

Working paper

The EL-CSID project is coordinated by the Institute for European Studies (IES)

Exploring the Impact of the EU's Promotion of Regional and Inter-regional Processes in the Black Sea Region through Science Diplomacy

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Issue 2017/7 • September 2017



This work has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 693799 as part of the "European Leadership in Cultural, Science and Innovation Diplomacy" (EL-CSID) project. It reflects only the author's view.

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List of Abbreviations

BS- Black Sea

BSEC- Organization of the Black Sea Economic Cooperation

BSH- Black Sea Horizon

BSR- Black Sea Region

BSS- Black Sea Synergy

EaP- Eastern Partnership

EC- European Commission

ENI- European Neighbourhood Instrument

ENP- European Neighbourhood Policy

ENPI- European Neighbourhood and Partnership Instrument

ERA- European Research Area

EU- European Union

FP6- 6th Research Framework Programme

FP7- 7th Research Framework Programme

GERD- gross domestic expenditure on research and development

ICBSS- International Center for Black Sea Studies

OECD- Organisation of Economic Cooperation for Development

R&D- Research and Development

S&T- Science and Technology

STI- Science, Technology and Innovation

SD- Science Diplomacy

USSR- Union of the Soviet Socialist Republics

Abstract

Building on the analytical tools defined by Kingah, Amaya & Van Langenhove (2016) for Work Package 5 of the EL-CSID project, this paper assesses the *willingness, capacity and acceptance* of EU SD policies in the Black Sea Region (BSR). This qualitative mapping looks at science initiatives that aimed to enhance regional cooperation, both in the BSR itself and between those countries and the EU. There has been widespread commitment and willingness from the EU and the BSR to involve in science cooperation projects, and the projects under FP6, FP7 and H2020 did not face acceptance issues from national or regional leaders. However, implementation of the envisaged objectives and Action Plans has been quite often lacking

or incomplete due to capacity issues or weak political commitment. Much more needs to be done in this area if the EU and the BS countries want to reach the full potential of the H2020 projects. On the other hand, a broader political framework that shows a clear vision of the EU towards the BSR is lacking, as the Black Sea Synergy (BSS) has been inactive and the Eastern Partnership has been gaining more momentum and thus overshadowed the BSS. Moreover, political tensions in the BSR will push the EU to opt for a more careful approach towards the region, where either all stakeholders will have to be better involved, or some stakeholders should be left out to ensure a better functioning of future projects.

1. Introduction

When Bulgaria and Romania acceded the European Union (EU) in 2007, it was the first time that Black Sea (BS) littoral countries were accepted into the union and that ‘the EU reached the Black Sea shores’ (Manoli, 2010: 323). Before this, EU cooperation with the Black Sea countries had been rather limited. The accession of Bulgaria and Romania was one of the main incentives for the EU to draw up its Black Sea Synergy (BSS) initiative¹. This was a loose framework underpinning three other EU policies that involved the majority of the BS countries and would showcase the EU’s political willingness to become more involved in the region. The BSS’ intention was not to form new organisations, but to work closely with already existing ones; in particular with the Organization of the Black Sea Economic Cooperation (BSEC)² and the International Centre for Black Sea Studies (ICBSS)³. The BSEC had already been founded in 1992 by Turkey and the Russian Federation, right after the implosion of the Soviet Union. Regional cooperation, however, has proven to be challenging. Not only the recent geopolitical developments, but also unresolved ‘frozen’ conflicts and past conflicts that are still fresh in the collective memory, remain hurdles that are yet to be overcome. Intraregional trade flows remain low, despite the deepening network of multilevel cooperation. An example of this is the regional agreement between Georgia, Ukraine, Azerbaijan and Moldova (GUAM), who agreed upon a free trade agreement in 2003. A decade later, intra-GUAM trade was still extremely low. Only Russia is an important regional trade part-

ner for most BS states, but this is because of its natural oil and gas exports (Manoli, 2012: 437).

