THE EUROPEAN UNION'S SCIENCE DIPLOMACY IN THE ARCTIC

by

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ABSTRACT

The Arctic region has recently re-emerged as a focal point of international interest due to environmental, economic, and security concerns. The European Union (EU) views the Arctic as critical to European security, and seeks to monitor and influence its multifaceted changes despite lacking direct influence. This paper explores the various aspects of science diplomacy and the regime complexity of the Arctic governance, which the EU manoeuvres, and the EU's agenda in the region. By examining funding Arctic research and fostering scientific collaborations, it hypothesis that the EU aims to establish a presence and lay the groundwork for political representation. The EU's approach signifies a shift from viewing science as "soft" power for international cooperation to a "hard" power to advance EU-specific interests.

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INTRODUCTION

The Arctic is traditionally considered as the area north of the Arctic Circle (66°32'N), the region also called the Circumpolar North, or simply High North. The Arctic and the Antarctic, the two polar regions of the Earth, share several characteristics. However, unlike the continent of Antarctica, which is regulated by the Antarctic Treaty System (1959), the Arctic exhibits a complex legal regime based on international law, domestic law, and agreements reached at international fora. Interest in the Arctic has been fluctuating in the past centuries, but more recently it has again become a focus of international attention due to environmental, economic, and security matters, and countries far and wide started their 'scramble for the Arctic'.

Figure 1 - The Arctic Region

The European Union (EU) has no direct influence on Arctic matters, but it defined the region as playing a crucial role in the security of Europe[1]. The Arctic is undergoing major environmental, social, economic and political changes, many of them are complex, interconnected and far-reaching in their consequences. The EU, therefore, finds it imperative to find a way to monitor the changes and have influence on what happens in the Arctic, in environmental, social, economic and military sense. Since politically this cannot be achieved, the EU uses science diplomacy to establish a presence and create a basis for influence. Through substantial funding of Arctic science research projects and a wide network of bi- and multilateral scientific collaborations, the EU is set to become a major player in scientific research in the Arctic, thus paving the way for political representation. Science was traditionally considered a "soft" power of states contributing to international cooperation and development[2]. After exploring the various facets of science diplomacy, the governance of the Arctic and the nature of the EU's interest in the Arctic, I will explore the complexities of science research and cooperation funded by the EU. My hypothesis is that the EU's science diplomacy in the Arctic, namely the targeted use of funding can be interpreted as a shift in science's role from a "soft" power with international interests[3] to a "hard" power with national, or more precisely, EU-interests.

[1] 'European Parliament Resolution of 17 February 2022 on the Implementation of the Common Foreign and Security Policy - Annual Report 2021 (2021/2182(INI))' (n.d.).
[2] Yulia Zaika and Maria Lagutina, 'Arctic Science Diplomacy in New Geopolitical Conditions: From "Soft" Power to "Hard" Dialogue?', *Polar Record* 59 (2023): 5, https://doi.org/10.1017/S0032247423000141.
[3] Ibid.

CHAPTER 1 SCIENCE DIPLOMACY

International relations involving scientific collaboration have a long-standing history. The concept of science diplomacy emerged to formalize and define these practices, which have been undertaken by various states with differing degrees of intensity and engagement. However, before going any further in exploring science diplomacy, let's take a step back and look at its components.

What is diplomacy? What is science?

Modern diplomacy was first defined by Sir Harold Nicolson as "the management of international relations by negotiation; the method by which these relations are adjusted by ambassadors and envoys; the business or art of diplomatist" (Nicolson 4). This definition points out the level, namely between nation states, and encompasses both the process of negotiation and the participants (representatives of nation states) who carry out the activities. In the second half of the twentieth century, Adam Watson suggested a more general approach when describing diplomacy as "the dialogue between states" (Watson). However, these definitions are no longer viable, as Pigman points out, the range of actors is no longer limited to nation states, but it has expanded significantly to include transnational firms and multilateral institutions[4]. These entities may act on international level with agendas not necessarily connected to any of the nation states. The fact that non-state actors have entered the field of diplomacy affect the structure of communication. Globalization also brought along changes in diplomatic relations, as these are increasingly multilateral[5], and multilateral diplomacy is frequently the "diplomacy of international organizations and international conferences"[6]. A further change in diplomacy is the "scope of intervention"[7], which is no

[4] Geoffrey Allen Pigman, *Contemporary Diplomacy* (Polity Press, 2010), 5.
[5] Pierre-Bruno Ruffini, 'Science and Diplomacy : A New Dimension of International Relations', *Springer eBooks*, 2017, 6.
[6] Raoul Delcorde, *Les Mots de La Diplomatie* (Editions L'Harmattan, 2005), 74–75.
[7] Ruffini, 'Science and Diplomacy : A New Dimension of International Relations', 7.

more limited to political initiatives, but encompasses a wide range of from economics and trade through energy and environment to culture, and now science as a new entrant to the list. The diverse fields affected by diplomacy carries another, relatively novel dimension of relations with the identification soft power by Joseph Nye. As opposed to hard power that traditionally utilizes coercion and military power; soft power is "the ability to get what you want through attraction rather than coercion or payments"[8].

Another approach to processes and actors in diplomacy is to consider the two core functions of diplomacy, namely representation and communication[9]. Communication entails the dialogue between participants of diplomatic activities; but communication could be extended to include various audiences, ranging from people in the domestic stage to peoples of foreign countries, to convey a certain image, set of values – an identity. The very act of representation can be interpreted as communication. Additionally, the new channels of communication, such as social media, could form direct links to subnational actors.

The question of science is no less complicated. Every age attempted a definition of science from Aristotle through Francis Bacon to thinkers in the 20th century such as Karl Popper or Thomas Kuhn. But what does science mean in the context of science diplomacy? In encompasses the stock of already available data, new data gained by means of scientific activity, the process of production of new knowledge, but it also includes the participants and institutions involved from varied fields, such as academia, NGOs, non-profit and for-profit organizations present in any segment of scientific research and activities. Science is oftentimes framed as universal, objective and beyond the political battleground. However, looking around we can see how science is part of everyday discourse in society, and by no means in a non-political manner, as Daniel Sarewitz observes:

> In areas as diverse as climate change, nuclear waste disposal, endangered species and biodiversity, forest management, air and water pollution, and agricultural

[8] Joseph S. Nye, *Soft Power: The Means to Success in World Politics*, 1st ed. (Public Affairs, 2004), x.
[9] Pigman, *Contemporary Diplomacy*, 5.

> biotechnology, the growth of considerable bodies of scientific knowledge, created especially to resolve political dispute and enable effective decision-making, has often been accompanied instead by growing political controversy and gridlock. Science typically lies at the center of the debate, where those who advocate some line of action are likely to claim a scientific justification for their position, while those opposing the action will either invoke scientific uncertainty or competing scientific results to support their opposition.[10]

Aspects of science diplomacy

The concept of science diplomacy has been around for a long time, but the term and the concept emerged in the past two decades. The widely acknowledged definition and categorization come from the joint publication of the Royal Society and the American Association for the Advancement of Science (AAAS). The report uses the term 'science diplomacy' (SD) as an umbrella term for "the role of science, technology and innovation in three dimensions of policy" [11], and proposes three types of science diplomacy: diplomacy for science (D4S) "facilitating international science cooperation," science for diplomacy (S4D) "using science cooperation to improve international relations between countries," and science in diplomacy (SiD) "informing foreign policy objectives with scientific advice"[12]. The report acknowledges the fluidity of the concept; however, it is a solid starting point to distinguish between various areas.

The science in diplomacy component applies to situations when science and scientific research is utilized to enlighten and advise certain areas of foreign policy. The most relevant examples are issues of global importance where international cooperation is required to tackle the problem. Such issues are climate change, environmental protection, food security, energy or health. The recent Covid-19 pandemic is often referred to as an example when the research community and scientific data informed decision-making and foreign policy.

[10] Daniel Sarewitz, *Frontiers of Illusion: Science, Technology, and the Politics of Progress* (Philadelphia: University Temple Press, n.d.), 386.
[11] The Royal Society, 'New Frontiers in Science Diplomacy', January 2010, v.
[12] Ibid., v–vi.

Diplomacy for science is typically used to promote the national scientific community[13] and to foster scientific cooperation on international level. This includes facilitating mobility of researchers, for instance, with financial aid, or negotiate the shared costs and risks associated with international research infrastructures, such as CERN.

