

Briefing Note

Arctic Research Across the Baltic States: Re-Integrated in the Northern Europe, Getting Closer to the Arctic Frostbites

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When talking about scientific research in the Arctic region, the three Baltic States are far from being the countries which first come into mind. In other words, it might be a hopeless endeavour to try to find Estonia or Latvia in the headlines announcing grand scale field research initiatives in the northernmost territories. Nevertheless, in the context of increased EU focus on enhancing its position and involvement in the polar region, 2016 is the best timing to stir a discussion regarding scientific activities of Estonia and Latvia in the Arctic.

The aim of this briefing note is twofold, covering both scientific and policy domains. On the one hand, it aims to map Estonian and Latvian research activities to provide a comprehensive overview for wider audiences, as well as explain whether there are any supportive planning or policy documents, as well as partnerships and coordination formats which would facilitate the Arctic research process. Therefore, existing national institutional frameworks allow identifying strengths, as well as challenges faced by relatively small countries in a broader landscape of international Arctic research. In, addition, it should be noted that the briefing note presents the first comprehensive and internationally accessible overview of Latvian research activities related to the Arctic.

On the other hand, article's purpose is to illustrate how Estonia and Latvia channel their interests among domestic stakeholders, as well as in broader foras related to EU-led initiatives. Consequently, the public consultation on Arctic facilitated by Directorate General of Maritime Affairs and Fisheries (hereafter – DG MARE), serves as a good example which explains, why lack of national advocacy on specific policy initiative should not be interpreted as a country

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having no interest in the issue as such. In addition, this briefing note reveals the EU multilayered dynamics which are taking place outside the Arctic Council but in a near vicinity of the northernmost region.

The briefing note is structured in four sections. First two sections lay out the scientific activities of both Baltic States. Third section is dedicated to explain motivations and interests of Estonia and Latvia behind their seemingly passive stance when it comes to EU-led dialogue on Arctic matters. Fourth or the last section provides an outlook on the future of Arctic research in both countries, as well as Lithuania, with a set of recommendations on how to support the sustainability of Arctic research. It should be mentioned in advance that the briefing note aims at covering mainly Latvia and Estonia. It does not offer a section dedicated solely to Lithuania, since there is scarce and very fragmented evidence of its research activity and no particular political interest related the Arctic domain.

Estonia

In brief, Estonia can be singled out as the most active Baltic country. It prides itself with a rich history of polar research, which is documented in a considerable body of academic publications.¹ For example, several pioneers of polar research exploration originated from Estonian Baltic Germans (Vaikmäe, 2015).² Moreover, in comparison to other Baltic States, Estonia very early demonstrated an active stance on international level by joining the Svalbard Treaty already in 1930 (Bryza, Mõru, Stoicescu, & Jegorova, 2014: 45). In 1930s Estonian geologists worked in East Greenland in a Danish-led expedition (E.Kaup, personal communication, 4 June 2016). During the Soviet period Estonian scientists, as well as supporting personnel, participated in Arctic and Antarctic expeditions delivering internationally acclaimed results in such domains as glacier and polar icecap research (Vaikmäe, 2015).

Over the last 15 years Estonia has developed solid research basis in areas of polar atmosphere, permafrost-related, sea-ice and limnological research. Estonian scientists are collaborating with their Russian, Polish and, most closely, Norwegian counterparts (Bryza and others, 2014: 51). Namely, the Norwegian Polar Institute can be singled out as a partnering institution with joint investigations in Svalbard of the present and past 800 years of climate by means of shallow ice core records (Vaikmäe, 2015). This collaboration takes place in the framework of the project Sensitivity of Svalbard glaciers to climate change (SvalGlac) 2010-2014 (R.Vaikmäe, personal communication, 11 May 2016).



*Fieldwork in Ny-Ålesund area glaciers,
project "Community Coordinated Snow Study in Svalbard (C2S3)", April 2016. Photo by Tonu Martma.*

Despite its vibrant work, currently the Estonian polar research community faces several challenges. Firstly, it aims at restructuring its research to a more continuous and long-term orientation. A solution has been found in drafting a comprehensive polar research programme 2014 – 2020, known as ESTPOLAR 2014-2020. Currently, the draft programme is a subject of ministerial evaluation before it is handed to the government for an adoption (R.Vaikmäe, personal communication, 6 April 2016). Therefore, in comparison to other Baltic States, Estonia has taken one step closer towards sustainability and planning of its polar research. However, the ministerial evaluation process has been taking place for one year and there are no definite dates known, when the estimated adoption might take place.

To put ESTPOLAR 2014-2020 in a wider context, it should be noted that in parallel a working group is analysing the options of observer status for Estonia in the Arctic Council (Estonian Academy of Sciences, 2015: 22). Its work entails defining the scope and strengths of Estonian engagement in the Arctic. The report produced by the working group might provide further details on Estonian considerations as regards to the application for an observer status at the Arctic Council (T.Maiberg, personal communication, 20 May 2016). Consequently, due to these on-going policy paper drafting processes and consultations, at the moment it is hard to make any judgements what could be the potential impact of ESTPOLAR 2014-2020 on advancing Estonian polar research during the upcoming years.

