USING SCIENCE DIPLOMACY FOR ADDRESSING GLOBAL CHALLENGES

S4D4C Training Material for Workshops on Science Diplomacy

Figure "SCIENCE DIPLOMACY: Vision, Instruments And Actors"

Background	This training material is an output of the project S4D4C – Using science for/in diplomacy for addressing global challenges (www.s4d4c.eu). S4D4C has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 770342. The project S4D4C selected and developed training materials (presentations, methods, exercises, games, etc.) for trainings on Science Diplomacy for different target groups (mainly diplomats, scientists and science diplomats). These materials are open source under creative commons licences (see below for the applicable license).
Licence	 S4D4C Training Material by S4D4C (Horizon 2020 project 770342) is licensed under a Creative Commons Attribution 4.0 International License.
Details on the attribution	Basically, you are free to share and adapt for any purpose with attribution. Creator: S4D4C (Horizon 2020 project 770342). www.s4d4c.eu We are happy if you drop us a line when using these materials. This way we can keep track of their dissemination and maybe also update the material to account for issues arising: contact@s4d4c.eu
Short description	The figure explains briefly different aspects how science diplomacy works. It presents the various interacting aspects of science diplomacy, where international diplomacy draws on science-based advice, facilitates science cooperation and uses science cooperation to improve international relations. All this by involving different actors.

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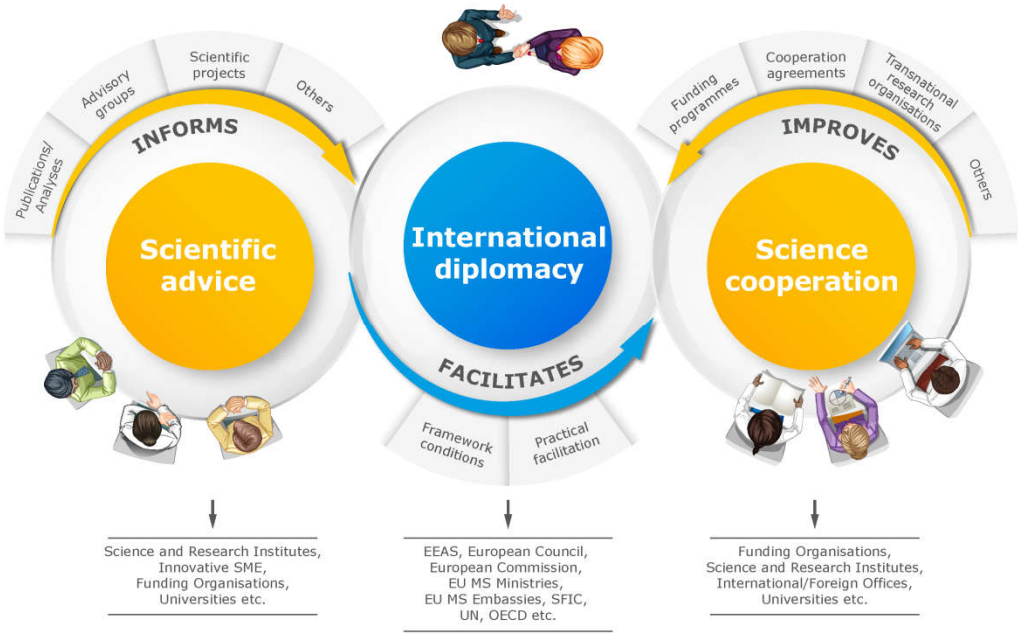
Learning objectives	Showing this figure will allow trainees to understand ways in which science diplomacy can contribute to solving global challenges, to understand different aspects of the concept and to broaden the understanding that different actors can be involved in the different aspects.
Material type	☒ presentation ☐ method ☐ simulation game ☐ exercise ☒ other: infographic
Overall content category (if adequate and applicable)	☒ What is Science Diplomacy? ☒ Who are the Science Diplomacy stakeholders? ☐ How does the European Union practice Science Diplomacy? ☐ Which thematic and regional approaches of Science Diplomacy do exist? ☐ What set of skills do I need to be a good science diplomat? ☐ Which are good examples where Science Diplomacy has proven to be successful?
Target groups (1)	☐ Mainly for scientists ☐ Mainly for diplomats ☒ For any of the groups
Target groups (2)	☒ Mainly for beginners in Science Diplomacy ☐ Mainly for trainees with basic understanding of Science Diplomacy ☐ Mainly for advanced science diplomats ☐ For any of the groups
Group size	☐ For individual learners ☐ For small groups (up to 20) ☐ For large groups (between 20 and 100) ☒ For any group size
Duration	Presenting the figure requires about 10 minutes.
Level of interactivity	☐ high ☐ medium ☒ low
Preparation and material needed	Presenting the figure requires material generally used to present (e.g. a PC, projector and a microphone for the trainer in online settings, etc.).
Recommended use case and guidance for the trainer	The figure can be presented within off- and online training, conferences and workshops. If the graphic is used in presentations, the lecturers might also want to look at additional definitions of science diplomacy and ask the participants to critically discuss the taxonomy by the AAAS and Royal Society (2010). The figure is especially helpful to familiarize new SD actors with the subject matter and to expand the concept beyond the classical Royal Society/AAAS definition. It can serve as an introduction to further training materials.