Finally, science for diplomacy is used where traditional diplomacy fails or is not possible to establish such links during international tension, and science steps forward as "a substitute for and vanguard of diplomacy"[14]. The assumption that science is free from politics and scientists stand above political agendas is a long-standing idea and reflected in the science for diplomacy concept. History has shown that science and scientific cooperation may be utilized in a vanguard role, for instance, in the Apollo–Soyuz Test Project during the *détente* period of the Cold War in 1975.

The Royal Society-AAAs joint taxonomy of science diplomacy suggests a cooperative international environment, where science takes a role of a bridge, especially in the case of science for diplomacy. In this context science is non-political, and a tool for development and dialogue. The narrative of science diplomacy "promises to (re)install collaboration of actors and reason in international affairs . . . scientists and their advocates are portrayed as competent and altruistic saviours that help the world's society solve its grand challenges and overcome its looming threats"[15].

Other criticism towards this taxonomy points out the failure to capture the complexity and wide horizon of various activities in politics related to the interface of science and diplomacy. Notably, Rüffin and Rüland[16] suggest a refinement of the taxonomy by distinguishing between the different levels SD is carried out (regional/cross-border, national,

[13] Ruffini, 'Science and Diplomacy : A New Dimension of International Relations', 12.
[14] Ibid.
[15] Tim Flink, 'The Sensationalist Discourse of Science Diplomacy: A Critical Reflection', *The Hague Journal of Diplomacy* online first (5 August 2020): 4, https://doi.org/10.1163/1871191X-bja10032.
[16] Nicolas Rüffin and Anna-Lena Rüland, 'Between Global Collaboration and National Competition: Unraveling the Many Faces of Arctic Science Diplomacy', *Polar Record* 58 (2022): e20, https://doi.org/10.1017/S0032247422000158.

or global) and by adding an agenda (collaborative or competitive). The agenda behind science (diplomacy) is particularly important, as it is driven by "two rationales: competitiveness concerns in the context of globalization and desires to foster cooperation"[17].

Science diplomacy is situated at the intersection of the scientific world and international relations, with emphasis on the foreign policy aspect. Related to the issue of cooperation and competition, inevitably the question of power arises. The power of science and power in international relations cross and overlap here. Joseph Nye introduced the notion of soft power "getting others to want the outcomes that you want – co-opts people rather than coerces them"[18] to achieve hard power goals. As a result of geopolitical events and with "the rise of non-state actors in recent decades, science diplomacy has gradually become one of the most sought-after forms of external influence on sovereign states and societies in other countries"[19]. Thus soft power is evolving into means of reaching hard power goals, in this case, governance in the Arctic.

[17] Alea Román and Simon Schunz, 'Understanding European Union Science Diplomacy', *JCMS: Journal of Common Market Studies* 56 (1 August 2017): 248, https://doi.org/10.1111/jcms.12582.
[18] Nye, *Soft Power: The Means to Success in World Politics*, 4.
[19] Zaika and Lagutina, 'Arctic Science Diplomacy in New Geopolitical Conditions: From "Soft" Power to "Hard" Dialogue?', 4.

CHAPTER 2 THE ARCTIC

The Arctic[20] is a microcosm, unique not only in terms of environment, ecology, and meteorology, but also politically, legally, and economically. The region is characterized by a geographic ambiguity, as it contains some land, but it is mostly covered by ocean, partly open waters, partly sea ice. The Arctic also serves as an arena for some of the most powerful states and international organizations. Climate change created a special situation in the High North, to which Arctic and non-Arctic actors are responding. First, due to the increasingly extensive summer melting of the sea ice, the sea routes Northeast Passage and Northwest Passage are opening up. Second, previously unextractable onshore and offshore mineral resources might become accessible. Finally, by the withdrawal of the ice sheet, which functioned as a natural boundary and a line of defence, the littoral states[21] concentrate on the security risks their neighbours might pose.

The concept of the Arctic can be approached and defined in multiple ways as Figure 1 shows; but for the matter of convenience, the region referred to as Arctic in this paper is the area north from the Arctic Circle, that is latitude 66°33′48.9″ N. The only exception being Iceland, which is located slightly south from the Arctic Circle, but it is considered traditionally and politically as an Arctic country.

[20] The chapter utilizes research carried out, described and submitted as term papers by me in the International Relations Master's program (1-year) in the academic year 2021/2022.
[21] The littoral states of the Arctic are considered Russia, Norway, Iceland, Canada, and the US who form the Arctic Five.

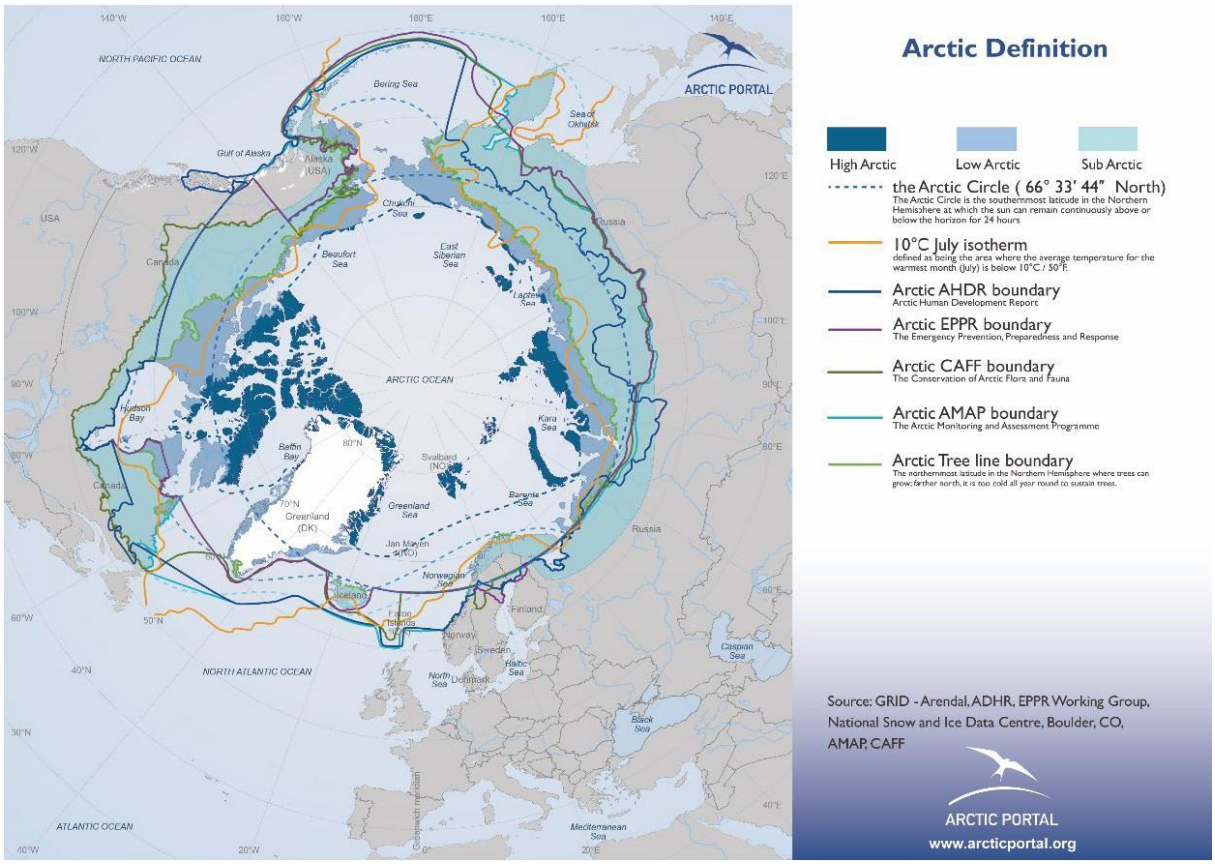

Figure 2 - Arctic definition

Unlike its counterpart regulated by the Antarctic Treaty, Arctic matters are not governed by a single treaty due to its geographical and political complexity. The Arctic is a unique area in the world, as it is only water, and thus does not belong to any single country's jurisdiction but is regulated by a series of international treaties and agreements, most notably UNCLOS. There are, however, a number of international organizations and agreements dedicated to Arctic matters. In the next section, I will provide an overview of organizations relevant to the EU's point of view.