Secondly, Estonian Arctic research has to overcome several traditional silos. On the one hand, it aims at tackling the science–policy gap. Estonian research community is looking for a clearer concept on how to use research findings in order to better inform policy makers, thus helping to raise the overall quality of national policies (Vaikmäe, 2015). Surely, judging from the vast array

of academic literature on this matter, it is a challenge of a considerable magnitude with no quick solutions.

On the other hand, the scientific community has been advised to look for cooperation options with the business community (Bryza and others, 2014: 48). This suggestion has been incorporated in the priorities of Estonian polar research. Namely, one of such promising areas is polar shipping. Estonia is planning to build a multipurpose icebreaker which could navigate beyond the Baltic Sea. Likewise, the sea ice data produced by the Estonian scientists, especially in the wake of Northern Sea Route opening, has the potential to attract the interest of the growing Estonian logistics sector. The third area of mutual science-industry interest could be bioprospecting for bioactive compounds and organisms. The Estonian scientific community argues that findings on biological diversity with adaptation to the evolving climate change could be used in pharmacology, medicine, material technology, industrial processing and food industry. (Vaikmäe, 2015)

Thirdly, Estonia faces a human resources' challenge. In order to provide the overall picture, it should be noted that up to 100 people are currently engaged in polar studies in Estonian higher education and research institutions (Bryza and others, 2014: 48). Forty-to-fifty researchers of this community are working on Arctic matters, having demonstrated expertise in ice core studies and paleoclimatology. While many leading scientists are close to their retirement age, there is a lack of young researchers who could swiftly fill this expertise and research capacity gap (Vaikmäe, 2015).

However, not to paint too gloomy a picture, it should be also noted that there are already timely steps made in order to fill this gap. Some of the early career scientists are planning to undertake internships in internationally acclaimed research institutes. For example, the Centre for Ice and Climate (Niels Bohr Institute) at the University of Copenhagen during the fall 2016 semester will host an Estonian Master student, who will complete his project on modelling of the North East Greenland Ice Stream (also known by the abbreviation NEGIS) (R.Vaikmäe, personal communication, 3 June 2016). This one of the examples how Estonian Arctic research community is promoting and investing in its next generation scientists with early acquisition of research experience in an international environment.

Fourthly, Estonia has taken a shift from focusing on national research infrastructure development to advancing its international outreach and strengthening bilateral and multilateral partnerships. Consequently, the Arctic research in Estonia has been evolving due to national as well as EU funding. An example of multilateral cooperation is Estonia's participation in the Polar View initiative led by the European Space Agency and the European Commission (*European Arctic Initiatives Compendium*, 2013: 38). Likewise, the previously mentioned SvalGlac project is another example of Estonian successful participation in EU-wide initiatives, supported by national funding (R.Vaikmäe, personal communication, 16 May 2016). SvalGlac project is performed under the European Polar Consortium: Strategic Coordination and Networking of European Polar RTD Programmes (EUROPOLAR) ERA-NET consortium's programme EuroClimate. The Estonian Research Council is a member of this consortium (Community for Research and Development Information Service, n.d.). As one of the most recent examples, it should be mentioned that Estonia takes part in a Horizon 2020 project called EU-PolarNet. It is a five year project (2015-2020) aimed at developing the European Polar Research Strategy (R.Vaikmäe, personal communication, 6 April 2016).

In terms of funding, the Estonian Research Council does not have a specified classification for Arctic-related research in the Estonian Research System. Therefore, mapping funding sources allocated to the northernmost-related scientific activities would require another in-depth study including a drafting of a tailored methodology.

All in all, in comparison to other Baltic States, Estonia can be singled out as an actively engaged nation in bilateral and multilateral research as well as policy shaping initiatives. Its presence in such foras at the European Polar Board, EUROPOLAR and EU PolarNet ensures its awareness of the latest developments in terms of international Arctic research governance. Its participation in international projects ensures regular exchange of expertise with counterparts from other countries, enduring hands-on/applied research opportunities, as well as awareness of internationally promoted best practices and latest scientific findings. Estonia's potential to advance its Arctic research largely depends on adoption of ESTPOLAR 2014-2020, and further on, on its ability to strengthen partnerships with its international cooperation partners and develop systematic collaboration with the industry.

The visibility on a national level of Estonian scientific activities in the northernmost territories could also benefit from the publication of the expert report on Estonia's engagement in the Arctic with potential references to Estonia's future stance as regards to the national-level relationship with the Arctic Council. The goal to acquire observer status was defined already in April 2014. As one of the arguments supporting the Estonian interest in acquiring more insight in the work of the Arctic Council was its interest to "engage in applied cooperation concerning nautical and optical (light) navigation equipment with states having similar conditions, and to find partners among companies and maritime agencies" (Ministry of Foreign Affairs of the Republic of Estonia, 2014). Thus far Estonia has also been a supporter of EU's application for observer status in the Arctic Council, in order to strengthen regional cooperation and use the full potential of EU's environmental protection capacities, and other capacities related to the maritime domain (T.Maiberg, personal communication, 20 May 2016). To conclude, it should be added that Estonia's interest in acquiring an observer status is also one of the milestones of the current Estonian government (R.Vaikmäe, personal communication, 11 May 2016). Therefore, in Estonia Arctic research benefits not only from overall awareness of the governmental institutions regarding acquired expertise and necessities for further research development and expansion, but also enjoys an enduring commitment from the political leadership.

