wide network of scholars interested in the history of science diplomacy, is leveraged by several officers with overlapping membership in InsSciDE (Matthew Adamson (WP6 Security), Simone Turchetti, Sam Robinson (WP7) and Doubravka Olšáková (WP7 expert collaborator)). The Commission has organized a number of international events related to science diplomacy history, also in coordination with other members of InsSciDE (Leonard Laborie, Rasmus Bertelsen, Maria Paula Diogo, Daniel Gamito Marques, Anne De Floris, David Aubin)[12], with the most recent ones hosted online[13]. This network, in conjunction with InsSciDE, has contributed to increased publishing on science diplomacy and its history in international peer-reviewed journals. Special Issues are about to come out in *Historical Studies on the Natural Sciences*, *Centaurus*, and *History of Science and Humanities (Berichte zur Wissenschaftsgeschichte*).[14]

WP4 (Heritage) has contributed with partial financing of digitalization of information, facilitating access and supporting the intellectual and cultural activity of museum personnel in Iraq and Syria. This impact is significant due to the dilemma of transfer of knowledge and know-how from typically European and American excavation experts to local ones with less opportunities for funding, training and resources.

Research providing best practices and lessons learned from cases

With newfound urgency this year for building synergies in the field of health, InsSciDE research in WP5 (Health) is usefully pinpointing the actors beyond scientists and diplomats who have previously made health diplomacy possible in the EU.

Research from WP5 shows that the coordination of *political* instruments is inextricably linked with *scientific* practices in a range of health policy issues. CSA Katerina Vlantoni's case illustrates this by revealing the venues, treaties and measures that enabled the EC and Member States to cooperate on the regulation of blood safety, and also outlines how similar standardization and coordination are achieved in the Global South.

3. Provide in-depth insights into the multiple ties and mutual influences between Europe and its neighbours, former colonies, other countries and regions, especially in the scientific sphere

Plotting of actors and influence

WP4 (Heritage) traces co-operation between Europe and the Middle East in archaeology in the post-colonial era after WW2, a period that has been insufficiently examined in the literature. Writing the

[10] Innovation and Science Diplomacy School, Sao Paulo: https://2020.innscidsp.com/
[11] DHST Commission on Science, Technology and Diplomacy https://sciencediplomacyhistory.org/
[12] https://www.insscide.eu/news-media/news-and-events/article/who-are-the-diplomats-in-science-diplomacy
[13] https://www.insscide.eu/news-media/articles/article/summer-talks-by-dhst-commission-on-sci-tech-diplomacy
[14] The paper are added to InsSciDE's Library once published, in the section *Interesting Reads: Papers by InsSciDE Members* https://www.insscide.eu/news-media/library/article/interesting-reads-science-diplomacy-papers-by-insscide-members

history of expeditions in Syria, the WP is plotting contacts and exchanges between the mostly foreign archeologists and their local collaborators and state actors.

WP7 (Environment) looks at colonial attitudes that have historically coloured countries' interventions in the Arctic, with indigenous peoples often ignored. WP7's research is showing that with a new age in media and communication, minority populations such as Inuits have been able to connect and mobilize in defense of their environments. Furthermore, InsSciDE is supporting the recognition of indigenous knowledge as an essential component of climate change understanding, for instance by featuring the contribution of Dalee Sambo Dorough, chair of the Inuit Circumpolar Council, in the WP thematic workshop 'What is the role of science in environmental diplomacy?' (June 2020).

WP7's Miyase Christensen hints at the significance of her developing research on social media and online communication in SD (in the Arctic): "*Impacts of new technology and social media platforms on diplomacy and foreign policy are increasingly relevant as these platforms enable actors to bypass the highly centralized powerbrokers in order to express positionalities and make claims*."

One of WP7's published case studies[15], by Jean Foyer and expert David Aubin, plots the actors and dynamics surrounding the emergence of indigenous knowledge in the global discussion of climate change at COP21.

Dissecting cooperation, competition, and coopetition

An important theme that has emerged across WPs is how science may be instrumentalized for competition and pursuit of explicitly national interests (rather than 'the common good'), an aspect of SD that may often be overlooked by vocal proponents. This issue is becoming more significant with a growing public enthusiasm for SD which uses a discourse that sometimes fails to consider the 'darker side' of the practice. Research emerging from WP3 (Science Diplomats), WP7, and WP8 (Space) as well as from members' separate activities, contribute important conceptual and nuanced understanding of science diplomacy and its applications, as well as of science.

WP3's (Science Diplomats) research is largely focused on diplomatic action in former European colonies. Maria Paula Diogo (WPL3) explains that her work for InsSciDE has added a layer of reflection to 'long durée' research topics that have long been her specialty, now regularly including InsSciDE foundational concepts of technoscientific diplomacy. The understanding of Europe's relations with former colonies reveals a persistence of dynamic interactions between science and diplomacy. Diogo cites in particular the impact of a non-InsSciDE meeting with Mozambican STS colleagues from Universidade Eduardo Mondlane. She credits the lens of InsSciDE to have focused fruitful discussion on how modern European policies related to science and technology impact Mozambican societies. The kind of dialogue achieved here, and knowing where and how to pursue it, is essential to SD as a future strategy for Europe. Diogo asserts she is gaining a more nuanced perspective on the role of science and technology in neo-colonialism and points to significant modern cases, such as water management conflicts in Africa, Southeast Asia and South America. According to Diogo, InsSciDE is not

[15] Jean Foyer et David Dumoulin Kervran, « Mettre en récit les savoirs traditionnels », Terrain [En ligne], 73 | avril 2020, mis en ligne le 09 octobre 2020, consulté le 23 novembre 2020. URL : http://journals.openedition.org/terrain/20607 ; DOI : https://doi.org/10.4000/terrain.20607

only generating in-depth insights into ties and influences of the past, but is revealing next steps for SD research, including incorporating scientific partners beyond Europe.

Several forthcoming InsSciDE publications argue the need to abandon a static perception of SD as a consistently benign tool in foreign affairs, instead, alerting to its placement at the service of specific foreign policy agendas for most of the 20th century. Environmental diplomacy for instance may be popularly construed as a device to put international relations at the service of environmental protection and sustainability, locally and globally. Recent history shows, however, that environmental protection and sustainability have frequently been instrumentalized to advance specific national interests in topical moments. Sam Robinson (WP7) analyzes how competing images of futures or 'sociotechnical imaginaries' were employed in defining the terms of the UN Convention on the Law of the Sea, which *in fine* protected Global North interests of exploiting marine resources[16]. Similarly exploitative applications of SD are referenced in Simone Turchetti's (WP7) work on NATO and UK environmental policy actions[17].

A recent article by Turchetti and Roberto Lalli (both DHST Commission members[18]), 'Envisioning a 'science diplomacy 2.0': On data, global challenges and multi-layered networks' due to appear in *Humanities and Social Sciences Communications* (formerly *Palgrave Communications*) explores the notion of data-driven policy making. They argue that in order to balance multilateral interests to attain the common good, environmental diplomacy needs to place the environment, as supra-national interest, above national ones. Specific environmental diplomacy initiatives need to demonstrate this supra-national interest explicitly rather than take it for granted or allow it to be submerged. Demonstrating it could take the form of assembling more evidence on the projected outcomes and merits of specific policy actions, mobilizing relevant data and data-production capabilities (such as international observatories) before an action is implemented.

4. Acknowledge the multiple sources of today's European diversity, (and) provide' strong policy implications, not just for scientific and cultural policy, but also for immigration, integration, education and external policies.

Convening broadly diverse participants

InsSciDE is in itself an example of diversity with a consortium spread across 10 European countries and including partner UNESCO, and personnel specialized in a range of political and social sciences and with different methods and academic traditions, including publication strategies. Participating in the broadly international and interdisciplinary consortium has been both a challenge and a learning experience for members. Many have engaged in lengthy debates to cultivate mutual understanding of practical and theoretical elements of SD that differ across disciplines.

[16] https://onlinelibrary.wiley.com/doi/epdf/10.1111/1600-0498.12342
[17] https://discovery.ucl.ac.uk/id/eprint/10046161/1/Histories-of-Technology-the-Environment-and-Modern-Britain.pdf
[18] See impact goal no. 2 ('Provide enhanced coordination between the EU Member States […]')

WP5 (Health) is a paradigmatic case in this light, grouping researchers performing case studies in the history of medicine and international relations, as well as more contemporary science and technology studies and political science.

A positive consequence of the diversity of the consortium is members' dedication to quasi-monthly internal theory seminars. Organized by Nina Wormbs (WP7 Environment) and Katharina Paul (WP5), anywhere from 3-10 members join each online seminar to discuss SD literature, debate fundamental concepts in InsSciDE and learn across disciplines.

The value found in the internal debates contributed to the organizers of WSDS placing a strong emphasis on fostering interdisciplinary and international discussion in the training program. The shift from an in-person to online event enabled this objective to be achieved with an exceptionally wide-ranging diversity of the 2020 cohort. Extending the invitation to apply to any and all interested stakeholders whose time zone they felt was compatible with the program, resulted in a telling influx of third country applicants interested specifically in European SD.

- Out of 106 applicants 28 students, nationals or residents of a total of 27 countries, were accepted to the program.
- The school's appreciated 'Practitioner Panel' brought together a diversity of science counsellors or attachés posted within or outside Europe, selected by Pierre-Bruno Ruffini (expert collaborator with WP3 Science Diplomats): Tania Friederichs, Head of Research and Innovation Section, EU Delegation to India and Bhutan; Otakar Fojt, Senior Science and Innovation Adviser, Embassy of the United Kingdom in the Czech Republic; Michael Jaspers, Head of Science and Technology Service, Embassy of Germany in France.