Governance of the Arctic

Regime complexity and overlapping institutions are claimed to be a feature of international relations in the 20th and 21st century. Their effect is controversial; some say they create fragmentation and thus conflicts in regulation; others emphasize the effectiveness achieved through the cooperation across the various regimes and institutions. Even though the EU is member of organizations of lesser impact, its involvement in the area is becoming more

pronounced. The complexity of regimes and the overlap of institutions and treaties might seem chaotic; however, in this case, they allow multilevel discussion and negotiation to arrive at a common understanding regarding issues in the High North, and a possibility for the EU to establish its presence.

The phenomenon of international institutions with overlapping functionality has been a topic of growing scholarly interest in the last decades of the 20th century, when realizing that institutions are not "self-contained or standalone arrangements"[22], but, in fact, work better when links are created between the various units of different institutions. Additionally, the proliferation of international institutions inevitably resulted in overlaps that are competitive or complementor in their relationship[23]. The concept of regime complex[24] put forward by Kal Raustiala and David Victor refers to "an array of partially overlapping and nonhierarchical institutions governing a particular issue-area" where the scope, rules, principles, and purpose of various institutions intersect. However, the intersection does not mean any hierarchical structure, should conflicts arise, there is no ranking among institutions as to who has the power to resolve such conflicts. This also means that actors need to negotiate and cooperate to resolve conflicts[25]. Alter and Meunier call the phenomenon 'international regime complexity' when referring "to the presence of nested, partially overlapping, and parallel international regimes that are not hierarchically ordered" [26]. In this regard, "international regime complexity refers to the international political dynamics that emerge from the interaction among multiple overlapping institutions"[27]. The nature of complexity also influences the

[22] Oran Young, "Institutional Linkages in International Society: Polar Perspectives," *Global Governance* 2, no. 1 (1996): 1–24.
[23] Alexander Betts, "Regime Complexity and International Organizations: UNHCR as a Challenged Institution." *Global Governance* 19, no. 1 (2013): 69–81.
[24] Kal Raustiala and David Victor, "The Regime Complex for Plant Genetic Resources," *International Organization* 58, no. 2 (2004): 277–309.
[25] Ibid.
[26] Karen J.Alter and Sophie Meunier. 2009. "The Politics of International Regime Complexity." *Perspectives on Politics* 7 (1): 13.
[27] Gómez-Mera, Laura. "International Regime Complexity." *Oxford Research Encyclopedia of International Studies.* 31 Aug. 2021; Accessed 16 May. 2022.

dynamics; parallel, overlapping and nested regimes create different structures. Parallel regimes do not overlap, whereas in overlapping regimes various units have authority over the same issue, but none of them can override the other; finally, nested regimes resemble the Russian doll structure with institutions embedded into each other[28]. The effects are diverse, it could result in empowering smaller states, or the strengthened dominance of already powerful ones. The overlap could create constructive discussion and cooperation, but also competition and a clash of different agendas. Additionally, legal clarity is reduced (also referred to as fragmentation of international law and rule ambiguity) which could make any policy implementation challenging. The ambiguity may be upheld by states intentionally so that various interpretations can be drawn[29]. Such a setting requires various negotiation strategies, such as forum shopping, regime shifting, strategic inconsistency or ambiguity, collectively called 'chessboard politics'[30]. In the following sections I will examine the various institutions in the Arctic, as this area presents the various forms of international regime complexities.

https://oxfordre.com/internationalstudies/view/10.1093/acrefore/9780190846626.001.0001/acrefore-9780190846626-e-648.

[28] Vinod K. Aggarwal, 1998. *Institutional Designs for a Complex World: Bargaining, Linkages and Nesting*. Ithaca: Cornell University Press.

[29] Karen J. Alter and Sophie Meunier. 2009. "The Politics of International Regime Complexity." *Perspectives on Politics* 7 (1): 16.

[30] Ibid.

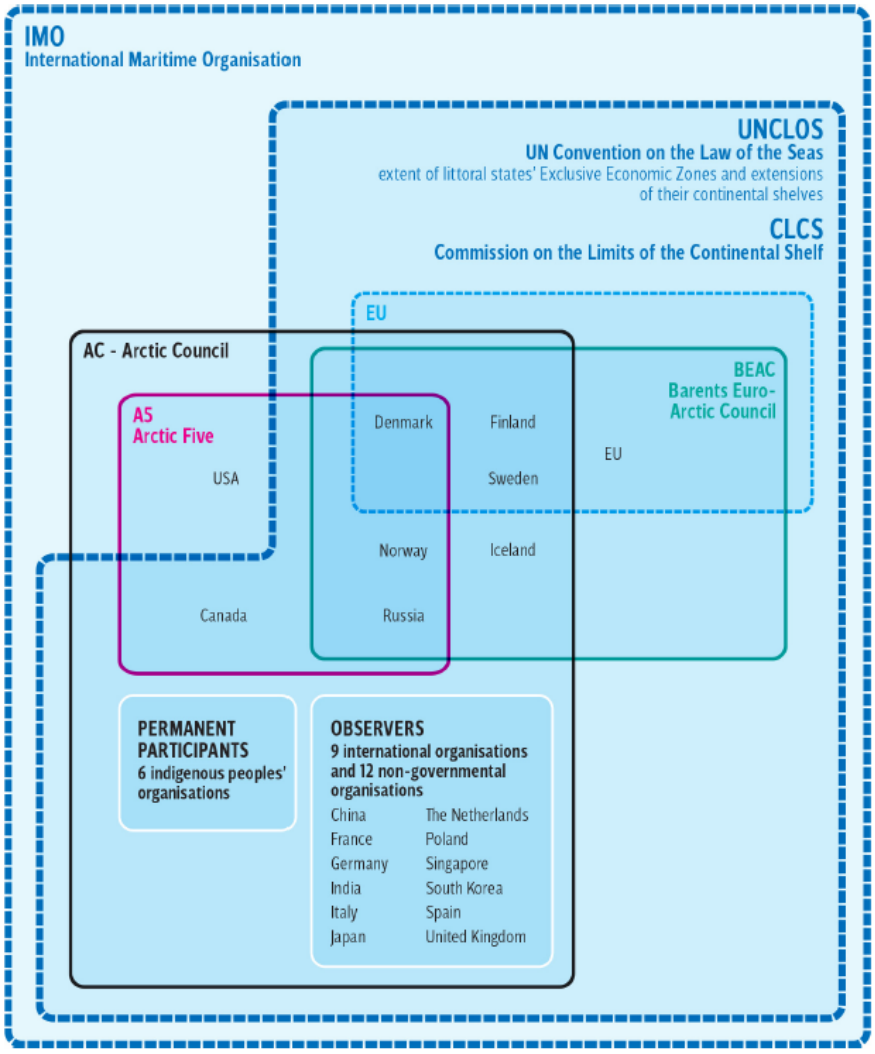

Figure 3 - Arctic governance

Source: Juha Jokela, "Arctic Governance". In Jokela, J. (ed.) *Arctic Security Matters*. 35-42. European Union Institute for Security Studies (EUISS), 2015, 37.

In the Arctic, eight states (thus the name Arctic Eight) have territories in the circumpolar North, namely Finland, Sweden, Norway, Denmark (Greenland), Iceland, Canada, the US, and Russia. These states are members of various international organizations, associations, and treaties involving the Arctic. Additionally, a number of non-Arctic states are also members and participants in these organizations due to their interest in the region's many possibilities. In the next section, I shall introduce and discuss the occasionally overlapping international organizations, associations, and treaties with relevance to the European Union, and their importance (or the lack of it) in the governance of the Arctic, which create its complexity.

The Arctic Council

The Arctic Council (AC) is an intergovernmental forum for the discussion of matters related to the Arctic, established in 1996. The AC has a three-level membership structure. The eight Arctic states are members, the chairmanship is rotated among them on a biannual basis. The next level is the so-called permanent member status, which six organizations representing various Arctic indigenous peoples have. Finally, observer status can be granted to non-Arctic states, intergovernmental and interparliamentary organizations, and non-governmental organizations. The EU applied for observer status but was rejected in 2013, currently it is allowed to monitor AC meetings on invitation basis.

This organization is the largest in terms of participation structure and activities with its working groups. It also accepts and respects the sovereignty of states as its basis of operation, the membership is a highly exclusive status. On the other hand, these states and organizations are brought together "by a regional-consensual understanding of common stewardship for an Arctic commons"[31]. As mentioned before, the Nordic countries are all members of the Arctic Council and various other alliances, and have their own agenda, security concerns and interests in the Arctic influenced by geopolitical factors. Sweden and Finland, both members of the EU and now of NATO, have no access to the Arctic Ocean. For them the EU's observer status would be a powerful supporter in the AC, creating a nested regime, with the EU, Finland and Sweden having their own Arctic strategy and goals, but with a considerable overlap.