Further resources and links	See "References" below
Evaluation and assessment	Please allow for some time for question and answers to ascertain that the figure is clear to the audience.

Preview of the resource:



When we think of Science Diplomacy, we tend to create an idea of communication between distinct groups of actors that have clearly demarcated professional identities and corresponding agendas ("scientists", "diplomats", "science managers" etc.). However, the activities and agendas of Science Diplomacy actors do not always conform with their apparent professional identity. This blending of agendas, activities and identities contributes both to the huge potential and to the complexity of Science Diplomacy.

Outline for the trainer:

Introduction:

Science diplomacy goes beyond international scientific collaboration but involves political actors and interests worldwide. Within the preceding two decades, science diplomacy "has become an umbrella term covering a range of formal and informal exchange, education, policy, and outreach efforts" (Basha 2016) and thereby plays a key role in responding to some of the most elemental challenges facing the international community (Copeland 2015). Based on the taxonomy developed by the Royal Society and the AAAS (2010), **the figure presents an overview over potential links and interactions between diplomacy and science that are together imagined as "science diplomacy".** It presents the various interacting aspects of science diplomacy, where **international diplomacy draws on science-based advice, facilitates science cooperation and uses science cooperation to improve international relations**. It aims to clarify the various ways in which science diplomacy can contribute to solving global challenges, i.e. scientific advice, international diplomacy and science cooperation. All this by involving different actors.

Scientific advice:

First, science diplomacy aims at providing scientific advice. Scholars, researchers and scientist ought to provide policy makers with state-of-the-art information and evidence on the dynamics of global developments and identify scientific consensus, challenges and uncertainties. Scientific advice thus uses scientific knowledge in order to deliver the empirical information necessary for informed policy-making and thereby well-informed foreign policy decisions.

- **Examples**: A contemporary example is the Intergovernmental Panel on Climate Change (IPCC), the UN research and advisory body for assessing the science related to climate change. The objective of the IPCC is to provide governments at all levels with scientific information that they can use to develop climate policies. IPCC reports are also a key input into international climate change negotiations. (see link to IPCC within the S4D4C knowledge platform and link to IPCC home page)
- **Stakeholders**: Universities, research institutions, innovative SMEs etc.

As such, **science advice informs international diplomacy** to ensure the effective uptake of high-quality scientific advice by policy-makers, global leaders and diplomats.

International diplomacy:

Additionally, science and technology cooperation can contribute to create trusting and sustainable partnerships with countries, regions or political actors and thus to build international stability. The values of science, e.g. rationality and transparency, are universally applicable and thus "help underpin good governance and build trust between nations" (see S4D4C online course, Module 2). Whenever there are difficult conditions between states or when a number of countries face common challenges, science diplomacy has the potential to contribute significantly to defusing the situation.

- **Examples**: The European Organization for Nuclear Research (CERN) (see link to CERN within the S4D4C knowledge platform and link to CERN home page), SESAME (see link to SESAME within the S4D4C knowledge platform and link to SESAME home page)
- **Stakeholders**: European Commission, European External Action Service, ministries, embassies, United Nations, Organisation for Economic Co-operation and Development (OECD) etc.

Scientific collaborations mobilise scientific networks that are based upon a non-ideological basis and can thereby support foreign policy actions. At the same time, **international diplomacy facilitates science cooperation**.