InsSciDE's Covid-19 Webinar Series (September 2020, 'Actors' perspectives: Science diplomacy and the cross-sectoral impacts of Covid-19') aimed to accentuate the diversity of actors involved in the pandemic response of Europe and the world. It brought together actors from economic, health, research, international law sectors and more to discuss SD's role in high-profile initiatives.

- All panels convened speakers/moderators of least three different nationalities. Three panels were focused on European diversity, while the fourth panel asserted a global scope, connecting speakers from Africa, South East Asia, Europe and Middle East (the latter speaker had to cancel his participation at the last minute).

Identifying and understanding diversity through research

Diversity is widely recognized as a fundamental strength of Europe, and InsSciDE members are looking closer at its concurrent challenge of overcoming differences in values, perspectives and norms across countries, disciplines and individual backgrounds, especially in coordinating or concerting policy.

WP5 (Health), led by Katharina Paul, deals with a policy area that features a strong degree of diversity across countries and a limited capacity at EU level, likely due to different states and historical trajectories. The ongoing COVID19 pandemic has truly put this institutional fragmentation to the test and exposed that only limited institutional learning was generated from cases such as BSE, avian influenza, and SARS.

Research in WP7 (Environment) is dissecting the impact of media on the visibility of local communities and their perspectives in international geopolitical and mediatized discourses. Miyase Christensen's

research on the Arctic indicates that *"mainstream media outlets have traditionally represented what can be called the 'majority view' but the expansion of communications platforms means that a broader diversity of voices, opinions and experiences are possible: voices such as those of traditionally under-represented (in terms of media exposure) first/indigenous and migrant populations. Understanding how and where these voices, opinions and experiences are presented is key to nuancing policy debates and policy."*

5. Facilitate Europe's future engagement with third countries

Identifying the dialogues necessary

Work by WP3 (Science Diplomats) members is revealing the benefits of dialogue between historians and STS scholars in European and African countries. Diogo (WPL3) maintains that because of concepts and frameworks drawn from InsSciDE, such meetings have become an important stride to better understand perspectives on Europe and the EU in Africa. One new topic broached is the impacts of foreign implementation of new/Western STI in African communities. Discussions are addressing the significance of 'choice' and 'context' in technoscience diplomacy behind such activities and examining possible merits of involving third parties in SD negotiations and consequent fulfillment. The meeting between WP3 members and colleagues at Universidade Eduardo Mondlane in Mozambique[19] revealed that because European countries' interactions with African countries are generally bilateral, overall perception of Europe in Africa is that there is little unity or coordination among European countries and no common agenda. The meeting also included counterparts from Denmark and Chile. Exploring how such dialogues can be further cultivated and acted upon systematically will be essential for developing a European science diplomacy strategy applicable to the Global South. The WP is already building their argument for the next steps for Europe's science diplomacy, to include regular interactions with third countries and to place social sciences at the core of discussions. In this sense, InsSciDE is well-placed as a preparatory project, defining the historical foundation of technoscientific diplomacy, establishing connections with institutions, and building understanding for launching a follow-up project that focuses on cultivating SD and strengthening science-related communication with African partners.

As *de facto* practitioners of science diplomacy themselves, WP4 (Heritage) researchers Pascal Butterlin and Alexander Pruss study European relations with state actors in Iraq and Syria in the context of archaeology and moreover administer pilot solutions to safeguard heritage. One of the programs developed in Iraq with support from InsSciDE is a training for local specialists in the restoration of war-damaged sites (suspended due to Covid-19). In collaboration with the French Embassy, WP4 has also forged transnational research ties around investigation of the Sargon Citadel in Khorsabad, Iraq.

Bertelsen (WPL2) regularly engages in dialogue meetings on the Arctic between EU member states, Russia and China. In participating, networking and advocating for SD and cooperation in these contexts, he is one of the voices projected to the involved European and third countries that promotes

[19] Other information on this meeting under impact goal no° 2 ('Provide in-depth insights into the multiple ties…')

strengthened future engagement. The role of the project in shaping Bertelsen's contributions cannot be neatly separated from other professional influences.

Building networks

WP8 (Space) has built relations with actors from historically dominant nations of the space industry, such as former Soviet Union states, the US, France and Italy, in conducting interviews and participating in space and historical events. WP members are also pursuing contact with actors in Syria and India involved with the Soviet Interkosmos space program, which David Burigana (WPL8) suggests can lead to insight into how countries with smaller economies can still contribute to space exploration. The contacts established will eventually be organized into an international network that could help Europe gather support for its ideas and gain influence in the space domain.

6. Contribute to the competitiveness of European enterprise

Practical insight from research

Business in the Arctic is linked to the dynamics of several sectors as well as the material geography of the region. Business expansion and its consequences are documented in WP7 (Environment) research by Miyase Christensen. The below quote introduces the practical insights to be gained for European enterprises from her research:

'In regions such as the Arctic, changing dynamics in political, diplomatic as well as economic spheres are linked to the material geography (e.g. telecommunications infrastructure) of the region. Such infrastructure has been expanding over the years due to businesses and institutions demanding more extensive and reliable communication infrastructure in the Arctic. More connectivity can translate into new entrants (thus new competition and competitive advantage) into local, regional and global networks and to more scientific cooperation. Further, as Europe faces a shorter-term contemporary crisis in the form of Covid-19, the longer-term competitiveness of the European enterprise is reliant upon an understanding of the deep and complex challenges created by climate change, with events in the Arctic region often acting as early warnings for more southerly parts of the continent. Such an understanding, in turn, is rooted in accurate and unfiltered information on, from, and about the Arctic region. This, that is, the depth and quality of the information coming from the region, has a direct impact on not only competitiveness, but sustainability.'

Business connections

InsSciDE's impact as a catalyst of networking and interdisciplinary connections provides a foundation for pursuing direct engagement with businesses in later stages of the project.

WP4 (Heritage) employs subcontractor ICONEM, an innovative start-up based in Paris that specialises in the digitisation of endangered cultural heritage sites and artefacts in 3D.

A C-suite member of Avio found InsSciDE online and approached Burigana (WPL8) to exchange on Vega rockets, which his company designs and produces. A face-to-face meeting awaits scheduling in light of Covid-19.

Bertelsen (WPL2) was invited by his university to head a H2020 application on sustainable economic development in the Arctic. He reports that this invitation was a direct result of his participation in InsSciDE and, although the application was unsuccessful a collaborative relationship emerged with Italian remote sensing company e-GEOS, an international leader in earth observation and geo-spatial information.

Bertelsen, emphasizing the importance of including both employers and the labor side of the business sector, led outreach to social partners in the leadup to WSDS, notably inviting applications from the Norwegian Trade Union Council and the 3F United Federation of Danish Workers (271k members) through emails to heads of divisions.

7. Generate original and extensive research on science diplomacy addressing global challenges in environment, security, heritage and health.

Rich combined knowledge of science and science history

The knowledge contained and developing in InsSciDE is leading to new thinking around SD and helping progress its conceptualization. Outstanding in the view of project members is the light being shed on SD's instrumentalization of science. Many project members recognize a discrepancy between how SD is communicated in popular discourse – often touting 'science' as universal and harmonious – and what it looks like in practice – complex, material and fallible. InsSciDE project members have been active in both describing and communicating this fundamental gap, with the issue being addressed on a project-wide scale, in cross-WP discussions and in individual presentations by members.

The interdisciplinary discussions in WP7's Thematic Workshop (June 2020)[20] confirmed that the discrepancy in perspective existed among some of the practitioners who participated. Wormbs (WPL7) notes that formulating the material nature and contingencies of science and science production will be essential to teaching science diplomacy to diplomats.

Pierre-Bruno Ruffini (InsScIDE expert collaborator) organized a special issue in the *Hague Journal of Diplomacy* called Forum on Science Diplomacy,[21] published in August 2020. The series advances understanding of SD and addresses the fact that '*the concept is still not completely stabilized and there is ample room for academic scrutiny*'. It features papers by Ruffini, Pascal Griset (Project Coordinator), S4D4C colleagues and other academics and practitioners from Europe and North America.

- The full text of 'Innovation Diplomacy: A New Concept for Ancient Practices?' by Griset has been viewed 388 times[22].
- The full text of 'Collaboration and Competition: The Twofold Logic of Science Diplomacy' by Ruffini has been viewed 294 times[23].

[20] See more about Thematic Workshops in section 4.2.4.
[21] Forum on Science Diplomacy https://brill.com/view/journals/hjd/15/3/hjd.15.issue-3.xml
[22] Innovation Diplomacy: A New Concept for Ancient Practices? https://doi.org/10.1163/1871191X-BJA10036 *accessed 30/12/2020*
[23] Collaboration and Competition: The Twofold Logic of Science Diplomacy https://doi.org/10.1163/1871191X-BJA10028 *accessed 30/12/2020*

Griset and WP9 (Communication, Impact and Project Legacy) organized a public webinar where the Forum authors engaged in a lively debate moderated by the Journal's Editor-in-Chief Jan Melissen. The session was the first and most popular in InsSciDE's Covid-19 Webinar Series (24-25 September 2020),[24] which followed at the heels of the 2nd annual EU Research and Innovation Days and was opened by Maria Cristina Russo of the European Commission. The event addressed SD in light of global challenges, such as Covid-19, but also with a distinctly critical approach, debating the appropriate way to present SD to stakeholders and the public.