However, at least in the current nascent phase of both documents, ESTPOLAR 2014-2020 can be judged as more relevant, since it outlines in more detailed terms the Arctic science agenda and necessary steps to bring these activities forward. All in all, these efforts to draw short- to mid-term plans might help not only to enhance Estonia's niche expertise but also to ensure sufficient resources and applied research opportunities for early career scientists in future years.

Latvia

Although Latvia has not acquired a rich Arctic research and exploration experience, its name appears in the connection of famous Arctic expeditions. For example, Alexander Ivanovitch Trontheim, a Norwegian descent German-speaking Latvian from Riga is known for his knowledge of the River Ob basin and mastery of Arctic travel, which supported successful completion of Nansen's Fram voyage (Huntford, 2001: 209). At the beginning of 20th century geophysicist Leonīds Slaucītājs can be singled out as one of the most vocal proponents of polar research in Latvia. He authored several publications regarding the Arctic exploration. For

example, he informed wider academic audiences about Latvian membership in the international association Aeroarctic led by Fridtjof Nansen (Slaucītājs, 1929: 155). He also did research on Antarctic, as well as promoted Latvian awareness of famous polar explorations by co-authoring a book with Latvian diplomat Alfrēds Bīlmanis on the life of Fridtjof Nansen (Slaucītājs & Bīlmanis, 1934).

Latvian scientists were also involved in other multilateral science-related foras with ambitious research agendas. Latvia together with other Baltic States, as well as Denmark, Sweden, Finland, Poland, Germany and Russia formed the Baltic Geodetic Commission. The organisation was involved in Arctic matters by its plans to extend the 52nd parallel into Asia as far as Bering Strait, further across the strait into Alaska, where it would connect with Alaskan triangulation, which in turn would be connected to the geodetic triangulation on Canada. It was a plan which would form the longest geodetic triangulation in the world (L. W. D., 1931). The Latvian participation in this fora ceased after the Soviet occupation of Latvia. Consequently, due to these geopolitical shifts in the Baltic Sea Region, the Geodetic Commission transformed itself into a smaller forum. In 1953 the Nordic Geodetic Commission was formed, with Norway and Iceland becoming its fully fledged members (Nordic Geodetic Commission, n.d.).

In the contemporary setting, in comparison to Estonia, Latvia has acquired a more limited expertise on the Arctic region. As regards to the microflora, both Augusts Kirhenšteins Institute of Microbiology and Virology at Rīga Stradiņš University and Latvian Institute of Aquatic Ecology have never participated in scientific research mid- or long-term projects or field research in the Arctic region (Vargulis, 2014: 201). So far research has been organised on ad hoc basis. For example, the Latvian Institute of Aquatic Ecology once received an order from the Technical University of Denmark to analyse the content and amount of phytoplankton species (I.Jurgensone, personal communication, 29 March 2016).

However, the Latvian Institute of Aquatic Ecology is not the only Latvian cooperation partner to the Technical University of Denmark. In comparison to the previously discussed example, the Faculty of Building and Civil Engineering at the Riga Technical University has acquired a broader insight in the Arctic research in the field of gravimetric analysis. It has established cooperation with the Division of Geodynamics of the National Space Institute at the Technical University of Denmark (J.Kaminskis, personal communication, 12 May 2016). As a cooperation partner of the Technical University of Denmark, the Latvian staff has acquired not only expertise in processing of Arctic data but also is well aware of developments regarding the Nordic agenda of geodetic research. However, Latvian participation in field research in Greenland is hampered by the scarce resources (J.Kaminskis, personal communication, 24 May 2016). Such engagement with Danish partners would require additional funding from university's budget, national or other funding sources.

Faculty of Building and Civil Engineering at the Riga Technical University has also to a certain degree re-established the historic ties to the Geodetic Commission. Consequently, Latvian researchers (among other representatives from the Baltic States) regularly attend meetings of the Nordic Geodetic Commission (J.Kaminskis, personal communication, 12 May 2016).³

Consequently, this enduring cooperation has contributed to other foras dedicated to the Global Navigation Satellite Systems. For example, both parties shared their experience during United Nations Office for Outer Space Affairs' Workshop of the Applications of Global Navigation

Satellite Systems which took place in Riga, in 2012 and was attended by 30 nations (J.Kaminskis, personal communication, 21 May 2016; “Noslēgusies GNSS velītā ANO konference Rīgā,” 2012; United Nations Office for Outer Space Affairs, 2012). Such gatherings serve as occasions for Latvian representatives to inform about their activities as well as seek options of future engagement in multilateral cooperation.

In addition, the Faculty of Building and Civil Engineering at the Riga Technical University, participates in research, preservation and public awareness initiatives related to the 200 years old station points of Struve Geodetic Arc, which were included in the United Nations Educational, Scientific and Cultural Organization (hereafter – UNESCO) List of World Heritage in 2005. The Struve Geodetic Arc is a triangulation chain that was measured during the first half of the 19th century. It covers a line connecting Fuglenæs, near Hammerfest at the Arctic Ocean, with Staro-Nekrassowka, near Ismail, on the Black Sea shores, along more than 2,800 km (J.Kaminskis, personal communication, 21 May 2016; Latvian National Commission for UNESCO, n.d.; UNESCO World Heritage Centre, n.d.). This arc crosses all three Baltic States.