Science cooperation:

Not only science has an important added value for the accomplishment of certain foreign policy objectives. Also vice versa, diplomacy plays a key role in creating favourable conditions for international scientific collaborations – either top-down, by setting strategic priorities, or bottom-up, by providing support for individual researchers. International research projects often require vast amounts of funds that are not affordable by a single country or region. In these instances, foreign policy and diplomatic tools are fundamental to provide the necessary resources and to support

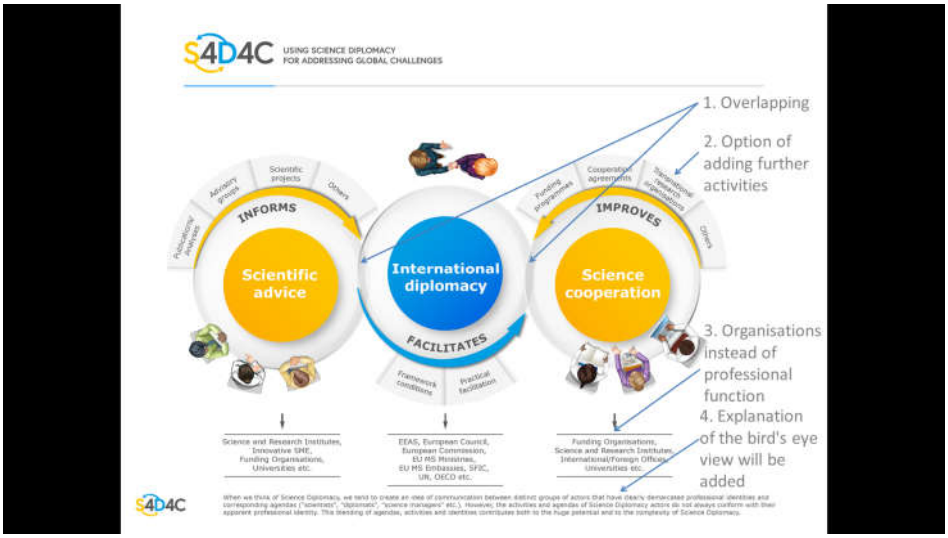
the scientific community in establishing and consolidating joint research programmes.

- **Examples**: Prime examples for this category are transnational research organisations (such as the International Thermonuclear Experimental Reactor, ITER (link)) or large research infrastructures (such as the Large Hadron Collider, LHC).
- **Stakeholders**: Funding organisations, science and research institutes, international/foreign offices etc.

Traditionally, science has played a central role in the development of hard power capabilities, such as military technologies and economic coercion. Science cooperation, however, primarily draws on the soft-power, i.e. to attract, persuade and influence both as a national asset and as a universal activity that transcends national interests. As such, **science cooperation might also improve international diplomacy**.

Interaction and further perspectives:

By presenting and explaining the figure please pay attention to the following issues:



1. **Overlapping:** There is no clear division among the three dimensions.
2. **Further activities:** We have provided just some examples of possible measures and activities in the field of science diplomacy - without any claim to completeness.
3. **Organisations instead of professional functions:** There is no clear definition who are science diplomats. Therefore, we have presented organisations where experts dealing with science diplomacy might be located (see also next point).
4. **Bird´s eye view:** When we think of science diplomacy, we tend to create an idea of communication between distinct groups of actors that have clearly demarcated professional identities and corresponding agendas (scientists, diplomats, science managers etc.). However, the activities and agendas of science diplomacy actors do not always conform with their apparent professional identity. This blending of agendas, activities and identities contributes both to the huge potential and to the complexity of science diplomacy.

References:

Basha, B. Chagun (2016): Science Diplomacy for Sustainable International Development Motivation: Global Issues and Opportunities (Link to S4D4C Researcher´s Voice #3)

Copeland, Daryl (2015): Bridging the Chasm: Why Science and Technology Must Become Priorities for Diplomacy and International Policy. In Science & Diplomacy, Vol. 4, No. 3 (September 2015) (Link)

Flink, Tim; Schreiterer, Ulrich (2010): Science diplomacy at the intersection of S&T policies and foreign affairs: toward a typology of national approaches. In: *Science and Public Policy*, 37(9), November 2010, pages 665–677 (Link)

Gluckman, P.D.; Turekian, V.; Grimes, R.W.; and Kishi, T. (2017): Science Diplomacy: A Pragmatic Perspective from the Inside. In: *Science Diplomacy*, Vol. 6, No. 4 (December 2017) (Link)

Melchor, Lorenzo; Lacunza, Izaskun; Elorza, Ana (2020): What is Science Diplomacy? *S4D4C Online Course – Module 2* (Link)

Royal Society, The (2010): New frontiers in science diplomacy. RS Policy document 01/10. January 2010 - RS1619. London: The Royal Society (Link)

5. Annex – Details on the License