Security: NATO

Of the Arctic countries, the North Atlantic Treaty Organization military alliance includes Canada, the US, Norway, Denmark, Iceland (four of the A5), with Finland and Sweden joining recently (2023 and 2024, respectively). This is the only organization in the region that

[31] Sebastian Knecht and Kathrin Keil, 'Arctic Geopolitics Revisited: Spatialising Governance in the Circumpolar North', *The Polar Journal* 3, no. 1 (1 June 2013): 180, https://doi.org/10.1080/2154896X.2013.783276.

focuses on security, in this respect no overlap is created, the NATO can be considered as a parallel regime in the region, which Russia strives to counterbalance. However, there are various initiatives to control the presence of military equipment and to handle nuclear waste in the Kola peninsula, where Russia's nuclear submarine port is located with toxic remnants of the Cold War[32]. Even though the previously mentioned organizations promote cooperation and partnership, the security concern of the Arctic cannot be denied. Russia has been building and developing its military presence in the region for a decade[33], and the recent accession of Finland and Sweden, two traditionally neutral states, may disturb the relative status quo.

In the EU Strategic Compass for Security and Defence, adopted in March 2022, the EU identifies the Arctic as strategic environment, and acknowledges the comprehensive threat posed by climate change in the 2023 joint communication[34]. As the Arctic Ocean gains importance due to maritime security, trade and energy security[35], the EU is dedicated to use "all channels and existing dialogues at bilateral level" and with the NATO and the Arctic Council to "address climate change, environmental degradation and security"[36] in the region.

The Arctic Ocean

None of the previously mentioned organizations discuss or regulate maritime matters (naturally, the EU has relevant regulatory policies, but they are internal to the EU). The Arctic Ocean is supposed to be a straightforward matter. All of the involved states are members of the International Maritime Organization (IMO), which provides regulations and guidelines in maritime matters, most notably for shipping; whereas fisheries and other issues are regulated

[32] Lassi Heininen, 'Before Climate Change, "Nuclear Safety" Was There—A Retrospective Study and Lessons Learned of Changing Security Premises in the Arctic', in *Climate Change and Arctic Security*, ed. Lassi Heininen and Heather Exner-Pirot (Palgrave Macmillan, 2020), 93.
[33] Malte Humpert, 'From Ukraine to the Arctic: Russia's Capabilities in the Region and the War's Impact on the North', *High North News*, 20 September 2023.
[34] High Representative of the Union for Foreign Affairs and Security Policy, 'Joint Communication to the European Parliament, the Council, the European Economic Social Committee and the Committee of the Regions. A Stronger EU Engagement for a Peaceful, Sustainable and Prosperous Arctic.', 2021, https://eeas.europa.eu/sites/default/files/2_en_act_part1_v7.pdf.
[35] European Union External Action, 'Strategic Compass for Security and Defence', 2022, 22.
[36] High Representative of the Union for Foreign Affairs and Security Policy, 'Joint Communication to the European Parliament, the Council, the European Economic Social Committee and the Committee of the Regions. A Stronger EU Engagement for a Peaceful, Sustainable and Prosperous Arctic.'

by the UN Convention on the Law of the Sea (UNCLOS). The littoral states are entitled of their exclusive economic zone (EEZ) extending 200 nautical miles from the state's coastline over which the state has jurisdiction. However, the Arctic environment opens the possibility for various interpretations. For instance, should open waters be considered, which would benefit Canada, significantly enlarge its EEZ? Additionally, the states may extend their territorial claims based on the continental shelf. If they can support their claim with scientific evidence, the EEZ may be extended to include a significant size of territory, encompassing possible shipping routes and locations of mineral resources under the seabed[37]. The extension of the EEZ is also a concern to non-Arctic states that hope for a shorted shipping route between the countries of the Far East and Europe, shortening the duration, cutting costs, and bypassing choke points, such as the Suez Canal. However, it is only possible if the routes remain international waters. Maritime matters are highly complex in this region, which are already regulated through various treaties, but there are still several unresolved territorial claims between Denmark, Norway, the US, Canada, and Russia.

The EU and the EEA

Three of the Arctic states, namely Finland, Sweden and Denmark, are member states of the European Union, part of the Schengen area, and Finland is part of the euro zone. Denmark sits among the AC members due to Greenland, which is a special case in itself. Greenland belongs to Denmark, but the island gained autonomy in 1979 and shortly after that, in 1985, left the European Union to become one of the EU's overseas countries and territories (OCT). For decades there has been talk of its independence. Due to economical and geopolitical interests, the EU started to build closer ties with Greenland in the past one and a half decade. The EU promised a substantial assistance package of EUR 225 million to Greenland for the period

[37] Andreas Raspotnik, *The European Union and the Geopolitics of the Arctic* (Edward Elgar Publishing, 2018), 53.

between 2021 and 2027[38], and the European Commission opened a permanent office in Nuuk, Greenland on 15 March 2024.

Two other Arctic states, Norway and Iceland have close economic ties with the EU being members of the European Economic Area (EEA), thus the EU's single market. This also means that the two states comply with EU regulations in various policy areas of the single market and other related fields, and the four pillars of the EU (free movement of persons, labour, goods and capital)[39]. The EU being an association of states already creates a nested regime type, but with the Nordic states[40] involved in other organizations, most notably the Arctic Council, to be discussed later, another the nested regime type can be identified here.

The Northern Dimension Initiative (NDI) is an equal cooperation between the EU, Norway, Iceland and Russia. The initiative was launched by Finland in 1996 to coordinate various activities and projects launched in the 1990s. At that time, it was even considered a sign that a small state can influence and shape the EU's policy[41]. Since then, the EU's interest is strongly focused on the Arctic as the Arctic strategy[42] showcases, but the NDI remained a "platform for practical cooperation"[43] with partnerships and projects in the field of environment, transport and logistics, culture, and public health and social well-being. The NDI is complemented by a research institute (Northern Dimension Institute), a network of universities, a business and a parliamentary forum, creating a nested structure, which enable more focused activities in the top-down perspective of financing; and gathering knowledge and data to be fed into policy recommendations.

[38] European External Action Service, The EU in the Arctic, https://www.eeas.europa.eu/eeas/eu-arctic_en, Accessed on 16 May 2024.
[39] https://www.efta.int/eea/eea-agreement/eea-basic-features Accessed on 16 May 2024.
[40] Also called Nordic Region, it consists of Finland, Sweden, Norway, Denmark, Iceland as well as the autonomous territories of Greenland and the Faroe Islands, and the autonomous region of Åland.
[41] David Arter, 'Small State Influence Within the EU: The Case of Finland's "Northern Dimension Initiative"', *JCMS: Journal of Common Market Studies* 38, no. 5 (1 December 2000): 677, https://doi.org/10.1111/1468-5965.00260.
[42] High Representative of the Union for Foreign Affairs and Security Policy, 'Joint Communication to the European Parliament, the Council, the European Economic Social Committee and the Committee of the Regions. A Stronger EU Engagement for a Peaceful, Sustainable and Prosperous Arctic.'
[43] https://northerndimension.info/ Accessed on 16 May 2024.

Finally, the Barents-Euro Arctic Council (BEAC) is an "official body for inter-governmental co-operation in the Barents Region"[44] established in 1993 on intergovernmental and interregional levels. Denmark, Finland, Sweden, Iceland, Norway, Russia, and the European Commission are its regular members, but chairmanship rotates only between Finland, Sweden, Norway and Russia on a biannual basis. The meetings are held at Foreign Minister level, but there is regional-level cooperation as well, and coordination with the Arctic Council and the Nordic Council of Ministers. The BEAC concentrates on sustainable development in the Barents region. Similarly to the NDI, its activities are more focused and many of its working groups support local peoples and communities, such as health and social issues, youth issues, indigenous peoples, education and research.

The EU is involved in various organizations concerning Arctic matters, which had been there even before the more intense interest in the Arctic. There are overlapping subject matters, but coordination happens on different levels and fora; therefore, its coverage is wider and involves a network of actors and stakeholders creating a dense web of partnerships in the region. Additionally, the EU maintains a direct connection to the Sámi, the indigenous people of the Nordic states, linking the subnational and supranational level.