Faculty's engagement in research of 16 station points located in Latvia serves as one of the examples how Latvia contributes to the preservation of Arctic-related research and promotion of historical heritage related to the Arctic research. It also shows faculty's enduring engagement in multilateral cooperation, since the research performed in Latvia is in sync with the project partners from other Arc's countries. For example, one of the latest developments are the recent discussions in September 2016 in Estonia regarding options for upgraded research involving global positioning system in order to acquire more precise data on Arc's parameters. In addition, faculty's involvement in research of Struve Geodetic Arc is an example of engagement with the local-level authorities. Namely, Jēkabpils municipality tapped the potential of this scientific heritage and invested its resources. It hosted the Conference of the Coordinating Committee in 2008, as well as developed the triangulation point as one of its tourism attractions (Land Board of the Republic of Estonia, n.d.; J.Kaminskis, personal communication, 24 May 2016).

The mere fact that a limited number of Latvian scientists have gained an opportunity to perform their research in the northernmost territories is the reason why recently conducted and in the near future planned expeditions of geology researchers from the University of Latvia to Iceland and Greenland are framed in the national media as the re-birth of Latvian polar research (Čunka, 2016). By far the researchers from the Faculty of Geography and Earth Sciences are the only scientists who, as representatives of Latvian academic institutions, have done several field works in the Arctic environment. The 2016 expedition to Russell Glacier will be the third expedition of the team which consists of four or five people. Similarly to previous expeditions, this one will be also aimed at mapping subglacial topography, englacial and subglacial channels of outlet glaciers with ground penetrating radar, as well performing other fieldwork concerning sedimentological, geomorphological and geochemical research.

The initiative of faculty's academic staff to plan several expeditions in the northernmost territories is a good example how Latvian higher education workforce is advancing towards organising field research in relatively distant regions. It helps to identify potential strengths and challenges to the academic advancement.



Ground-penetrating radar measurements on Múlajökull outlet glacier. Photo by Kristaps Lamsters.

First and foremost, Latvian pioneers are well aware of the need to deepen their niche expertise on specific polar issues. Through international forums Latvian scientists have acquired understanding of the major trends in Arctic and polar research, which generally focuses on macro-level assessments such as ice cap modelling from data acquired via satellite or an aircraft. Therefore, Latvian scientists have chosen to advance micro-level data acquisition in a specific limited area in order to look for water canal patterns in glaciers and assess their development in the context of climate change (Karušs, Bērziņš, & Lamsters, 2015; Karušs, Lamsters, & Bērziņš, 2015; Lamsters, Karušs, Bērziņš, & Rečs, 2015; J.Karušs, personal communication, 8 April 2016). In short term, the findings of the research team have been useful in informing wider audiences in Latvia on the developments linked to climate change (Buševica & Gulbinska, 2015). In longer term, these area-specific findings could become instrumental to explain irregularities of macro-level assessments or feed into gaps identified in the large scale models.

Secondly, Iceland and Greenland expeditions also serve as good examples of close partnership between researchers and Latvian companies. The field work is conducted using ground-penetrating radar software and equipment developed and manufactured by a Latvian company Radar Systems Inc. Moreover, the support of private sector is not limited only to technological matters. The team's expeditions were sponsored by several companies based in Latvia (e.g. road construction company Igate). The exception was one student who was part of the research team and his participation was covered by a grant awarded by the Student Council of the University of Latvia.

Thirdly, the availability of financial support plays an important role in the advancement of field research. In general, there are no particular funding schemes designated to Arctic-specific

research in Latvia. For example, the programming period of 2007-2013 of EU funds did not consist of any thematic priorities or their subsections which would explicitly refer to research in northernmost territories (I.Paune, personal communication, 11 April 2016).

In earlier publications (Vargulis, 2014: 202) it has been argued that one of the reasons for limited Arctic research activity Latvian institutions name the lack of resources. Also in the case of Iceland and Greenland expeditions, one could argue that all rests on the enthusiasm of researchers involved. Usually the acquired funding can cover the basic expedition needs and does not include any remuneration for the work done by the research team (J.Karušs, personal communication, 8 April 2016). In the current form it could be judged as an extra-curricular workload performed by the university's academic staff out of their mere interest in advancing geological and earth sciences in Latvia.

So far Latvian research institutions have not participated in research projects supported by the EU funding. Since EU project preparation, management and reporting would have to be done by the same academic staff, who conducts the field research, it might turn out to be too much of an administrative burden in the context of their duties at the faculty. The experience acquired during Iceland and Greenland expeditions prove that in the current form on non-existing support structures, it is a considerable multi-tasking challenge for the academic team. Currently, besides the field work itself, team members cover the full spectrum of tasks related to their field research. They search for options on how to attract private and university funds, they file administrative papers, they plan expeditions, as well as ensure the publicity of their activities both in academic circles and wider public. Also in terms of other future polar expeditions, all tasks, such as application for funding, writing of project proposal, liaison with potential cooperation partners, are done by the team members themselves. (J.Karušs, personal communication, 8 April 2016)

While in an early phase of acquiring experience in planning and implementation of distant field expeditions it might be a more or less agreeable organisational set-up, it is clear that without substantial administrative and more sustainable financial backing these activities might not result in sustainable advancement of academic expertise.