- The live event attracted an audience of about 70 people, while a recording of the session has received 91 views on YouTube[25].
- The event review page on InsSciDE's website was visited 276 times.

To take stock of the rich supply of interdisciplinary knowledge in the project, Katharina Paul (WPL5) and Nina Wormbs (WPL7) organize the project-wide regular 'Internal Theory Seminars'. The stated ambition of the meetings is to advance towards a SD definition and discourse that is inclusive, comprehensive and realistic by capitalizing on the deep knowledge and creativity shared between the project's experienced historians of science, STS scholars and political scientists. The seminars have so far occurred in April[26], May, June, October and November 2020, with the intention to continue to convene through the end of the project.

At the November session, the group discussed a paper by Ruffini: 'Conceptualizing science diplomacy in the practitioner-driven literature - a critical review'[27]. Björn Fägersten (WP2) characterized science diplomacy as a subset of statecraft, which can be reduced to '*use of science for foreign policy ends*'; this hard-edged definition translates the political science view that diplomacy is not inherently peaceful and whatever its form (public diplomacy, cultural diplomacy, sports diplomacy, science diplomacy…) at bottom it is in the service of state goals. This is another facet of the challenge to a 'peace and love' image of science diplomacy decried in publications by Ruffini and also Tim Flink of S4D4C.

8. Create links between the social sciences and humanities in areas 'traditionally closed to these disciplines – for instance in Space'.

Emergence of new projects and offshoots

Shortly after joining InsSciDE, David Burigana (WPL8) secured a research grant for another SD project. The funding of 400,000 EUR awarded by the Italian government allows Burigana to lead the documentation of Italy's involvement in SD through interviews that are recorded and stored in the Historical Archives of the EU. He attributes the success of the proposal in 2019 to the ideas and framework of InsSciDE, which most notably inspired a strong interdisciplinary angle in the proposed program of work. The consortium consists of foreign policy historians, economists, sociologists and

[24] See footnote 7 for Covid-19 Webinar Series or visit https://www.insscide.eu/news-media/news-and-events/article/watch-now-sd-covid19-and-more-from-insscide-webinars
[25] https://www.youtube.com/watch?v=GorXtVZr-DY&t=39s&ab_channel=InsSciDEProjectMedia
[26] https://www.insscide.eu/news-media/news-and-events/article/inssciders-meet-online-to-talk-theory
[27] Ruffini, PB. Conceptualizing science diplomacy in the practitioner-driven literature: a critical review. *Humanit Soc Sci Commun* 7, 124 (2020). https://doi.org/10.1057/s41599-020-00609-5

astronomers. The research often overlaps with InsSciDE, thereby magnifying the scope and reach of WP8.

As the accomplishments of both InsSciDE and the consequent Italian SD project became known at his university, Burigana was selected to organize several events for the 800-year anniversary of the University of Padua (2022), centered on Italian space scientist Giuseppe Colombo. Not only the responsibility itself, but also the events are notable in showcasing the valuable input of social sciences and humanities to the traditionally 'hard science' field that is space.

Katerina Vlantoni (WP5) has recently won a major titled 'Contextualizing biobanking in Greece: histories, practices, discourses - BIO-CONTEXT', founding on her InsSciDE case study work. A team of three postdoctoral researchers will carry out the project as a cooperation between National and Kapodistrian University of Athens, the Science and Technology Studies Unit (SATSU) of University of York's Department of Sociology, and the University of Maastricht.

InsSciDE as a bridge for disciplines

Developing room to exchange is a vital method for developing enhanced and mutual understanding between disciplines. Wormbs (WPL7 Environment) notes that organizing her WP's Thematic Workshop created opportunities to connect and exchange with diverse actors and academics of the environment with whom she otherwise would not interact, although regretfully the meeting was forced online by Covid-19.

Thanks to InsSciDE advisor Dieter Schlenker (Director of Historical Archives of the EU), Burigana has been connected with a member of the Cabinet of the Director General of the ESA who applauded the project and offered to participate in an interview.

9. Create a new network of academics and practitioners in science diplomacy.

New connections and networks

As a result of the WP5 (Health) thematic workshop that she organized and hosted, Katharina Paul (WPL5) has been invited to speak at the Frankfurter Vortragsreihe (Frankfurt Lecture Series) on Global Health in December 2020, organized by the German Globalisation and Health Initiative (GandHI) and the Global Health Alliance Germany (GHA-D). The topic will be «Global Health Diplomacy – a View into Theory and Practice».[28]

WP5's workshop also advanced co-operation between InsSciDE members and France's national health research agency INSERM which has led to a new project called Biocontext.

The broadly professional and international consortium of InsSciDE successfully leveraged existing networks to attract a remarkably diverse pool of applicants to WSDS. Early observations suggest that the relations formed within the first cohort of students will be strong and sustainable in the long-term.

The 28 participants, whose sustained connections are already evident in interactions on Twitter and on the cohort's closed Facebook group, represented 27 countries (several affiliating themselves with

[28] Frankfurt Lecture Series on Global Health https://www.insscide.eu/news-media/news-and-events/article/pre-and-post-pandemic-health-diplomacy

two countries because they presently live outside their country of origin). With frequent small group discussions to complete analytic assignments, the students were able to develop tight connections despite the virtual format. In fact, a reliance on online networking meant that students actively and early in the week connected and interacted through social media.

Key indicators of the extent and quality of the WSDS network are revealed:

- Students were presented with the opportunity to collaborate on articles for InsSciDE's website following the completion of the school. Members from three out of four 'case study teams' seized the opportunity, which entailed at least 8 alumni remaining actively in contact several weeks after the training finished. The collaborative articles are available here.
- As a bonus to improve European Science Diplomacy community networking and learning, each student who completed the full curriculum was paired with an expert SD practitioner or scholar for a one-hour career conversation to take place subsequent to WSDS. Post-program emails from WSDS students, included in D1.2c Participant Evaluation, signify that this was a successful interactive and personal element for networking and post-school impact.
- Due to the virtual format of the 2020 training, social media became an effective tool to build and nourish connections among the students. The impact is evident in tracing the group's engagement on Twitter and Facebook, as well as in the content of several complimentary Tweets. Many can be viewed directly on Twitter under the hashtag #WSDS20 and in D1.2c.
- When a master's student approached InsSciDE to request an interview for her thesis research, the Coordination, in addition to the interview, was able to provide contact information of three WSDS alumni to further answer her research questions. Each of the alumni enthusiastically offered their assistance, indicative of the consistently receptive and helpful attitude of the group.
- InsSciDE's Trivia Night was seized as an opportunity for a WSDS reunion, with eleven alumni (as well as several outside participants) attending and teaming up according to their WSDS case study teams. The event was organized online on 12 November 2020 in celebration of World Science Day.

10. Raise awareness among stakeholders that they can be practitioners of science diplomacy.

Research on SD stakeholders and practitioners

The first part of InsSciDE's impact in raising awareness among stakeholders of their SD capacity is clarifying the notion of SD practice. Discussion centred on case studies is evidently an effective way to illustrate to stakeholders how ordinary themes in their work, such as international competition, geopolitics, research or cooperation, may constitute a crossing of scientific and diplomatic spheres. Case studies are underscoring that SD is a practice that engages a myriad of actors to different degrees and ends, interconnected in complex and often informal networks. The evolving understanding of SD actors is shaping InsSciDE members' discourse around 'science diplomats' and informing approaches to 'raise awareness among stakeholders'. A complementary part of the impact is understanding how to communicate the wide scope of SD to potential practitioners without suggesting a panacea.

Research in WP5 (Health) shows that (science and health) diplomacy is not limited to formal diplomacy. Instead it includes a variety of actors. Muriel Le Roux's case study unveils a complex web of international researchers, multinational pharmaceutical companies, governments, NGOs and diplomats; Céline Paillette's study of the Plague of Oporto includes cooperation between bacteriologists, epidemiologists and diplomats; while doctors, administrative and public health experts, from regional to intergovernmental level, are present in Anna Pichelstorfer and Katharina Paul's case study.[29] The result has urged caution in applying the term of SD practitioner or science diplomat, namely because of its variable meaning depending on the actors (and issues at hand) and the fact that it constitutes a new label for existing roles or activities.

WSDS is a token of success in the matter, as students themselves stated that case studies successfully conveyed a multilayer and broad view of SD and widened their perspectives of how they, as researchers, attachés, project managers or scholars, can be practitioners of SD.[30]

Burigana (WPL8 Space) was invited to attend the European Space Agency's 2019 Living Planet Symposium, where he discussed InsSciDE and WP8's research in an informal meeting with NASA and ESA officials. The officials did think of themselves as transnational actors but had not previously considered the direct links to science or international politics in their work. They were, however, enthused and perhaps surprised by the historical study of their agencies and of SD in the space field.

Exchanges in WP4 (Heritage) have resulted in close reflection on the similarities and overlapping roles of archaeologists abroad and diplomats. Alexander Pruss has come to view implicit diplomatic responsibilities as an important part of archaeologists' work abroad. Conceptualizing this aspect of heritage preservation, and discussing it in professional gatherings, has been a first step in raising awareness among heritage experts working internationally.

Filling seats at the table with diversity of SD actors

Inviting people to discuss their experience in the context of SD has incidentally emerged as an effective method for raising awareness of diverse actors' own capacity to be SD practitioners. A common reflex among professionals, from embassies to research institutions, intergovernmental organizations and more, is often surprise at such an invitation, only to realize that SD overlaps or applies directly to their profession.

One of the most direct impacts of InsSciDE's September 2020 Covid-19 Webinar Series was drawing in actors from across sectors into a conversation that was sometimes unusual but evidently pertinent to their immediate responsibilities.