The Arctic is a unique microcosm and an area showcasing regime complexes and overlapping institutions. Some of these institutions empty the meaning of others, becoming only minor fora of discussion. On the other hand, due to the region's uniqueness and the diverse interests of the actors, complexity is the only viable option for the governance and international cooperation in the High North. The 'Arctic exception' has so far worked in a sense that despite the strained EU-Russia relationships after 2014, cooperation in the Arctic never ceased. The current Ukrainian war has influenced this, as Nordic countries have condemned Russia's aggression, and the Northern Dimension announced that the EU, Norway and Iceland suspended activities with Russia as of March 2022. The AC, however, has taken

[44] https://www.barents-council.org/ Accessed on 16 May 2024.

steps to resume work that includes Russia at least on technical level, but meetings at political level will be impossible in the foreseeable future.

The EU's interest in the Arctic

The involvement of the European Union raises questions of regional and global governance. Other non-state actors are active in the region, too, many of them are observer members of the Arctic Council, a forum of discussion in Arctic matters, but none of the organizations have such a dual nature as the EU: acting as a supranational organization and comprising states that are AC members or observers on their own right. The EU is shifting emphasis from normative issues to geopolitical objectives, particularly in the Arctic. So far, the EU's membership application has been blocked in the Arctic Council, and some consider it as an 'external actor'. But the Union's presence in the region within and beyond its borders is already noticeable through projects and initiatives, and it is expected to grow and develop further, based on the recently published EU Arctic Strategy. This document maps out the three core fields of action for the EU in the Arctic: safety and stability, tackling climate change, and the support of the inhabitants in the area. Despite not being able to take an active political role, the EU engages in several projects with financial means and expertise that concentrate on scientific research, thus creating a presence and building up a foundation on which later actions could follow.

The Arctic became a European Union topic again by the accession of Sweden and Finland, the two Nordic countries[45] in 1995. Prior to this, with Denmark's joining in 1973, Greenland became part of the EEC for slightly more than a decade, withdrawing from the EEC in 1985. However, the EU/EEC had not paid much attention to the Arctic before the millennium. But then the situation changed due to various reasons. In 2008 the European

[45] The Nordic countries are Finland, Sweden, Norway and Iceland; whereas the Arctic countries are Finland, Sweden, Norway, Denmark, Iceland, Canada, the US, and Russia.

Parliament passed the resolution on Arctic Governance[46], followed by a Joint Communication in 2016. In 2017, the post of EU Special Envoy for Arctic Matters in the frame of the European External Action Service was created, the position is currently held by Clara Ganslandt. Finally, the European Commission adopted the EU's integrated Arctic strategy in October 2021. This document, the most comprehensive so far, establishes the EU's claim for regional legitimacy and presence in the Arctic, its goals and interests.

The European Union's role in the Arctic has been controversial for some time, and there are still some open issues. The EU is present in the region through three Member States (Finland, Sweden and Denmark's Greenland), and indirectly through the European Economic Area, of which Norway and Iceland, two more Arctic states, are members. On the other hand, the EU has also been considered as an 'external actor' in the Arctic region. The Arctic Council, the international body responsible for Arctic matters, "receive[d] the application of the EU for Observer status affirmatively"[47] at the Kiruna Ministerial Meeting in 2013. Whereas several Member States had received Observer status (France, Germany, Spain, the Netherlands, Italy, Poland), the EU's application was rejected for the second time. The EU may monitor the Council's proceedings as a guest but not in observer status.

It is, therefore, no surprise that the EU's strategy starts with the strong statement, "The European Union (EU) is in the Arctic"[48], the reasons being geographic, social, commercial and environmental. The document asserts the responsibility of the Arctic States over what happens in the region, and through its Member States, that of the European Union. This is necessary in view of the relatively recent interest in the region with countries such as China with its "near Arctic state" construct attempting to create a claim and responsibility in the

[46] European Parliament resolution of 9 October 2008 on Arctic governance, https://www.europarl.europa.eu/doceo/document/TA-6-2008-0474_EN.html?redirect Accessed on 5 January 2021.
[47] Role of the Arctic Council Observers, https://arctic-council.org/about/observers/ Accessed on 5 January 2021.
[48] High Representative of the Union for Foreign Affairs and Security Policy, 'Joint Communication to the European Parliament, the Council, the European Economic Social Committee and the Committee of the Regions. A Stronger EU Engagement for a Peaceful, Sustainable and Prosperous Arctic.', 2.

Arctic. It is, therefore, of importance to determine who can have a say in issues of the Arctic. The text goes as far as stating that the interests from various directions might create an 'arena', thus warning of a possible fatal outcome; but it also suggests that these conflicting interests in the Arctic might be "threatening the EU's interests"[49]. Additionally, mentioning the UNCLOS entails that the waters beyond the countries' EEZ is open to everyone and cannot be monopolized by any state. It is in the interest of several states who may look for conducting commercial transport in the areas, which could be restricted by the littoral states' pushing their control further into the Arctic Ocean on the basis of continental shelves.

The EU's strategy identifies the three major areas of interests for the EU in the Arctic: safety and stability, tackling climate change, and the support of the inhabitants of the area. The topic of safety and stability gained priority position in the strategy. The concern is directly linked to Russia's militarization and the "dual use of infrastructure"[50] in the region, anxiously observed by all other parties. The NATO is, indeed, following the developments of the region closely, as the Communiqué issued after the Brussels Summit on 14 June 2021 states, "In the High North, we will continue to undertake necessary, calibrated, and coordinated activities in support of the Alliance's security interests. We will seek to strengthen cooperation with relevant and like-minded partners in the interests of NATO's agreed deterrence and defence objectives, in line with NATO's decisions, policies and procedures, as appropriate, and with consideration of political implications."[51] One of such a 'relevant and like-minded partner' is Norway, whose Arctic policy focuses on security and stability, and identifies the NATO as the "cornerstone of Norway's security" and the basis of its "defence and deterrence policy"[52]. In contrast, the EU's strategy puts emphasis on

[49] Ibid., 1.
[50] Ibid., 3.
[51] Brussels Summit Communiqué, https://www.nato.int/cps/en/natohq/news_185000.htm Accessed on 5 January 2021.
[52] The Norwegian Government's Arctic Policy https://www.regjeringen.no/en/dokumenter/arctic_policy/id2830120/ Accessed on 5 January 2021.

"peaceful multilateral cooperation"[53] and partnerships with states and international organizations, such as the UN or the UNCLOS.

The EU, without military forces, underlines the importance of "strategic foresight" since "Arctic security encompasses environmental, economic and political-military elements, which cannot be seen in isolation from each other"[54] and aims to utilize policies, notably the Northern Dimension, science and research agreements, and emergency response capacities, such as the Copernicus Emergency Management Service, Global Disaster Alert and Coordination System (GDACS), European Marine Observation and Data Network (EMODNet). These systems primarily serve monitoring and warning purposes; however, they clearly demonstrate the EU's technological power, expertise, and information capital.

The attention on climate change is part of the EU's Green Deal and "Fit for 55" package; therefore, tackling it also in the Arctic is crucial, especially due to the Arctic amplification effect. Protecting biodiversity is considered a key issue, which entails the limitation of fisheries and the designation of "Marine Protected Areas"[55]. But these aims may create conflicts with various Arctic stakeholders. Fisheries is a highly sensitive topic with Norway; Canada (and its indigenous inhabitants) frown because of the ban on seal products, and the EU's sealing and whaling policies have been widely criticized[56].

The document mentions nuclear safety but only as a reference to one of the Northern Dimension Partnerships[57]. The Barents Sea and the Kola Peninsula with Murmansk, the capital of the region, is a nuclear hotspot with the nuclear ice-breakers and storage ships for nuclear waste in the harbour of Murmansk and the Kola Nuclear Power Plant, among others.

[53] High Representative of the Union for Foreign Affairs and Security Policy, 'Joint Communication to the European Parliament, the Council, the European Economic Social Committee and the Committee of the Regions. A Stronger EU Engagement for a Peaceful, Sustainable and Prosperous Arctic.', 3.
[54] Ibid.
[55] Ibid., 8.
[56] Piotr Graczyk, et al., 'Preparing for the Global Rush: The Arctic Council, Institutional Norms, and Socialisation of Observer Behaviour', in *Governing Arctic Change*, ed. Kathrin Keil and Sebastian Knecht (Palgrave Macmillan, 2017), 133.
[57] High Representative of the Union for Foreign Affairs and Security Policy, 'Joint Communication to the European Parliament, the Council, the European Economic Social Committee and the Committee of the Regions. A Stronger EU Engagement for a Peaceful, Sustainable and Prosperous Arctic.', 4.