Also in terms of financial support, it should be mentioned that previous estimates of expedition costs might be judged as bloated, either due to consisting relatively high remuneration rates or use of expensive research station facilities. Namely, it was estimated that the average funding per institute in 2013 was 321,000 EUR which could cover at best two scientific expeditions to the Arctic (Vargulis, 2014: 202). That means that earlier estimates were based on the assumption that one expedition might cost around 160,000 EUR. However, the expedition planning of researchers from the Faculty of Geography and Earth Sciences at the University of Latvia shows that a short field work visit for five people team lasting up to ten days can be implemented on a 7000-10,000 EUR budget, which does not include remuneration for the research staff involved. Whereas a one month long expedition of four people to the Antarctic station of one of the East European partnering nations would cost 30,000-35,000 EUR (J.Karušs, personal communication, 8 April 2016). It is important to note these differences in financial estimates. Otherwise, so far polar expeditions have been undeservedly portrayed as impossible or unattainable due to the extremely high costs, which could hardly fit with any source of Latvian academic funding.

All in all, the scarcity of Arctic related research examples and lack of prioritisation of polar research in policy and planning documents of ministries or universities are factors, which explain, why Latvia does not have an overarching coordination framework for northernmost matters.

Researchers, who are interested in advancing their expertise on northernmost regions, search calls for project proposals of a broader thematic nature, e.g., climate change or support for bilateral, multilateral academic or research cooperation.

There are no signs that in the upcoming years Latvia could experience a major shift, since Arctic does not top the political agenda. Over the last years there have been very brief remarks expressed on the role of the northernmost region during the annual reviews of Latvian foreign policy in 2014 and 2016 (Ministry of Foreign Affairs of the Republic of Latvia, 2014: 3; Zvirbulis, 2016), but a more prominent role of the Arctic region cannot be completely ruled out.

The Faculty of Geography and Earth Sciences of the University of Latvia can be singled out as the sole hub for future Arctic expertise in Latvia in terms of polar field research. Riga Technical University has established cooperation with a Nordic partner and it has acquired understanding, institutional memory and overall awareness regarding the gravimetric analysis performed by research institutions in the Nordic and Baltic countries. However, there are no signs of Riga Technical University's ambition to pursue its own field research in Greenland or other polar areas.

The potential success of furthering polar expertise at the Faculty of Geography and Earth Sciences of the University of Latvia lies in the fact that in a very early stage the research team has identified its niche and how their specialisation would fit in a broader international polar research agenda. However, it is too early to say whether the first successful expeditions will result in a sustainable and regular engagement in the international polar research, due to the fact that at the moment the University of Latvia does not provide any administrative support and there are no regular funding schemes in place which could ensure a long-term planning of expeditions.

EU Arctic Strategy

In September 2014, the DG MARE launched a public consultation on streamlining EU funding in the Arctic. The public consultation lasted until 1 December 2014 (DG MARE, n.d.). On 27 April 2016 EU published its Joint Communication "An integrated European Union policy for the Arctic".

None of the Baltic States or research institutions based in the Baltic States contributed to the public consultation ("Replies to the consultation," n.d.). One of explanations behind the absence of written contribution from the Baltic States is that national institutions tend to be weary regarding policy initiatives which do not fall in the category of their top priorities (I.Paune, personal communication, 11 April 2016). For example, both Latvian and Lithuanian Ministries of Education focus on their engagement in the Joint Baltic Sea System Research Programme (BONUS). Lithuania is looking forward to extend the BONUS programme (R. Rudokienė, personal communication 7 April 2016).

However, the Estonian case should be treated with specific attention. At first glance it seems surprising that Estonia did not take part in the public consultation, since there was such a great initiative shown among EU member states engaged in the Arctic. Namely, from all inputs assembled during the consultation 60% of the respondents were based in an Arctic state (Finland, Denmark, Sweden, Norway and Iceland) and 25% of contributors were based in a country with an observer status in the Arctic Council (France, Germany, Poland, the United Kingdom and Italy) (DG MARE, 2014: 2). Following the logic of Estonian sustained focus on Arctic research

and governance foras, it seems that this Baltic country should have followed the Arctic enthusiast trend.

However, as one of the explanations for the Estonian inactivity serves its vibrant domestic work in relation to Arctic policy. Estonia differs in this matter with its on-going consultation on the ESTPOLAR 2014-2020 and current work on the expert report on Estonia's stance in Arctic Council matters. Since neither of these documents has reached the final adoption phase, it serves as an explanation, why Estonia, an active maritime nation with an interest in northernmost matters, did not contribute to DG MARE's consultation.

Despite its lack of engagement Estonia supports the newly published communication (T.Maiberg, personal communication, 20 May 2016). All in all, Estonian interests as such are mirrored in the new EU Arctic policy because it highlights, EU PolarNet as one of the most important EU funded initiatives oriented towards the Arctic. As previously stated, EU PolarNet is one of the latest initiatives, where Estonian research community is taking part.