- Emma Hodcroft (University of Basel), co-developer of Nextstrain, stated that SD is an integral tool for the international data sharing central to her work of tracing the genetic evolution of Covid-19, yet is rarely explicitly discussed in that context. As a prominent science

[29] https://www.insscide.eu/about/case-study-pitches/article/health-pitches

[30] Sean Hardy, Claire Mays, Maria Staszkiewicz, Karolina Kyrzyzanowska, Natalia Czajkowska (2020) Participant evaluation of InsSciDE event: Warsaw Science Diplomacy School 2020. Deliverable 1.2c for the H2020 InsSciDE project, submitted by European Academy of Diplomacy and Institut Symlog de France, August 2020. https://www.insscide.eu/results/deliverables/article/insscide-wsds-2020-participant-evaluations

communicator, explicitly introducing SD on her radar may entail an indirect impact of raising awareness of others in her field.

- COST Association Director Ronald de Bruin announced that the webinar marked the first public recognition of SD by his association, suggesting more explicit discussions of the practice would follow.
- *Reach:* 299 registrations were received for the event, with each panel garnering between 30 and 80 attendants. The registrations provided insights into the disciplines of those drawn to the event, with social and natural sciences together comprising most of the audience and diplomacy professionals as the next-largest group.

  55 STEM, Health 27.5%
  80 Diplomacy, International Relations 40%
  47 Social sciences, humanities 23.5%
  7 Business, social partners 3.5%
  10 Government 5%
  1 Law 0.5%

Expanded awareness within the project

Some members joined the project as established practitioners and experts in science diplomacy, but many are conducting research into previously unexplored subcategories of SD, thereby developing their expertise in the unique areas they investigate over the course of the project.

In WP4, researchers have come to realize not only the numerous ways of involvement by different state actors in the area of archaeology, but also that archeologists (heads of mission) and diplomats have much in common and require certain overlap in skillset.

11.Show that the language of science diplomacy doesn't have to be complicated.

Clear-cut communication at InsSciDE events

InsSciDE's thematic workshops have illustrated the use of straightforward language to express complex thought, through researchers' own short and narrative presentations and by engaging non-experts in the discussions.[31]

The Covid-19 Webinar Series featured a high diversity of academics and practitioners as speakers, whose distinct experiences and differing levels of expertise in SD converged around the common theme of action against the Covid-19 pandemic. The sessions were therefore conducted in uncomplicated language in order to resonate across sectors of society and with the public.[32]

InsSciDE's SciDip Trivia Night was specifically designed to draw in participants from novice to expert levels in celebration of the November 2020 World Science Day theme of Science *for* and *with* Society. The event registration form indicated that about a quarter considered themselves to be SD experts,

[31] See more in section 4.2.4 Thematic Workshops
[32] *See footnote 7.*

while all others, except for one, indicated an intermediate knowledge level. Participants learned about fundamental concepts, milestone events and key personas related to SD or InsSciDE by discussing and answering questions in teams, in a casual and playful (online) setting. The questions managed to create an even distribution of success among participants, with teams achieving between 60% and 80% accuracy overall and all questions being answered correctly by at least one team.[33]

SD in the classroom

Incorporating SD knowledge in higher education is an increasingly relevant task as SD becomes a more widely recognized practice in an array of fields. Few opportunities exist in formal education to learn about SD, as illustrated in S4D4C's needs assessment survey[34] and by the high demand observed in the launches of WSDS and other new training programs. Professors wanting to adapt their courses accordingly are met with the challenge of integrating a subject with a limited documented knowledge base and contested theoretical concept.

InsSciDE has prompted some of its members to integrate their research findings and employ InsSciDE's fundamental principles, such as interdisciplinarity, in their own university teaching. If a trend ensues, such moves could potentially contribute to a generation of professionals who have a natural awareness of SD. The exposure to and study of the historical cases that InsSciDE specializes in could also help to illuminate possible career paths in the still broad and ambiguous SD field, which WSDS has already indicated as possible[35].

Courses on SD or material drawn from InsSciDE case studies were developed by members in WP5 (Katerina Vlantoni) and 8 (Space, David Burigana), both set to launch in 2021. Vlantoni's inclusion of a short module on health diplomacy in one of her courses leads WPL5 Katharina Paul to note '*This points to the ability of our researchers to disseminate findings beyond scientific channels to maximize impact*.'

Since his participation in InsSciDE, Burigana has realized the importance of communicating the interconnectedness between science, technology and foreign affairs to his students, and has permanently integrated SD into his courses on history of international relations at the University of Padua.

- In the fall semester 2020, he invited four guest lecturers who he met through his InsSciDE research to speak about science diplomacy in space endeavours. The lectures were open to the public and promoted by InsSciDE, each accruing 30-40 attendants.[36]

[33] See Annex E for representation among participants.

[34] Cf. Alexander Degelsegger-Márquez, Tim Flink and Charlotte Rungius (2019), What it takes to do science diplomacy. Practices, identities, needs and challenges of science diplomacy practitioners. Baseline analysis and needs assessment, S4D4C EU-Project Deliverable 2.3, Vienna: S4D4C, https://www.s4d4c.eu/wp-content/uploads/2019/03/S4D4C_WP2_D2.3_ZSI.pdf.

[35] Two of several indicative comments after completing WSDS: '*I am now fully convinced that science diplomacy is an area I would like to explore more in my future career', 'I can say it certainly has broadened my horizons'* (D1.2c Participant Evaluation of WSDS; www.insscide.eu/IMG/pdf/del_1.2c__participant_evaluation__insscide_wsds_2020_final_.pdf).

36 https://www.insscide.eu/news-media/news-and-events/article/cosmonauts-and-soviet-space-diplomacy-lectures

Building on positive responses to SD in his lectures and open events, Burigana has partnered with his university's Departments of Engineering and Astronomy to create a new interdisciplinary course that is rooted in fundamental concepts of SD: International History of Science and Technology. The course will begin with readings by InsSciDE colleague Ruffini (WP3 expert collaborator) and includes guest lectures by a range of science diplomats. The course will be primarily taught in Italian but the guest lectures will often be in English and open to the public.

Burigana is also in the early stages of expanding the idea together with other colleagues in WP8 to a master's programme in English that can be adopted beyond his own university. The aim will be to foster convergences between applied STS and international relations. InsSciDE and another Italian SD

The recording of the panel 'Forum on Science Diplomacy' from the September 2020 InsSciDE Webinar Series is recommended for supplementary study in the courses of Jan Melissen who moderated the session. Dr Melissen is the Editor-in-Chief of *The Hague Journal of Diplomacy* and a Professor of Diplomacy in the Department of Political Sciences at Antwerp University.

12.Foster dialogue between diplomatic and scientific communities.

InsSciDE has convened diplomatic and scientific communities primarily at the first Open Conference in Krakow and WSDS. To a lesser degree but in the context of more in-depth discussions, thematic workshops have also fostered connections between the two fields.

Day one of WP7-Environment's workshop (June 2020, virtual) consisted of presentations by four practitioners of their experience with science diplomacy, followed by a discussion with an audience of mainly (social) scientists. The interdisciplinary dialogue exposed that some practitioners had a more practical and straightforward view of science diplomacy than the academics; constructive debate ensued. However, due to the virtual format, informal networking initially anticipated by organizers was not possible.

As part of WP3's case study on science diplomacy after the Fukushima nuclear disaster, researchers are interviewing actors involved in the European response. A very 'uneven' relationship is coming to light between diplomats and scientists, with a lack of trust or recognition for the value of the others' input. The underlying tensions revealed are noted as an essential area to address in science diplomacy trainings.

WP3 is also in contact with Portugal's Minister of Science and Technology in connection with research into the annual Portuguese Science Meetings. The meeting invited foreign diplomats to join the science event for the first time in 2019.

4.2.Report on Activities and Outputs

4.2.1. Social media, website and newsletters

Social media

Communicating through Twitter, Facebook and LinkedIn have proved to be effective ways to generate engagement and interest in the project, draw attention to events that InsSciDE is involved in, and foster engagement with InsSciDE case studies and deliverables.

Twitter: With over 1,800 followers on Twitter (@insscide_eu), InsSciDE's social media presence indicates a large interested audience and points to a high visibility of the content promoted on the platform. Examining its analytics data sheds light on the project's growing recognition and reveals the resources and content most useful to its stakeholder followers. Tweets also constitute explicit feedback on the perceived value of InsSciDE events and products.

Table 2 InsSciDE Twitter analytics: impressions and new followers gained in each month Dec 2018-Nov 2020

	Impressions (Reach) per Month	*New followers*
Dec 2018	18.3K	51
Jan 2019	30.5K	33
Feb 2019	21.5K	94
March 2019	13.0K	102
April 2019	17.2K	97
May 2019	16.2K	71
June 2019	21.1K	70
July 2019	29.2K	77
August 2019	12.0K	22
Sept2019	23.1K	33
October 2019	33.5K	127
Nov 2019	31.4K	42
Dec 2019	18.5K	27
Jan 2020	27.3K	36
Feb 2020	33.4K	27
March 2020	31.8K	42
April 2020	28.2K	75
May 2020	21.4K	60
Jun 2020	61.8K	94
Jul 2020	32.7K	64
Aug 2020	15.4K	49
Sep 2020	42.9K	57
Oct 2020	26.1K	56
Nov 2020	43.1K	72

Top tweets each month provide a glimpse into the most popular content among stakeholders. In the period Jun-Nov 2020, several major virtual events garnered the most attention:

- WSDS was the most stimulating InsSciDE "product" on social media. In the month it was hosted, June 2020, InsSciDE gained 94 new followers and reached a record audience with almost 62K impressions[37]. Tweets about the Open Health Diplomacy Session and the alumni article series

[37] Number of times users' feed displayed the tweet on Twitter. This display is amplified as a function of the activity around the tweet (e.g. engagement such as retweets, likes, etc. – see footnote 36).

were particularly well-received, attracting a 4-7% engagement[38] rate in contrast to the period average of 2.2%.