Additionally, contamination incidents, radioactive waste and sunken nuclear submarines, for instance, the Kursk, in the seas of the area[58] pose a significant risk to both the environment and the inhabitants of the region.

The priority area of the EU's second objective is reducing pollution, particularly carbon emissions. Among other measures to achieve this goal, one of the key actions is inaction: the restriction of resource extraction, "pushing for oil, coal and gas to stay in the ground, including in Arctic regions"[59]. Apart from the emission lowering effect, it could have further benefits; habitats and communities could be preserved from the destructive impacts industrial mining and extraction. Additionally, the mineral resources are sources of significant political tension in the Arctic, should they remain in their place, at least the related tension might not rise.

The EU's third objective could well be the most complex one; the support of the region's inhabitants, notably indigenous people, is envisioned on multiple levels. The infrastructural developments would improve digital, communication and transport connectivity of the High North. Research exploring the impacts of the changes could deliver important information for funding decisions, already foreseen in the area of green transition and the blue economy, which could, in turn, enhance sustainability in other areas. The inhabitants of the Arctic would be also more involved in the decision-making processes, which had already been remarkable compared to other Arctic countries' standard[60]. The pandemic has brought some key weaknesses to light; the 'One Arctic, One Health' project would address the issue of health and resilience of not only humans, but also wildlife and plants.

[58] Heininen, 'Before Climate Change, "Nuclear Safety" Was There—A Retrospective Study and Lessons Learned of Changing Security Premises in the Arctic', 115.
[59] High Representative of the Union for Foreign Affairs and Security Policy, 'Joint Communication to the European Parliament, the Council, the European Economic Social Committee and the Committee of the Regions. A Stronger EU Engagement for a Peaceful, Sustainable and Prosperous Arctic.', 2.
[60] Graczyk, et al., 'Preparing for the Global Rush: The Arctic Council, Institutional Norms, and Socialisation of Observer Behaviour', 134.

The EU's strategy is significantly more comprehensive than any communication before. Many of the policies, frameworks, and systems necessary to achieve the determined goals are already in place, or at least a foundation is available which can be further developed.

CHAPTER 3 THE EU'S SCIENCE DIPLOMACY IN THE ARCTIC

As established in the previous chapter, the European Union's interest in the Arctic has become more pronounced and detailed than ever before. Despite the refusal of observer status in the Arctic Council, the EU still has the opportunity to establish its presence in the region, partly due to the regime complexity. The EU's aim to utilize science diplomacy in a more structured way instead of its previous practice of "rather hands-on international science and technological co-operation activities"[61] can be pinpointed in its internal funding policies around the framework programme for research. In this section I attempt to map out the EU's complex network of Arctic science funding and cooperation projects to support my hypothesis.

EU-funded scientific projects and cooperations

When trying to establish the European Union's involvement in scientific projects in the Arctic, the researcher faces multiple challenges. Extensive online research brings results, as the online visibility is relatively good. However, already the questions, such as who gives and who receives, what project and what in form, how much and what duration, are not straightforward, let alone the answers. Additionally, the data is fragmented, the high number of stakeholders and the complex funding schemes

First of all, the recipient needs to be defined. Two Member States, Sweden and Finland, have territories considered part of the Arctic, any funding going into scientific research or cooperation in that region could be recognized as part of the EU's Arctic scientific scheme. Hundreds of thousands EU citizens live in the Arctic, many of whom are members of the indigenous Sámi people, who form their own Sámi Parliament in their country, and together they founded the Sámi Parliamentary Council (SPC) in 2000, with representatives from each national Parliament (that of Norway, Sweden, and Finland) and from organizations in Russia

[61] Román and Schunz, 'Understanding European Union Science Diplomacy', 247.

(there is no parliament). As one of the EU's key elements in the Arctic policy is to support people living in the Arctic, projects benefitting the region receive direct funding from the EU. Similarly, academic and research institutions working on Arctic research projects are recipients of EU grants and funding. Perhaps the most notable of these is the University of the Arctic (UArctic), a decentralized network of universities, colleges, research institutions and other organizations from Canada, Denmark, the Faroe Islands, Finland, Greenland, Iceland, Norway, Russia, Sweden, the United States, and various non-Arctic states (such as Germany, France, the Czech Republic, the United Kingdom, India, China, South Korea, Japan)[62]. As an entity, the UArctic has official observer status at the Arctic Council; and manages the UArctic Research Area with various scientific projects and cooperations. In turn, the UArctic offers funds originating from Horizon Europe and various grants from the European Research Council[63].

Secondly, just as earlier in the case of 'science' in science diplomacy, the very nature of scientific projects raises several questions. What constitutes as scientific? And what areas are to be studied, what kind of data gathered? Based on the analysis of project funding data in the Dimension database by UArctic, Earth Sciences and Environmental Sciences receive the highest proportion of research funding in the Arctic, as shown in Figure 3 as a percentage of total global research funding for projects starting 2016–2023. (The prominent position of Law and Legal Studies is due a single large grant which does not have an Arctic component.)

[62] UArctic – Member Profiles. https://www.uarctic.org/members/member-profiles/
[63] The ERC Starting grants and the ERC Consolidator grant. https://research.uarctic.org/funding-opportunities/

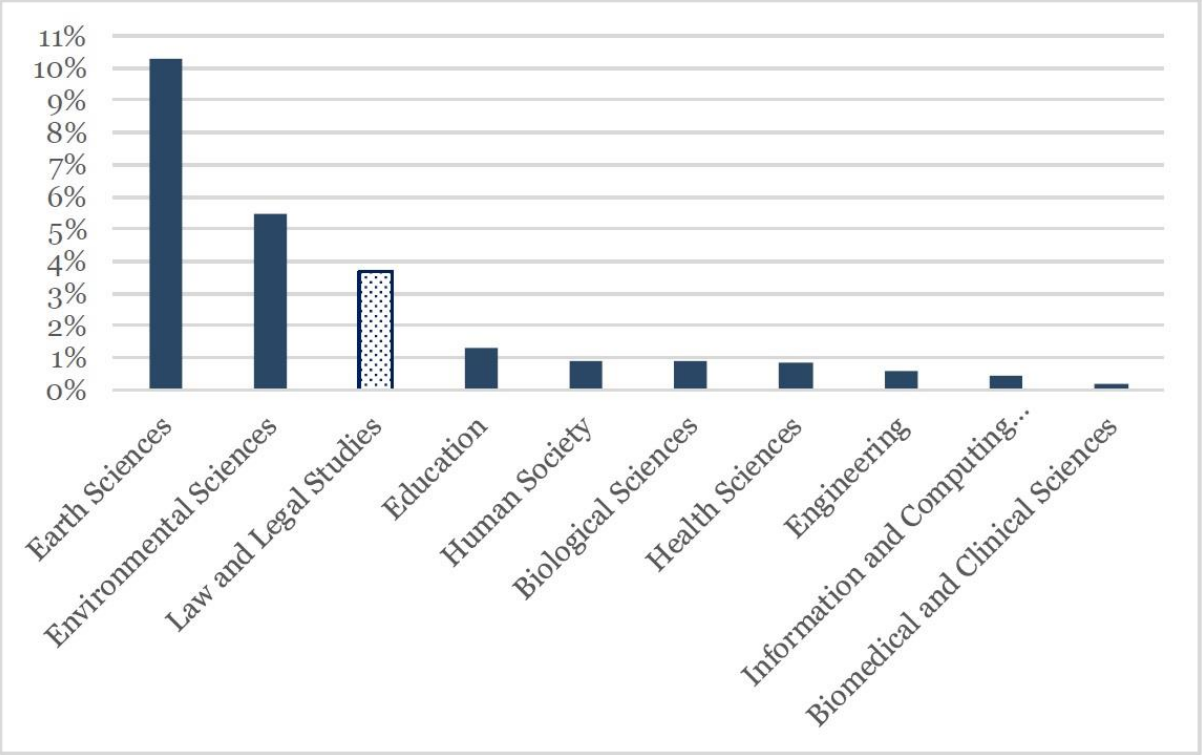

Figure 4 - Arctic research funding fields

Source: Dag W. Aksnes et al., 'Arctic Research Trends. External Funding 2016–2022', UArctic Thematic Network: Research Analytics and Bibliometrics (Arctic Centre: Umeå University, February 2024), 3.