In addition, it should be mentioned that this section of the briefing note does not treat the EU Arctic policy in a siloed manner. Therefore, it should be also mentioned that during the last stages of the drafting process of the Joint Communication "An integrated European Union policy for the Arctic", EU's stance in Arctic matters was put in the spotlight also in the context of EU's foreign affairs and the on-going public debates regarding the EU Global Strategy on Foreign and Security Policy (hereafter – EUGSFSP). Namely, European External Action Service (hereafter – EEAS) showed signs of its readiness to devote special attention to the Arctic as one of the four geographic directions to be defined in the EUGSFSP, which is to be launched in June 2016. Such statements might give an impression that the ground has been laid for the establishment of close interconnections between these two policy documents. However, it remains yet to be seen in June 2016, whether it is the case.⁴

In broad lines, it should be pointed out that Heather Exner-Pirot quite bluntly states that the new document does not provide a substantially new approach towards the Arctic. Her position on the document is that "The EU keeps telling us it cares about the Arctic. I'm not sure the Arctic cares about it" (Exner-Pirot, 2016). However, when taking a more nuanced look at the communication, I would argue that EU is not simply telling us that it cares about the Arctic. The document allows us to familiarize in what particular matters and through which specific initiatives EU is committed to care about the Arctic and contribute to the Arctic affairs during the upcoming years. Namely, several initiatives have been stated, such as the EU PolarNet, where Estonia is taking an active part, the document also features Copernicus programme and the European Global Navigation System (Galileo), as well as special attention is allocated to the seabed exploration and the European Marine Observation and Data Network (hereafter – EMODnet).

By highlighting these specific initiatives, the EU also allows to understand how national contributions are positioned in the broader European picture *a propos* the Arctic. Nevertheless, the EU has not elaborated in more detail how these specific projects fit the global Arctic research agenda or which particular features of these projects are relevant to the northernmost region. For example, such facts as Tallinn Technological University participation in EMODnet Physics and EMODnet Chemistry, Estonian engagement in EMODnet Baltic Sea Checkpoint (E.Kadastik, personal communication, 16 May 2017), Lithuanian former participation in the EMODnet (I.Kiškis, personal communication, 16 May 2016), and participation of Latvian Environment, Geology and Meteorology Centre in EMODnet Geology (A.Jansone, personal communication,

17 May 2016) does not *per se* allow calling the Baltic States as actively engaged in the Arctic. They have joined these projects for various reasons; among them is their interest in summarising and harmonising maritime geological data and its accessibility to users (A.Jansone, personal communication, 17 May 2016). In many cases the participation is more tied to the Baltic Sea geographical setting, rather than polar areas.

Another major flaw of the document is that it is merely silent on its interconnections with other European strategic documents, such as the EU Maritime Security Strategy (hereafter – EUMSS), also facilitated by DG MARE, and the EU Global Strategy on Foreign and Security Policy (hereafter – EUGSFSP). In my previous comments on the EUGSFSP (Šime, 2016), I have already pointed out that it would be advisable for EU not only to increase the quantity of its strategic documents but also raise their overall standard of quality, by including in these documents a more detailed context on institutional and domain specific overlaps and interconnections. Therefore, the quality of these documents could be judged in terms of, how well does a new strategy fit in a broader landscape of existing pool of EU strategies and other overarching policy documents. The drafting process should be in line with the following question. Does the new document contribute by bringing some specific, or even measurable added value to the strategic steering of existing multilateral initiatives, or simply borrows some elements from its notional predecessors for an enrichment of its content?

As it was said before, the new EU Arctic policy brings to the fore several relevant initiatives but it does not state a clear agenda on how to mobilise member state engagement. Therefore, the vagueness of EU's new Arctic policy as such might lead to wrongful conclusions. Consequently, EU is advised to draft a progress report in the implementation of its new Arctic policy which would include more explicit information regarding areas where steady progress is most needed or where previous joint member states' commitment has been falling short.

Further paragraphs of this section are dedicated to evaluate EU Arctic policy in the context of other relevant EU strategic initiatives. Here are just some examples of overlaps between documents, which, in order to avoid the paper tiger critique, could benefit from clearer guidelines in future on the specific goals and expected results in the Arctic, foreign or neighbourhood relations, as well as maritime security-specific context. This analysis is complemented by remarks on their relevance in the Latvian and Estonian Arctic research context, as well as recommendations for further action.

First, in a brief and general manner regional smart specialisation strategies are highlighted in both the EU Arctic policy as well as the EUMSS, but stressing different use of these policy documents and their envisaged outcomes. The EUMSS aims at integrating industrial and research assets related to maritime security into regional smart specialization strategies (*EUMSS Action Plan*, 2014: 12, 3.1.10.§). Whereas EU Arctic policy sees regional smart specialisation strategies as enablers of sustainable growth and job creation in the European Arctic (*Joint Communication to the European Parliament and the Council. An integrated European Union policy for the Arctic*, 2016: 3). Taking into consideration the fact that generally drafting and implementation of smart specialisation strategies are not high on Latvian and Estonian local agendas, and Estonian and Latvian local communities have not established close ties with Arctic regions in terms of scientific cooperation, none of these references seem relevant in the Baltic context.

Next, in the case of maritime surveillance, both policy documents show a varied and more nuanced picture. EUMSS in a more general manner acknowledges the importance of coordinated implementation of existing and planned maritime surveillance initiatives, naming the Earth Observation Programme (Copernicus) and Galileo among others (*EUMSS Action Plan*, 2014: 9, 2.3.1.§). The new EU Arctic policy explains that the Copernicus already provides surveillance and monitoring services with satellites in polar orbits and Galileo's future coverage of the Arctic will ensure safe and reliable navigation capabilities for air, maritime and ground applications. In general terms none of the EU documents states any level ambition towards which EU should advance in order to enhance its maritime sector related or Arctic-specific interests. For example, it does not reflect on the potential role of mid-term review of Copernicus and Galileo (European Commission, n.d.).