- InsSciDE's Covid-19 Webinar Series led to a spike of 42.9K impressions in September 2020
- SciDip Trivia Night for World Science Day gained 4,629 impressions on its announcement tweet.

Youtube became a new asset for raising visibility and disseminating teachings when live events were moved online due to Covid-19.

After WSDS, InsSciDE made recordings of two sessions by WP2 (Power with Science Diplomacy) experts into freely available lectures. The move was greeted enthusiastically on Twitter with 81 total engagements[39] on the announcement Tweet. Four more videos were added from the recording of InsSciDE's Covid-19 Webinar Series. The Forum on Science Diplomacy was the most popular with almost 100 views. All Youtube videos are embedded into articles on the website. Statistics as of November 2020.

- 31 views on Power with Science Diplomacy - InsSciDE WSDS 20 by Rasmus Bertelsen (WPL2 – Power with Science Diplomacy)
- 13 views on Using History to Inform Strategy for the Future - InsSciDE WSDS 20 by Björn Fägersten (WP2)
- 97 views on 'Forum on Science Diplomacy' - InsSciDE Webinars 2020
- 28 views on 'Economic meets technoscientific diplomacy' - InsSciDE Webinars 2020
- 26 views on 'Global perspectives on health diplomacy' - InsSciDE Webinars 2020
- 35 views on 'Researchers, Covid19 and Science Diplomacy' - InsSciDE Webinars 2020 *(removed from public access after two weeks on the explicit request of Katharina Paul (WPL5) who moderated the session.)*

Newsletters

Analysis of InsSciDE's four newsletters released since the project launch signifies a dramatic surge in visibility and stakeholder interest in the latter half of 2020. *Table 4* shows that when the fourth newsletter was sent in Nov 2020, subscribers had spiked to 243% the number of subscribers only five months earlier. Previously, the list had almost doubled in number between the first and second newsletter and then increased moderately before the third edition was released. The exponential increase in subscribers in the period Jun-Oct 2020 can likely be attributed to three high-visibility developments in the project that generated an influx of traffic to the website and its 'Get involved' section[40]. Namely, the rise in interest may be associated with a robust promotion campaign surrounding WSDS, InsSciDE case studies featured in the extremely popular S4D4C online SD course, and the Covid-19 Webinar Series.

The three newsletters for which Mailchimp analytics are available indicated that readers are most concentrated in France, the UK and the US. Based on the number of readers who opened the email, the most recent newsletter had a reach of almost 7 times that of the first newsletter. Conversely, the percentage of readers

[38] Number of engagements (clicks, retweets, replies, follows and likes) divided by the total number of impressions.
[39] Total engagement are the times people interacted with a tweet, including the total likes, detail expands, link clicks, media engagements, retweets and profile clicks.
[40] Visitors on the website find the option to subscribe to the email list under 'Get Involved' on the menu bar.

who clicked on items to read further was the highest in the first newsletter, while each successive newsletter has incurred a lower percentage of clicks. This can be expected as the email list expands over time with recipients having varying or divergent thematic interest in the project, differentially served by succeeding newsletters. The list has evolved since 2018 to include supporters who have subscribed to receive newsletters through the website, WSDS and Open Conference alumni, close project collaborators as well as InsSciDE members and advisors. Partner EAD manages self-initiated subscriptions through the website while the other contacts are collected by UNESCO with input from WPs and the Coordination.

The fourth newsletter, with its surge in readers, provides valuable indicators of the areas of interest among stakeholders. Out of the 56 (8.1%) recipients who clicked on items, half of the clicks were on links related to WSDS (WSDS21, WSDS20 event review, alumni articles) out a total of eighteen similar links in the email. The third and fourth most clicked items were the InsSciDE Webinar Series and information on InsSciDE cases in S4D4C's online SD course, reiterating a high interest in educational resources.

The data in *Table 2* is extracted from the Mailchimp mailer campaign report, which is unavailable for the third newsletter as this edition was emailed as a PDF rather than as an HTML message in order to include the WSDS brochure in the product.

Newsletter n° and date	**Successful deliveries**	**N° of opens**	**Percentage of opens**	**Percentage of clicks**	**Top countries by opens**	**Most popular feature**
#1: 9 May 2018	116	49	43.4%	15.9%	France, Romania	Launch event summary[41]
#2: 18 Jun 2019	223	82	36.8%	10.3%	France, the U.S.	PDF version of newsletter[42]
#3: 17 Jun 2020	~ 285	-	-	-	-	-
#4: 3 Nov 2020	692	331	47.8%	8.1%	The U.S., France	WSDS 2021 Announcement[43]

Table 3 Data on InsSciDE newsletters 2018-2020.

InsSciDE was also featured in several external newsletters. The list is not exhaustive:

- History of Science Society Newsletter – January 2019[44]: three pages were dedicated to a summary and analysis of WP6 (Security)'s Nuclear Diplomacies workshop in SOKENDAI, Japan, written by Maria Rentetzi (WPL6)
- Marie Curie Alumni Association Newsletter – March 2020 (source missing).

[41] InsSciDE Launch event summary https://www.insscide.eu/news-media/news-and-events/article/download-event-summary-insscide-inventing-a-shared-science-diplomacy-for-europe
[42] InsSciDE newsletter no ° 2 https://www.insscide.eu/IMG/pdf/insscide_2nd_newsletter_-min.pdf
[43] https://insscide.diplomats.pl/event/summer-school-2021/
[44] History of Science Society Newsletter https://hssonline.org/wp-content/uploads/2019/01/Jan-2019-newsletter.pdf

- Tensions of Europe Newsletter – June 2020[45]: a short passage encouraged readers to view InsSciDE's third newsletter, included at the initiative of Deputy Coordinator Leonard Laborie (newly elected president of the historians' network).

4.2.2. First Open Conference in Krakow

Held jointly with the fifteenth edition of partner EAD's (WPL1 Engagement and Interface) annual training conference Academy of Young Diplomats, the First Open Conference allowed young-diplomats-in-training and InsSciDE experts to exchange ideas on strategies, best practices and lessons to be drawn from InsSciDE historical science diplomacy cases. The Discovery Round Tables followed by fishbowl discussion proved to be popular with participants (D1.2b Participant Evaluation Feedback), a typical comment being that "the fishbowl method...was so valuable and engaging". One participant commented that six parallel sessions offered the opportunity to become exposed to "different experiences coming from different thematic areas", while another found the fishbowl format "especially refreshing in its departure from widespread patterns of younger professionals being somewhat lectured by the older ones".

Reach

- 250 diplomats-in-training attended the main conference (Days 1 & 2) from over 50 countries
- 101 diplomats-in-training participated in the intensive Discovery Round Tables and fishbowls

Social media and website response

- 578 visits to the website's event review of the Discovery Round Tables and Fishbowls as well as 134 visits to event review of Days 1 & 2
- 159 views/9 likes of Discovery Round Tables explainer video on Facebook
- 84 views of a video of Dr. Conor Snowden of the British Council giving remarks on InsSciDE and Science Diplomacy

Other impacts

- Connection was established with invited speaker Mrs. Ave Poom, a policy adviser at EU Agency for the Operational Management of Large-Scale IT Systems in the Area of Freedom, Security and Justice (eu-LISA)
- Invited stakeholders learned about InsSciDE and saw the project in action. Dr. Conor Snowden of the British Council shared his enthusiasm for InsSciDE's historical approach and appreciation for the parallels between the work of the British Council and InsSciDE:

  "History tells us that we never learn from history, but this session on the role of historical figures in science diplomacy provided a fascinating insight into the role of Portuguese naturalist Abbé Correia da Serra in diplomacy in UK and US. Our own archives at British Council are full of key individuals who have been posted to our offices in places like the Soviet Union, Iran and Argentina, who have used science collaboration to further cultural relations at a time when diplomatic relations have been at a low point."

[45] Tensions of Europe Newsletter https://www.tensionsofeurope.eu/wp-content/uploads/2020/09/ToE-Newsletter-June-2020.pdf

4.2.3. Warsaw Science Diplomacy School

Hosting the first edition of the Warsaw Science Diplomacy School (WSDS) in an entirely virtual format was a decisive success according to detailed student accounts compiled in D1.2c Participant Evaluation by WP1 (Engagement and Interface).[46] The impacts of this milestone event in June 2020 were felt by instructors and students alike. According to feedback shared online and in anonymous surveys, the training's most prominent impacts arose from a deep and engaging educational experience and the opportunity to network broadly across the world and disciplines. Through frequent small group discussions led by InsSciDE case study authors, WSDS achieved its goal of developing 'a common culture of inquiry and cooperation'[47] among its students. Below is a representative excerpt from D1.2c:

> *"The [student] tweet below gives insight into the learning process and didactic conceptual gains afforded by WSDS:*
>
> *'Day 2 of @insscide_eu Science Diplomacy School. Absolutely amazed at the expanded paradigm in which I now see natural science. In eg the context of colonial Europe exploration to the expansive, open ocean accessible via tech. Seeing science put/be used/make use of those contexts'*
>
> *This garnered a retweet reaction from Dr. Marga Gual Soler, former Senior Project Director at the Center for Science Diplomacy, American Association for the Advancement of Science (AAAS), and a member of the InsSciDE Advisory board. She stated: 'Exactly the 'AHA' moment we hope to see in #sciencediplomacy courses.' To which the original tweeter replied: 'It has added a dimension to how I will contextualize science from now on. It really does feel like going from a 2D plane to 3D.'"*

The challenge of networking in an all-online setting was transformed into an opportunity to expand the global breadth of connections. Diversity in disciplines was a high priority in composing the student body of WSDS and their wide range of international experiences complemented the learning dynamic well. *Table 5* details the makeup of the cohort: a truly global group, with students either residing in or originating from six different continents; disciplines split almost exactly between social/natural sciences and diplomacy/international relations; an even distribution of ages; and the gender scale heavily tipped to females.