Arguably, the figure does not show the whole picture, it includes only new projects found in the Dimension database. However, it indicates the proportional distribution of funding among the different fields. A closer look at the subcategories of Arctic Research Areas in Figure 4 (roughly) maps out the nature of interest in the Arctic. Similarly to the previous one, this dataset is limited to new projects in the period 2016–2023. Additionally, some projects received multiple are allocated to multiple fields; yet again, it provides an overall picture of tendencies.

Area	Arctic Funding ($m)	Arctic Projects (N)*
Oceanography	932	1,816
Physical Geography and Environmental Geoscience	916	2,581
Health Services and Systems	648	759
Environmental Management	597	830
Ecology	560	1,536
International and Comparative Law	483	257
Geology	444	2,090
Geoinformatics	440	121
Atmospheric Sciences	358	991
Public Health	234	304

*) Including projects where funding amount is not available.

Figure 5 - Arctic research funding sub-categories

Source: Dag W. Aksnes et al., 'Arctic Research Trends. External Funding 2016–2022', UArctic Thematic Network: Research Analytics and Bibliometrics (Arctic Centre: Umeå University, n.d.), 4.

The large proportion of oceanography reflects the natural characteristics of the region, the overwhelming majority being covered by the Arctic Ocean. Understanding its temperature, currents, patterns of ice formation, specifics of the seabed, biodiversity, and monitoring any changes are crucial elements in models of climate change. However, scientific data inform political as well as economic issues. Several states attempt to extend their EEZ based on scientific data about the continental shelf. The duration of the ice-free period strongly influences cargo shipping via the Northeast Passage and Northwest Passage, where several

nations are interested. Mineral exploitation is suspended, but geological data about mineral resources under the Arctic Ocean is nevertheless valuable information.

Finally, what is meant by the 'EU' when talking about funding? The European Union has several institutions and agencies, with their own budget and grant/funds scheme. Arguably, Horizon Europe with its EUR 95.5 billion budget is probably the most monumental one, but there are others providing funding to Arctic scientific projects. The European Research Council, the Marie Skłodowska-Curie Actions, both on behalf of the European Commission, or the European Space Agency (ESA) are just a few who support scientific research with grants allocated to them from the EU budget.

Due to the fluidity of the area of research and the complexity of funding, I will not even attempt to create a complete map of Arctic research projects and budgets. My aim is to explore the major funding mechanisms and collaborations which could support my claim of the EU's intention to establish its presence and create influence focusing on the Arctic region. Arguably, the first and most important element in this scheme is Horizon Europe.

Horizon Europe

Succeeding Horizon 2020, Horizon Europe is the European Union's flagship research and innovation program for the period 2021-2027. With a budget of €95.5 billion, it aims to drive scientific excellence, tackle global challenges, and foster innovation-driven growth in Europe. The program highlights three areas of focus; first, science and technology to fuel scientific and technological excellence and strengthen the European Research Area; second, society to tackle green and digital transitions and further the UN Sustainable Development Goals; third, economy to boost innovation, competitiveness, and jobs[64]. Three pillars, (i) Excellent Science, (ii) Global Challenges and European Industrial Competitiveness, and (iii) Innovative Europe form the core of Horizon Europe, with cross pillars (ii) and (iii). Each pillar is further refined

[64] European Commission, 'The EU Research and Innovation Programme 2021-27' (European Union, 2021), https://research-and-innovation.ec.europa.eu/document/download/9224c3b4-f529-4b48-b21b-879c442002a2_en?filename=ec_rtd_he-investing-to-shape-our-future.pdf.

in various clusters and support systems. Horizon Europe supports collaborative research across disciplines, promotes public-private partnerships, and seeks to ensure that research outcomes translate into economic and societal benefits. The program outlines five Missions Areas, in line with the EU's overall strategy: conquering cancer, creating a climate-resilient Europe, restoring oceans and waters, developing 100 climate-neutral cities by 2030, and ensuring soil health for healthy food. It also emphasizes open science practices, and aims to promote international cooperation, positioning the EU as a global leader in research and innovation.

EU Polar Cluster and EU PolarNet

The EU Polar Cluster is a network of collaborative scientific projects focusing on the Arctic, the Antarctic and the Southern Ocean, and the Polar regions in general. The Cluster merges coordination and research activities, their aim is to "bring the insights from our various areas of expertise together in order to provide one entry point to EU funded Polar research" in order to provide information to policy makers and support the implementation of the EU's Arctic policy[65]. The organization receives funding from the European Commission and four permanent members: the European Polar Board (EPB, an independent organization with members across Europe), the Association of Polar Early Career Scientists (APECS), Svalbard Integrated Arctic Earth Observing System (SIOS), and the European Global Ocean Observing System (EuroGOOS, an international non-profit association with 48 members from 19 European countries, involved in building the EOOS, European Ocean Observing System, framework, which, in turn, received funding from Horizon 2020[66]).

The EU Arctic Cluster is a network of Horizon 2020-funded projects, currently with 11 research initiatives: ACCIBERG (Arctic Cross-Copernicus forecast products for sea ice and

[65] EU Polar Cluster, 'Member Fact Sheet', n.d., https://polarcluster.eu/member-fact-sheets/.
[66] EuroSea project for Improving and Integrating European Ocean Observing and Forecasting Systems for Sustainable use of the Oceans, under the programme Societal Challenges, grant agreement No. 862626, EU contribution of EUR 12,246,700.13. https://cordis.europa.eu/project/id/862626

icebergs; EUR 3 million), AI-ARC (development of a shared collaboration workspace based on innovative and efficient AI-services, EUR 6.9 million), Arctic PASSION (Pan-Arctic Observing System of Systems, EUR 15 million), ArcticHubs (observing the impacts of economic activities, and building solution-orientated tools for reconciling new economic opportunities with traditional livelihoods, EUR 6 million), CHARTER (Drivers and Feedbacks of Changes in Arctic Terrestrial Biodiversity, EUR 5.9 million), ECOTIP (Investigating Ecological Tipping Cascades in the Arctic Seas, EUR 6.3 million), EPOC (Explaining and Predicting the Ocean Conveyor, EUR 4.8 million), FACE-IT (the future of Arctic coastal ecosystems – identifying transitions in fjord systems and adjacent coastal areas, EUR 6.4 million), HiAOOS (High Arctic Ocean Observation System, EUR 9.5 million), ICEBERG (community engagement for building effective resilience and Arctic Ocean pollution-control governance in the context of climate change, EUR 6 million), ILLUQ (interdisciplinary project on permafrost, pollution, and health, EUR 6 million), INTERACT III (International Network for Terrestrial Research and Monitoring in the Arctic, EUR 10 million)[67]. The total amount of funding is nearly EUR 85.8 million. Out of these projects, five is coordinated by the Alfred Wegener Institute, Germany, that I will discuss later. The majority of the projects falls into the science category of Earth Sciences and Environmental Sciences. However, there are some that target communities living in the Arctic, underlining the EU's dedication to supporting the inhabitants of the region, as outlined in the EU's Arctic policy document.

EU-PolarNet, which has a role as initiator of cooperation and coordination within the EU Polar Cluster[68], as shown in Figure 6, is currently in its second phase, ending in September 2024. The EU-PolarNet 2 Consortium consists of 25 partners with Polar research activities from European and associated countries. The project is funded by the EU with a

[67] EU Polar Cluster, 'Member Fact Sheet'.
[68] Kirsi Latola, 'Mapping All Stakeholder Activities from Relevant Polar Projects Including EU Polar Cluster Projects' (EU-PolarNet 2 Consortium, 7 April 2021), 7.

total amount of nearly EUR 3.3 million[69], and aims to provide a coordinated platform for the development of strategies and to contribute to policy-making processes.