However, on a more promising note the EU Arctic policy informs on its potential future interconnections with the Space Strategy and European Defence Action Plan (*Joint Communication to the European Parliament and the Council. An integrated European Union policy for the Arctic*, 2016: 12). Therefore it is yet to be seen, whether these new intersections will result in more engagement of the European Defence Agency (European Defence Agency, 2016), as one of facilitating bodies of both EU defence initiatives, in the EU Arctic matters. Since both the Space Strategy and European Defence Action Plan are in the drafting process, then at the moment it is hard to judge how these two documents fit in the context of the Baltic scientific research interests in the Arctic. However, it should be already noted that in terms of the Space Strategy, Estonia and Latvia could highlight the expertise acquired by its academics and further their activities. In the Estonian case it is participation in the PolarView initiative. In the Latvian case relevant national authorities would be advised to consult with the Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs (also known by the abbreviation DG GROW) and evaluate how EU or national funding could be allocated to enhance the expertise of Riga Technical University experts, by pursuing broader cooperation options with their long-standing partners from the Technical University of Denmark. Since none of the Arctic related research results have thus far been applied in the military industrial sectors of Estonia and Latvia, the synergies of the EU Arctic policy and the European Defence Action Plan seem irrelevant to the scientific communities discussed in this briefing note.

Last, both EU documents dwell on the importance of the United Nations Convention on the Law of the Sea (hereafter – UNCLOS). EUMSS commits EU to promoting the dispute settlement in line with the UNCLOS, while also stressing the importance of confidence building measures and regional codes of conduct (*EUMSS Action Plan*, 2014: 7, 1.6.§). The EU Arctic policy, on its part, briefly reinstates the commitment to the UNCLOS (*Joint Communication to the European Parliament and the Council. An integrated European Union policy for the Arctic*, 2016: 14). In future the EU Arctic policy could be complemented by details on, whether EU sees value of establishing new confidence building measures and the Arctic code of conduct, or the Arctic Council is the central forum, which successfully covers both of these areas. However, as far as the immediate interests of Estonian and Latvian Arctic research community interests are considered, UNCLOS-related sea-bed exploration matters do not fall in their range of expertise, thus does not bear relevance to the national scientific advancement agenda.

Conclusions

The discussion of Arctic research in Latvia and Estonia in particular, and Lithuania in rather general terms, allows to conclude that in each country the acquired scientific expertise, forms of engagement in the Arctic research, as well as ties between specific Arctic research projects and national scientific, as well as EU priorities, vary significantly from country to country.

In terms of field research and Arctic research tradition in general, in comparison to Latvia, Estonia has acquired more experience and expertise, and is in the process of consolidating its short- and mid-term priorities in two policy documents. Estonia's potential to advance its Arctic research largely depends on the adoption of ESTPOLAR 2014-2020, and further on, on its ability to strengthen partnerships with its international cooperation partners and develop systematic collaboration with the industry.

Latvian capacity to engage more actively in international scientific cooperation currently is hampered by the absence of administrative support structures as well as the lack of sustainable funding sources. The only viable future prospects for development of the Latvian Arctic research is to acquire ad hoc funding for field research under various thematic funding schemes or bilateral, cross-border, national and university support programmes.

In each state researchers have acquired different niche expertise. Apart from research heritage preservation initiatives such as Struve Geodetic Arc, they have not been involved in joint research projects or joint field research in the northernmost region. Rather Arctic researchers in each of the Baltic States seek out partnerships with well-established polar research nations. In most cases those are partners from Nordic (and to a lesser extent Eastern European) countries. The situation, that thus far there have not been any joint (notionally) Baltic research projects in the northernmost region, can be explained by two factors. First, due to cost effectiveness and lack of existing national research facilities in the Arctic, scientists from all three nations are interested in acquiring access to the research facilities operated by other European nations.

Second, on the national level there have not been political incentives to promote joint Baltic research projects in the Arctic. In Latvia Arctic related research has not benefited from any attention among the policy makers and political leadership. On the contrary, in Estonia, its Arctic-related expertise is well known and discussed in two policy documents (ESTPOLAR 2014-2020 and report on the potential national application for the observer status at the Arctic Council) currently being prepared for adoption.

Coming back to the idea of joint Baltic initiatives related to the Arctic, one way, how the young generation of Arctic researchers in the Baltic States could enhance an exchange of information and overall awareness of their activities, is to pursue a bottom-up initiative by establishing national committees in the framework of the Association of Polar Early Career Scientists (hereafter – APECS). On the one hand, it would help to promote their work among peers from other countries. On the other hand, such committees could serve as a springboard for annual joint meetings of all three Baltic committees with an aim to engage in a mutual exchange of information regarding their latest activities, as well as explore opportunities for joint projects or cooperation in broader multilateral initiatives. The viability of this recommendation largely depends on two factors. First, whether the Arctic researchers in the Baltics want to establish new structures as discussion foras with an aim to increase regional ties, or they prefer to stick to the existing international gatherings and follow the established patterns of international cooperation. Second, an impetus towards Baltic dialogue could be drawn from similar research interests.