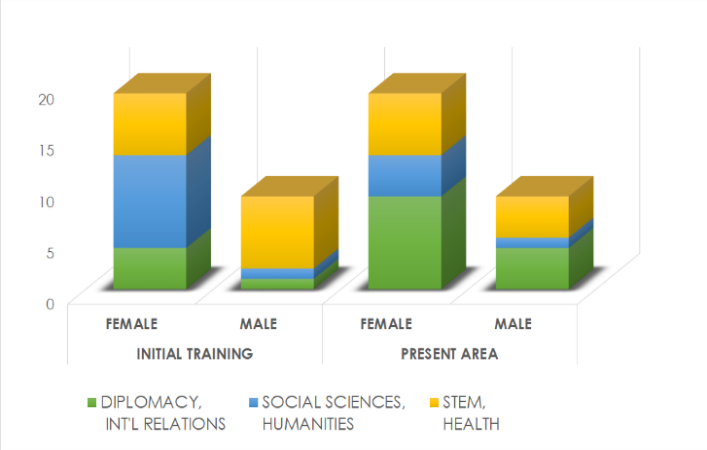
T*able 4* ***Diversity indicators of the first cohort of WSDS students****.*

Total	28 students
Countries	27 countries 10 EU Member States **6 continents**
Disciplines	6 STEM, Health 13 diplomacy, International Relations 8 social sciences, humanities 1 international law
Age	23-45 Median: 31.5
Gender	19 females 9 males

[46] Deliverable 1.2c Participant Evaluation by WP1
https://www.insscide.eu/IMG/pdf/del_1.2c__participant_evaluation__insscide_wsds_2020_final_.pdf
[47] Grant Agreement 1.1.4.

As is typical of science diplomacy, there were many crossovers between initial fields of training and present areas of expertise. *Figure 1* suggests that a common scenario is transitioning from a science background (most commonly social sciences among females and natural sciences among males) to a professional role in diplomacy or international relations. However, several hybrid situations cannot be reflected in this simple display. For instance, one of the students was both a medical clinician and a technologist/innovator, while several persons with advanced degrees in public policy were playing international relations roles in large science organizations.

Figure 1 The fields in which WSDS 2020 students were trained next to the areas in which they worked at the time of the school, split by gender.



Given the virtual mode, InsSciDE seized the opportunity to expand the audience of our teaching while also raising the visibility of the project and WSDS brand. The Health Diplomacy Open Session was hosted in the second half of the first day of WSDS with invitations extended to: full consortium of InsSciDE members and advisors, network of EU Science Counsellors, SwissNex, Marie Curie Alumni Association mailing list, UNESCO Secretariat.

- 135 registrations received and an estimated average of 50 external attendees joining select sessions in the afternoon

Public online archival content that resulted from WSDS includes a comprehensive three-part event review (WSDS20 Chronicles), an article series by WSDS alumni (WSDS20 Student Takes) and two WSDS lectures publicized as recordings.[48] *Table 6* shows that these articles were typically popular, almost always receiving over 100 page visits, with the Chronicle event reviews and the video recorded Public Lectures among the most visited pages on the website.

[48] WSDS Publicized lecture recordings by R. Bertelsen and B. Fägersten https://www.insscide.eu/results/warsaw-science-diplomacy-school-2020/

Table 5 ***Page visits on articles from WSDS 2020***

Article Title	**Website visits (Nov 2020)**
WSDS20 Chronicles: Week's Overview	239
WSDS20 Chronicles: Health Diplomacy Open Session	159
WSDS20 Chronicles: History & the Future	184
WSDS Student Takes: Traversing boundaries: A virtual week in Warsaw	104
WSDS Student Takes: Towards a Joint Approach for EU Science Diplomacy	110
WSDS Student Takes: Science Diplomacy and the Litter at Sea	170
WSDS Student Takes: Science Diplomacy and the Scramble for Africa	76
Public Lectures: Power and Strategy Making from WSDS	165

4.2.4. Thematic Workshops

The InsSciDE Thematic Workshops are an opportunity for researchers to share data, get feedback and expand discussion on the themes addressed in the WPs to a wider audience of academic and practitioner experts. They moreover create the opportunity to link with and engage with ongoing initiatives, other projects, and institutions thereby impacting their vision and activities.

So far, WPs Heritage, Health and Environment have hosted their workshops, with the Space and Security WPs expected in 2021. The workshops have been, to different extents, multiway dialogues between InsSciDE, scholars of related fields and SD stakeholders working in the fields in question.

Heritage

Alexander Pruss (WPL4 Heritage) organized the Heritage Workshop together with WP4 colleagues Pascal Butterlin and Tobias Helms. It took place 12-13 September 2019 at Johannes Gutenberg University Mainz, Germany.

The workshop enabled presentations by and dialogue between the WP4 members; Elie Cavigneaux, an Advisor to the EU's Counter Terrorism Coordinator; Michael Müller-Karpe, director of the RGZM Museum at Mainz; and Yves Ubelmann, co-founder of ICONEM, a subcontractor of WP4 specialized in 3D digital preservation of heritage sites. The workshop was also attended by Claire Mays (WP10 Coordination). The informal exchanges between the scientists, entrepreneurial and institutional representatives deepened understanding of the threat to the cultural and archaeological heritage of Near Eastern countries by war-related violence, and the illegal trafficking of archaeological artefacts for the international antiquities market. The illicit sale of so-called "blood antiquities" funds terrorist activities; the workshop discussion contributed to clarifying policy and action needs at European level.

- Tweets on the topic of the event were popular, receiving up to 13 combined likes and retweets
- The event was recalled in a recent article on the International Day against Illicit Trafficking in Cultural Property,[49] which received 26 site visits.

[49] https://www.insscide.eu/news-media/news-and-events/article/day-against-illicit-trafficking-in-cultural-property

Health[50]

The Health Workshop was hosted at the University of Vienna on 10-11 February 2020 and was organized under the leadership of Katharina Paul (WPL5 Health).

Over the course of a day and a half InsSciDE WP5 members M. Le Roux, C. Paillette, A. Pichelstorfer and K. Vlantoni examined past and present constructs of global/health diplomacy with other social sciences colleagues from Europe as well as some University of Vienna students. The workshop featured a keynote by Stefan Elbe (director of the Centre for Global Health Policy and professor of international relations at the University of Sussex). The final roundtable served as a bridge between health diplomacy theory and practice, bringing together scholars (including Coordinator P. Griset, CNRS) and practitioners from the Austrian Ministry of Health as well as Michaela Told, a senior independent consultant in global health diplomacy. InsSciDE community manager D. Palmberg (trained in public health) also attended; as did representatives of the Austrian Institute of International Affairs (OIIP) and the Medical University of Vienna, making a link with H2020 project SONAR-GLOBAL EU. Of note, WP5 and these strategic partners together have built up excellent networks in Viennese diplomatic and health policy circles.

Lunch, dinner and breaks with refreshments allowed informal connections to develop between participants.

- Tweets during the event averaged over 1,000 impressions each and received 2.3-4% engagement. The event review, announced a few days later, achieved 59 total engagements, a rate of 5.8%. The average engagement rate for February was 1.2%.
- 290 visits to the event review on InsSciDE's website.

Environment[51]

The Environment workshop held virtually on 11-12 June 2020 was organized by Nina Wormbs (WPL7 Environment) and WP colleagues.

The first day was dedicated to accounts from the field, largely by Swedish practitioners involved in environment-related negotiations, but also by an Alaskan Inuit who highlighted indigenous peoples' stake in environmental diplomacy. Lars-Göran Engfeldt, a former Swedish diplomat recalled the 1972 Conference on the Human Environment, providing a special vantage point of the continuous implementation gap and national silo-thinking in the climate debate. Anders Thunberg shared insider observations from negotiating international climate agreements, like the Paris Agreement, while Justiina Dahl of the Swedish Polar Research Secretariat suggested framing of the Swedish research ice breaker Oden as a critical transnational device for environmental monitoring - bringing scientists, policymakers and national representatives together on this task. Dalee Sambo Dorough, chair of the Inuit Circumpolar Council, argued for the importance of Inuit Diplomacy in science policy-making, bringing key issues of inclusion, indigenous knowledge and who-speaks-for-whom into the larger discussion. The diverse practitioners' presentations nourished substantial discussion with the ten academics participating and multiple auditors (from InsSciDE and other participants' institutions). Practitioners were prompted to reflect further on their own experience given observations from STS research. The

[50] https://www.insscide.eu/news-media/news-and-events/article/global-health-diplomacy-workshop
[51] https://www.insscide.eu/news-media/news-and-events/article/academics-practitioners-on-environmental-diplomacy

challenges and political gameplay brought forth in their presentations became reoccurring themes in the following day's discussion.