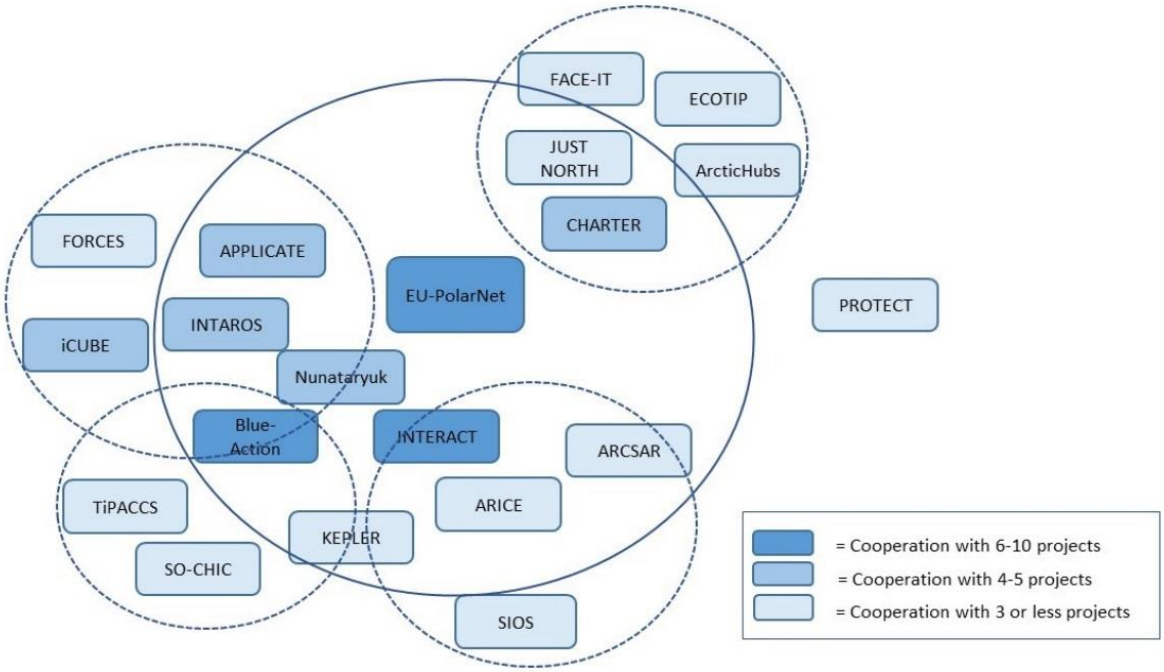

Figure 6 - EU PolarNet

Source: Kirsi Latola, 'Mapping All Stakeholder Activities from Relevant Polar Projects Including EU Polar Cluster Projects' (EU-PolarNet 2 Consortium, 7 April 2021), 7.

Based on these findings, it can be concluded that the EU is involved in the funding of various research activities, and the necessity has arisen to provide better coordination and channelling the collected data and information into appropriate policies and procedures. However, due to the institutional complexity of the EU, it is questionable whether Arctic research and funding can be centralized. Additionally, with Member States conducting their own research and receiving direct or indirect funding, the common platform looks an even more ambitious undertaking.

[69] The exact amount is EUR 3,299,253.75, funded under Societal Challenges, grant agreement ID: 101003766, https://cordis.europa.eu/project/id/101003766

The Alfred Wegener Institute

As a Helmholtz Centre for Polar and Marine Research, the Alfred Wegener Institute (AWI) of Germany conducts maritime and coastal research in cold and temperate regions. The organization owns an icebreaker vessel, the *RV Polarstern*, and the construction of a new one is in progress. As I will outline in the next section, the Arctic is in the focus of foreign policy in several non-Arctic states, most notably China. However, Germany must be mentioned as an example of the EU's cooperation with a non-Arctic Member State. Germany has a permanent observer status in the Arctic Council, and is an active participant of the AC working groups, task forces and expert groups; in most of these Germany is represented by the AWI. Additionally, the German Arctic Office operates within the AWI. Germany's Arctic Policy Guidelines, "Assuming Responsibility, Creating Trust, Shaping the Future" was published in 2019. It emphasizes "joint responsibility" to shape a "sustainable future" in the fragile Arctic environment[70]. Similarly to the EU's agenda, Germany intends to champion climate and environmental protection and a sustainable and responsible use of resources. By claiming responsibility, Germany also intends to represent its own interests, such as shipping companies transporting via the Northern Sea Route. Science diplomacy is utilized to establish the country's presence in the Arctic.

Other actors in the Arctic arena

The European Union's goal of making the EU into a research and innovation hub, thus keeping its status and expanding its influence is represented by the financial commitment made in Horizon Europe with its increased budget of EUR 95.5 billion. As I illustrated in this chapter, it is difficult to establish exactly how much funding goes to Arctic matters, but based on the extensive research I undertook, I would venture an estimate of maximum of 20 percent

[70] German Arctic Office, 'Germany's Arctic Policy Guidelines', August 2018, https://www.arctic-office.de/fileadmin/user_upload/www.arctic-office.de/PDF_uploads/Germany_s_Arctic_Policy_Guidelines_2019_Web.pdf.

of the Horizon Europe budget planned to be spent on Arctic initiatives in the period 2021-2027. This is by no means an insignificant amount, and indicates the EU's dedication to Arctic matters.

However, the EU is not the only contender attempting to establish influence in the Arctic, five Asian countries (China, India, Japan, Singapore, and South Korea) attained permanent observer status in the AC in 2013. Among them, it is probably China that is the most eager in creating an Arctic presence. The country was among the signatories of the Svalbard Treaty in 1920, which enabled it to set up the Yellow River research station on the island in 2003, the closest piece of Europe to the North Pole. Even though China's self-definition as a 'near-Arctic state' has been met with scrutiny and ridicule; after all, the Arctic Circle runs almost 1,500 km away from the northernmost tip of China, the epithet is used to emphasize their 'legitimate interest' in the Arctic[71]. The idea of the 'Polar Silk Road' (as part of the Belt and Road Initiative) fits well into the country's hunger for energy and raw materials, its ambition to become a maritime superpower, and the strategic partnership with Russia, counterbalancing Western interests. The amount of the PRC's various investments in the Arctic region amount to around USD 90 billion, in research and infrastructure, but also in assets in the energy and minerals sectors[72].

Based on the previously mentioned analysis of the Dimensions database by the UArctic, the EU is the eighth largest funder in the Arctic region, preceded by several Arctic states (in order: the US, Canada, Russia, Norway, Sweden) and some non-Arctic ones (the UK/Japan, Germany, China)[73]. Even though the list is not comprehensive and only includes research funding (which may include some EU cross-funding), it does show certain trends. First of all, despite its emphasized interest in the Arctic, the EU spends less on the region than many

[71] David Merkle, 'Der Selbsternannte Fast-Arktisstaat' (Konrad Adenauer Stiftung, 18 April 2023), 72.
[72] China Regional Snapshot: Arctic. House Foreign Affairs Committee GOP. https://foreignaffairs.house.gov/china-regional-snapshot-arctic Accessed on 20 May 2024.
[73] Dag W. Aksnes et al., 'Arctic Research Trends. External Funding 2016–2022', UArctic Thematic Network: Research Analytics and Bibliometrics (Arctic Centre: Umeå University, February 2024), 3.

individual states. On the other hand, it is an important detail that the EU is "characterized by a few projects with large funding"[74], which may indicate focused interest on certain projects and perhaps a more visible presence. Additionally, countries with higher ranking in the research funding list include Member States (Sweden, Germany) which, in turn, closely cooperate with the EU, both in their Arctic strategy and research collaborations. Nevertheless, the EU will have to step up funding not only to expand, but simply to maintain its position in the Arctic.

[74] Ibid.

CONCLUSION

I set out to examine the European Union's presence in the Arctic. The framework of science diplomacy (SD) was introduced to examine the dynamics of international relations in the intersection with science. The three-fold taxonomy of science in diplomacy, diplomacy for science and science for diplomacy by the Royal Society and the American Association for the Advancement of Science (AAAS) provides a basis for discussion, but it fails to acknowledge various dimensions of science diplomacy, such as its level of engagement (national, regional, or global) or agenda (collaborative or competitive). Science diplomacy is well established to be utilized as an element of a state's soft power toolbox; but with regard to the competitive aspect of SD, it may be a means to achieve hard power goals. I hypothesize that the EU applies science diplomacy in the Arctic region to establish its presence.

In the absence of a treaty system as in the Antarctic, governance in the Arctic shows a high level of regime complexity, in addition to the sovereign states with territories and their own agendas in the Arctic region. The EU has been building political and scientific cooperations in various forms and fora with stakeholders in the Circumpolar North. Membership in several multilateral organizations enables the EU to conduct dialogues with stakeholders and rightsholders. The EU's recent Arctic policy points out themes and areas important to the Union, and many of these are in line with Nordic Member States' Arctic strategies. Finally, examining the funding schemes of Horizon Europe and the network of Arctic scientific partnerships, collaborations, coordinated projects leads to the conclusion that the EU is on the way to strategically position itself as a pivotal player in the Arctic's future governance and development.

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