Currently, Estonian and Latvian scientists do not share the same research interests in the Arctic, thus there are less points of intersection in terms of their expertise. However, in the long run it cannot be ruled out that both Estonian and Latvian Arctic research agendas might reach some commonalities by integrating new areas of expertise acquisition.

It should also be pointed out that in the Latvian setting, where there are no coordinating structures of Arctic related research, the APECS national committee might fill the notional vacuum. Since there are no coordinating formats, where Arctic-related research interests could be summarized and channeled further to policy makers, this committee could implement this function. Moreover, it cannot be ruled out that Arctic could be brought to the spotlight in future political discussions. In case the Arctic would top the political agenda and policy makers would start seeking for some expert advice, this committee might turn out the sole hub or nodal point which could deliver an overview on Latvian engagement in the northernmost research. Otherwise, right now the information on Arctic related research engagement remains scattered among various governmental and research institutions with no joint fora, where an overarching view on the on-going processes could be obtained.

The two national case studies also illustrate that being a passive observer of EU public consultation process does not necessarily mean that a country is a laggard in the specific policy domain or does not have any interest in the region. While there are no signs of Latvian policy makers' intentions to promote or enhance specifically Arctic-related research, a completely opposite situation can be traced in Estonia. Estonia did not contribute to the public consultation process of the EU Arctic policy, but it is an active participant of various Arctic-related EU-supported research projects. Moreover, the EU Arctic policy's interconnections with other upcoming EU-level strategic documents, such as the European Space Strategy, provide potential to further Baltic scientific activities, if backed by the respective national governing bodies, and thus, contribute to the implementation of the EU goals.

Moreover, since EU governance as well as EU's approach in managing its external relations is characterized by multi-level and multi-nodal environment, the Estonian case shows that representatives of the same nation might choose different venues to articulate the same interests and ensure practical engagement in a specific region. On the one hand, it is mirrored by the Estonian multi-faceted support to reinforced engagement in the Arctic. Estonia supports EU's bid for the observer status at the Arctic Council, and meanwhile prepares also its own stance regarding the potential national bid for the observer status in this regional format. In addition, Estonia actively engages in EU Arctic-related initiatives, while not scrutinising and expressing its views on every EU strategic policy document which holds relevance to the Estonian conducted research in relation to the Arctic.

On the other hand, the analysis provided regarding thematic intersections and overlaps between different EU strategic policy documents clearly indicate that, in terms of issue management, an EU member state is in a privileged position to decide which specific policy document and its discussion fora fits best to its interests. It can decide to express its support for one particular cause on several occasions, since the vagueness of EU strategic policy documents and a limited scope of their orderly interconnectedness allows dwelling on the same topic on multiple occasions. Therefore, a further analysis of Latvian and Estonian engagement in EUMSS management and EUGSFSP drafting could shed more light on how national Arctic-related research contributes to or does not play a role in the shaping of national position as regards to these strategic documents.

The information obtained for this briefing note also reveals that the EU is far from the only international organisation which holds relevance in terms of national Arctic research agenda. One example is the relevance of the UN in the context of the preservation of research heritage. All three Baltic States, among other countries of Struve Geodetic Arc, collaborate by exchanging information on the progress of mapping and analysing the station points in their respective territories. Thus it serves as an example that Arctic-related research is being performed within the Baltic States in close cooperation with UN's specialized agency UNESCO.

The three Baltic States have also regained awareness of their colleagues' work in the Nordic countries during the meetings of the Nordic Geodetic Commission. Although the Baltic States have not regained their pre-World War II status within the Commission, their presence rather than formal status ensures regular exchange of information regarding domain-specific developments. Nevertheless, it would be wrong to assume that the Commission plays an equal role in the national Arctic research agenda of both examined countries. For Latvia this Commission serves as an important forum in the Arctic context. On the contrary, it has no relevance in the Estonian case, since Estonia is involved in a non-Arctic related research under the auspices of the Commission.

All in all, it can be concluded that with or without the support of a national policy framework, thus at differing speed, both Latvia and Estonia are advancing towards acquiring their niche expertise in the Arctic research. Therefore, their efforts cannot be necessarily characterised by grand titles as "pivoting to the North Pole", but steadily in a step-by-step approach Latvian and Estonian researchers are amassing expertise, which if backed by more steady national support towards internationalisation and cooperative networks, in time might increase in relevance in a broader scientific community.

Notes

1. E.g. Erki Tammiskaar should be named as one of most active analysts of Estonian polar research history.
2. E.g. Admiral F.v. Bellingshausen has an Antarctic-based Russian research station named after him, Ferdinand Wrangell has Wrangell Island (situated in the Arctic Ocean) named after him. Other famous figures are K.E. von Baer, A. T. Von Middendorf and Eduard Gustav von Toll.
3. In comparison, the Estonian engagement in the Nordic Geodetic Commission is focused on the issues of Fennoscandian land uplift related to melting of the Scandinavian Ice Sheet at the end of the last glaciations, which took place about 10 000 years ago. This research is not related to the Arctic (R.Vaikmäe, personal communication, 3 June 2016).
4. This briefing note was prepared and submitted for publication during the first half of June 2016. Therefore, there are no specific analysis provided regarding the EU Global Strategy which was released at the end of June 2016.

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