On day two, nine scholars presented case studies in which the environment and diplomatic affairs were both central. WP members M. Christensen, S. Robinson and S. Turchetti shared their research and discussed possible lessons emerging from them with the group, relating to virtual and material geography of communication in the Arctic, 'sociotechnical imaginaries' in the UN Convention on the Law of the Sea (UNCLOS) and environmental issues caused by military activities. Another presenter is a dedicated participant in InsSciDE events, Zane Šime, who is an alumnus of the first Open Conference and, at the time, a future WSDS student.

Despite the virtual format, each presentation was followed by constructive debates that illuminated the range of actors and meanings behind 'environmental diplomacy'. The reach of the event is depicted by the below figures:

- 84 visits to the event review page on InsSciDE's website
- 63 views of the Facebook post about event review and one share
- Presenters were based in Sweden, the United Kingdom, Latvia and the United States (Alaska).

In light of the Covid-19 pandemic, the Space and Security thematic workshops have been postponed until 2021.

4.2.5. Publications

WP9 monitors and compiles pertinent publications by InsSciDE members in a Library section on the website. Three official InsSciDE case studies have been published up to this point.[52]

Adamson, M. Orphaned atoms: The first Moroccan reactor and the frameworks of nuclear diplomacy. Centaurus. 2020; 1– 15. https://doi.org/10.1111/1600-0498.12350 **(WP6 Security)**

- 1,445 impressions and 38 total engagements on Twitter

Jean Foyer et David Dumoulin Kervran, « Mettre en récit les savoirs traditionnels », Terrain [En ligne], 73 | avril 2020, mis en ligne le 09 octobre 2020. URL : http://journals.openedition.org/terrain/20607 ; DOI : https://doi.org/10.4000/terrain.20607 **(WP7 Environment)**

- 3,960 impressions and 56 total engagements on Twitter

Robinson, S. Scientific imaginaries and science diplomacy: The case of ocean exploitation. Centaurus. 2020; 1– 21. https://doi.org/10.1111/1600-0498.12342 **(WP7 Environment)**

- 19 Twitter users tweeted about it in 21 tweets[53]

[52] Published case studies in InsSciDE's Library https://www.insscide.eu/news-media/library/insscide-case-studies-published-papers/

[53] https://wiley.altmetric.com/details/90061403#twitter-demographics

The Library also reserves a section for publications by InsSciDE members that are not official productions of the project.[54] It serves to help project members stay updated on their colleague's publications and is a valuable resource for the broader SD community.

The first InsSciDE policy brief on "Building an Interdisciplinary European Science Diplomacy" was published in April 2019, targeting EU institutional governance, research & funding, pedagogy and knowledge transfer.

- The policy brief download page on InsSciDE's website received 220 visits since its publication.

4.2.6. External Events and Engagements

InsSciDE members participate in a range of events to disseminate research, expand audience reach, obtain feedback and generate interest in the project. The extent and type of engagements participated in by InsSciDE members is reflected in a summary of Reporting Period 2, roughly summarized as follows:

41 presentations in a workshop or conference, including:

- 2019 June 28: Pascal Griset Tensions of Europe University of Luxembourg international participation. Scientific community, 150 audience members
- 2019 November 7-8: Workshop WP 7 and participants from two ERC projects Collaborative Workshop on History of Science and the Environment Stockholm international Workshop, Scientific community, 9 audience members

9 visits to inform stakeholders, such as:

- 2019 June 20: Pascal Griset (CNRS), Maria Paula Diogo(NOVA) European Commission, Carlos Moedas Office. Meeting with Commissioner Giulia dell Brena, responsible for Science Diplomacy topics in Moedas' Office
- 2019 June 17: Maria Paula Diogo, Paula Urze, Ana Simões (NOVA) Instituto Diplomático Lisboa, Meeting with the former Ambassador of Portugal in Japan during the Fukushima crisis (one of WP3 case studies), 5 Diplomats

8 invited speeches, including:

- 2019 October 24: invited speech, David Burigana UNIPD Master (University of LUISS Guido Carli) University LUISS Guido Carli, Rome national presentation European Defence cooperation, and Space as a new frontier scientific community 40 audience members
- July 19: Participation in a conference Maria Paula Diogo, Paula Urze, Ana Simões (NOVA) Ciência 2019 (National Science Summit2019) Lisboa, Portugal National Presentation as Invited Speaker The Other Ambassadors: Science, Technology and Diplomacy

5 training events or programs, including:

[54] Non-InsSciDE publications by project members are found in the 'Interesting Reads' section of the Library https://www.insscide.eu/news-media/library/article/interesting-reads-science-diplomacy-papers-by-insscide-members

- 2019 July 1-3: Participation in a summer school Mays (Symlog) SciTech DiploHub Summer School IBEI, UPF, Barcelona, Spain. Presentation: InsSciDE: What can we do for you?
- Webinar training Symlog (C. Mays) Marie Sklodowska Curie Alumni Association France Career Day

4 communication campaign/activity (e.g. social media, radio, tv)

- 2020 June 19: Web article Symlog/CNRS S4D4C website to promote EU SD Cluster synergies in trainings

5. Conclusion

In the three years since the project's launch, InsSciDE has accumulated and projected a rich knowledge base of SD that is affording insight into the complex history and nuanced applications of the practice. Our assessment points to InsSciDE's impact constituting a significant foundation with which a multitude of follow-up actions are possible. With members having established new international connections, opened up effective avenues for interdisciplinary dialogues and integrated SD into courses and events at their respective institutions, InsSciDE is well-positioned to continue and expand its legacy in the final phase of the project. Furthermore, considering the reactions and support garnered from stakeholders and reported by members, the assessment suggests that InsSciDE's future outputs are on track to serve as valuable resources in the continued theoretical and practical work on SD by the EU.

ANNEX

A. Target Impacts of InsSciDE per Grant Agreement (770523)
B. Impact Assessment Criteria Deliverable 9.5a (1 of 3): *Impact Indicators: H2020 Call, Grant Agreement and Beyond*
C. Impact Interview document
D. Documentary and bibliometric analysis; social media and website analytics
E. Representation of backgrounds and SD skill level of participants in SciDip Trivia Night

Annex A

a) The table below depicts InsSciDE's plan to contribute to the expected impact mentioned in the Horizon 2020 Call ENG-GLOBALLY-01-2017 'Strengthening Europe's position in the global context: science diplomacy and intercultural relations'. [55] It originates from InsSciDE's Grant Agreement (770523).[56]

Table 6 Targeted impact, InsSciDE means and deliverables, and expected impact (from Grant Agreement 770523)

H2020 Call– *Research is expected to:*	**InsSciDE means and deliverables**	**Expected outcomes**
Impact the foreign policies of the EU and its member states	- European science diplomacy (**ESD**) theory and ESD strategy - Best practices to better employ science diplomats - Training module to prepare professionals - Communication, dissemination activities	Assumptions clarified Values, goals and action plan: basis for informed policy Tuning and rising to best practices Competence and capacity built ESD on the research, debate agenda
Provide enhanced coordination between them and between the EU and its international partners	- High level Framing Meetings - Open Conferences and Thematic Workshops engaging practitioners and other stakeholders - Strategic recommendations - Training and awareness module	Existing networks leveraged Inter-professional linkages created Skills transferred, awareness raised. Policy options identified and argued. Providing content to a European Center for Science Diplomacy
Provide in-depth insights into the multiple ties and mutual influences between Europe and its neighbors, former colonies, other	- Collection of cases - Detailed history of Science and Technology Academies and	Political dimensions of Europe-world connections and mutual

[55] European Commission (2017). Europe in a changing world – inclusive, innovative and reflective societies. European Commission.
[56] European Commission. (2017). Grant Agreement Nº 770523. European Commission.

countries and regions, especially in the scientific sphere	cooperation at different periods - Detailed report on Science Attachés, their national and transnational networks - Comprehensive history of ESD	influence in the scientific sphere historicized Stock taken collectively of the exceptionally rich capital of experience in engaging globally through science and diplomacy interactions, and ways forward
Acknowledge the multiple sources of today's European diversity, (and) strong policy implications, not just for scientific and cultural policy, but also for immigration, integration, education and external policies.	- Library of cases including heritage, health, security, environment and space cases of targeted interest - Consideration of gender theory in theoretical and strategic frameworks - Comprehensive history of ESD strategy - Presence of broadly diverse participants - Two-way dissemination to UNESCO bodies and audience	Stock taken collectively of the diversity of aims, achievements, failures in meeting diversity Transferable experience of working under diversity
Facilitate Europe's future engagement with third countries	- Heritage: Field action in the Near East - Two-way dissemination to UNESCO bodies and audience - Library of cases and Training module	Tightened links with scientific and state actors in Iraq and Syria Attraction of European knowledge and training products

b) InsSciDE aims to contribute to the competitiveness of European enterprise by making progress towards answering questions such as: which place should be accorded to European enterprise(s) in science diplomacy budgets and goals? How has multinational cooperation for space and telecommunications technology, for instance, been rendered possible by the intersection of science and diplomacy? InsSciDE also boosts a vanguard start-up, ICONEM, subcontractor to WP4-Heritage, and includes in its consortium the not-for-profit institution the European Academy of Diplomacy.

c) InsSciDE offers original and research on environmental, social and societal issues in its 5 thematic work packages: Heritage, Health, Security, Environment and Space.

d) As stated in its Grant Agreement, InsSciDE “demonstrates the value of the humanities and social sciences in addressing global challenges that cannot be addressed by physical and life sciences alone – nor by single states” (GA Annex 1 part B p.26). InsSciDE creates links between the social sciences and humanities in areas “traditionally closed to these disciplines – for instance in Space” (GA Annex 1 part B p.26).

Annex B

Table 3.2: Impact Indicators, H2020 Call

H2020 Call– *Research is expected to:*	**InsSciDE means and deliverables**	**Expected outcomes**	**Indicators for impact assessment during the lifetime of the project**	**Indicators for impact assessment following the conclusion of the project**
1. Impact the foreign policies of the EU and its member states	European science diplomacy **(ESD) theory and strategy** Best practices to better **employ science diplomats Training module** to prepare professionals Communication , dissemination activities **(SM, website)**	Assumptions clarified Values, goals and action plan: basis for informed policy Tuning and rising to best practices Competence and capacity built ESD on the research, debate agenda	Meetings with policymakers - # meetings with EU Policymakers - # meetings with UNESCO Member States - # meetings with active parliamentarians - # useful policy contacts gained - # changes in policy that can be directly traced to InsSciDE - i.e. assurances given from policymakers, or a causal chain can be traced (as far as is reasonable) from interactions with policymakers to policy changes. - # social media interactions with policy makers (i.e. retweets) - Quality of meetings and interactions with policymakers – qualitative feedback reports from InsSciDE representatives on: levels of engagement with InsSciDE and the relevant topic; anticipated likelihood of follow-up; etc. Policy impact of InsSciDE and the wider science diplomacy 'cluster' (S4D4C and EL-CSID): - InsSciDE policy recommendations *'echoed'* in EU and other policy documents and policy decision making - InsSciDE and 'SD Cluster' policy recommendations *'echoed'* in EU and Member State policy documents and policy decision making Policy impact on multilateral organisations - # of programmes, recommendations, ratifications, reports etc. which *'echo'* the research of InsSciDE and the science diplomacy cluster	Policy impact of InsSciDE and the wider science diplomacy 'cluster' (S4D4C and EL-CSID): - InsSciDE policy recommendations *'echoed'* in EU and other policy documents and policy decision making - InsSciDE and 'SD Cluster' policy recommendations *'echoed'* in EU and Member State policy documents and policy decision making Policy impact on multilateral organisations - # programmes, recommendations, ratifications, reports etc. which *'echo'* the research of InsSciDE and the science diplomacy cluster
2. Provide enhanced coordination between the EU Member States and between the EU and its international partners	Open **Conferences** and Thematic **Workshops** engaging practitioners and other stakeholders **ESD theory** and **strategy**	Existing networks leveraged Inter-professional linkages created	Synergies in policy, strategies, training and cooperation agreements, across EU Member States and Third Countries which *'echo'* InsSciDE and cluster research. - # of policies, strategies, training programmes across EU Member States and Third Countries which *'echo'* InsSciDE and cluster research (information sourced via OECD's STIP Compass) - Synergies at university level between teaching and research: # courses on science diplomacy topics that follow contemporary science diplomacy (and InsSciDE) research. - # new national research initiatives on science diplomacy themes - Adaption of SDG 17.6.1 - "Number of science and/or technology cooperation agreements and programmes between countries, by type of cooperation" which echo InsSciDE and cluster research.	Synergies in policy, strategies, training and cooperation agreements, across EU Member States and Third Countries which *'echo'* InsSciDE and cluster research. - # of policies, strategies, training programmes across EU Member States and Third Countries which *'echo'* InsSciDE and cluster research - # new national research initiatives on science diplomacy themes - Synergies at university level between teaching and research: # courses on

Annex C

InsSciDE Impact Assessment – WPL Impact Interviews

*This document has been prepared by WP9 as part of InsSciDE's **Impact Assessment (D9.5b)**.*

In compiling the Impact Assessment, WP9 will aim to illustrate and account for the broad spectrum of impacts *directly and indirectly* attributable to the project. In a diverse and humanistic project like InsSciDE, conveying impact in numbers may fail to account for a range of nuanced-yet-significant results. Therefore, the deliverable will include reflections from members on the connections, developments and outcomes that have emerged from or within the project. They may relate to research conducted, events organized or any other form of engagement by WP members.

We kindly ask *WPLs* to share their reflections in an interview conducted by WP9's Christina Burgi or Daniella Palmberg (UNESCO). Please also encourage your work package members to volunteer to participate through written submissions.

We include below a table depicting InsSciDE's '*Impacts*' and '*Expected Outcomes*', which are drawn from InsSciDE's Grant Agreement and correspond to the EU's prospects for the project and InsSciDE's anticipated input. Additionally, the '*Questions*' column is intended to guide the interviews by WP9 and bring forward outcomes related to the respective '*Impact*'. Your answers will help us understand the reach and impact being achieved by the project 'on the ground'. They may convey your own experience as a member of the project, or speak more broadly to the activities and achievements of your WP. You may choose to discuss only the topics most applicable to your work package and your own experience within the project. Please see instructions below.

Instructions

1. **Please carefully read through the below table and select 5-7 *Impacts* that you find most relevant to your or your WP's experience with InsSciDE. Look at the corresponding *Questions* to see the kind of information that may be discussed in the interview.**
2. **WPLs ONLY: Visit the Doodle poll and select a 30-minute timeslot for a meeting to talk about the impact related to the questions you selected.**
    a. **If you are unable to conduct a live interview, you may submit a written response, emailed to Daniella and Christina by 7 October.**
3. **Send an email to both Christina and Daniella stating the *Impacts* you selected (you may refer to them by their numeral i.e. 'Impact # 1, 4, 12, etc.') and the timeslot chosen for the interview.**
4. **You will receive an email confirming the time and with a link to a Zoom meeting. From here, we will also ensure that the *Impacts* and *Questions* to be discussed are clear ahead of the interview so that it does not exceed the allotted 30 minutes.**
5. **Please also encourage members of your work package to volunteer to send written responses to any questions that pertain to their involvement in InsSciDE.**

Emails

d.palmberg@unesco.org c.buergi@unesco.org

Annex D

Analysis of Input and cross-cutting indicators

Project members' interview input is complemented with contextual details from project archives and cross-cutting indicators relating to social media, bibliometric and website analytics. The methodology behind these quantitative metrics is described below. A thorough glossary of social media analytics terminology is also included below.

Documentary and bibliometric analysis; social media and website analytics

Website: www.insscide.eu

We assess the impact of the InsSciDE authors' existing and ongoing publications by conducting a citation analysis in Web of Science (WoS), Scopus or Google Scholar. We keep track of readership of case study authors' pitches and other www.insscide.eu publications by looking at how many times they have been viewed or downloaded.

We also look at analytics on the InsSciDE website – the number of visits per day, averages across months, and analyze what has preceded points where there are peaks in activity on the website.

Social media analytics is the process of gathering data on digital media to processing structured insights. Analysing InSciDE's social media metrics, data and statistics, facilitates insights into the projects social marketing performance, but, importantly, it demonstrates which sub-category groups are being reached. Therefore, through analysis this type of data, we are able to generate measurements indicating the impact against many of the intended impacts. Detailed below are a list of the measurements taken for each of the social media platforms. Each of these statistical measurements will be taking during the annual monitoring stages over the duration of the project.

Facebook Analytics

Account: InsSciDE Project https://www.facebook.com/insscide

Page likes: Total Page Likes identify the number of people who like InsSciDE's page. New Page Likes will show the number if new Likes the Page received during the last year, compared to the previous year(s).

Post Reach: total reach is the number of people who have seen any content associated with InsSciDE's page over the course of the annual monitoring stage, compared to the previous stage.

Engagement: People engaged is the number of people who have clicked, liked or commented on or shared your posts during.

Twitter Analytics

Account: @insscide_eu https://twitter.com/insscide_eu

Tweets: the number of tweets InsSciDE has posted on the account.

Tweet Impressions: The number of people that have seen InsSciDE's tweets (because delivered to their feed, etc.).

Profile Visits: The number of people who have visited InsSciDE's profile.

Mentions: The number of times InsSciDE's username has been mentioned by others.

Followers: The number of followers on InsSciDE's Twitter account.

Engagement Rate: The number of total link clicks, retweets, favorites and replies your tweets receive divided by the number of impressions.

Link Clicks: The number of times links within InsSciDE's tweets were clicked. This includes links to hashtags and other users mentioned in InsSciDE's tweets.

Retweets and Favorites: The number of times InsSciDE's tweets were retweeted/favorited by others.

Replies: The number of times people replied to InsSciDE's tweets.

Annex E

Representation of backgrounds and SD skill level of participants in SciDip Trivia Night for the World Science Day.

Which best describes your current professional practice or domain?	How would you rate your level of SD knowledge?
Social Sciences, Humanities	Science diplwho??
STEM, Health	Familiar enough...
Diplomacy, International Relations	Familiar enough...
Social Sciences, Humanities	Familiar enough...
Government	Familiar enough...
STEM, Health	Familiar enough...
Social Sciences, Humanities	Familiar enough...
STEM, Health	Familiar enough...
STEM, Health	Familiar enough...
Social Sciences, Humanities	Familiar enough...
Science Diplomacy	Familiar enough...
STEM, Health	Familiar enough...
STEM, Health	Familiar enough...
Civil Society	Familiar enough...
STEM, Health	Familiar enough...
STEM, Health	Expert (here to win!)
Science Diplomacy	Expert (here to win!)
Social Sciences, Humanities	Expert (here to win!)
Science Diplomacy	Expert (here to win!)
Diplomacy, International Relations	Expert (here to win!)
Social Sciences, Humanities	Expert (here to win!)