In this context, it is interesting to explore if and to what extent the EU’s Science Diplomacy (SD)⁴ initiatives in the Black Sea Region (BSR) have been effective in promoting regional and inter-regional processes. This working paper will assess the effectiveness of SD through the analytical tools provided by Van Langenhove (2017: 8) and Kingah, Amaya & Van Langenhove (2016). These tools are centred on the qualitative indicators of *willingness, capacity and acceptance*. These dimensions have been put forward as a conceptual model to study actorness in International relations, and can equally determine the impact of the EU’s Science Diplomacy policy towards the Black Sea Region. *Willingness* can be assessed by looking if stakeholders have their abilities labelled as Science Diplomacy and if they want to mobilise science for diplomacy goals. The EU’s willingness to act in this field could therefore be measured by the existence of policy tools such as treaties and agreements and the existence of visionary leaders. Also the *capacities* of the EU can be assessed by mapping the available financial resources and instruments that were used for this specific policy area. One can also evaluate the *Acceptance* of involved actors, such as the regional scientific communities, regional organisations and national actors (Van Langenhove, 2017: 8; Kingah, Amaya & Van Langenhove, 2016: 5).

The first section will have a look at the general Science, Technology and Innovation (STI) landscape in the Black Sea Region in order to bet-

ter grasp regional trends and how EU policies fit in this context. The next section will look at the *willingness* of the EU to engage in SD initiatives with the BSR by examining official policies and looking for black letter law commitment to engage in SD and subsequently to enhance regional and inter-regional tendencies with these policies. Also the presence of committed leaders at the EU level is a requirement to assess willingness. The third section will discuss the second qualitative indicator of *capacity*, which looks at the presence of engaged and skilled professionals and the availability of financial resources that are channelled towards science initiatives. The last indicator is *acceptance* and will be assessed by looking at the buy-in from national and regional leaders and at cooperation with other regional and international organisations in the region in the STI sector. In addition, a short general overview of the region for the sub-indicators *regionalism* and *interregionalism* and the indicator *acceptance* will be given in order to better assess the effectiveness of EU policies in promoting regional and inter-regional processes in science.

2. The STI landscape in the Black Sea Region

To assess the EU's influence on the region through its science cooperation initiatives, a closer look at the broader STI landscape in the BSR and its countries is needed. In general, all BS countries have been making efforts these past two decades to strengthen their regional economic and institutional ties (of which the BSEC is a good example), but they still have a

long way ahead to catch up to the dynamic middle-income countries' STI policy environment and the levels of investment in the related sectors. In terms of (higher) education, however, the region is doing extremely well, especially when compared to developed countries for the gross tertiary enrolment rate. Gender equality is a reality in most Black Sea countries as a very high percentage of PhD graduates is female. Only in Turkey the gender balance between researchers has been going down, especially in the private sector and in decision-making circles⁵ (Eröcal, D. & Yegorov, I., 2015: 315).

The economies of Azerbaijan, Belarus, Georgia, Moldova and Turkey have been growing faster than those of the high-income countries, but gross domestic expenditure on research and development (GERD) has never recovered in the former Soviet Republics in comparison to the high levels in 1989 (Eröcal, D. & Yegorov, I., 2015: 315). Only Turkey has headed in the opposite direction with its GERD/GDP ratio hitting as high as 0.95% in 2013. This share was even elevated in 2015 up to 1.06% (Turkish Statistical Institute: 2015). In Turkey and Ukraine, there are also remarkably more researchers being hired in the business sector than in other Black Sea Basin countries. However, the quality of the output is quite low, and the institutional structure of the Turkish STI system remains highly centralized (Eröcal, D. & Yegorov, I., 2015: 321).

In Romania, the innovation system is also primarily based in the public sector as only 30% of the country's R&D is performed by the business sector. Bulgaria and Romania's scientific output was

among the lowest in the EU but it has improved significantly over the past five years, as significant policy measures have been introduced to boost public-private cooperation (Hollanders, H. & Kanerva, M., 2015:267). But Moldova, which has one of the lowest levels of GDP per capita in Europe and the lowest in the BSR, has watched its science system declining, even though there have been many reforms and closer ties with the EU in R&I. Given the emigration and brain drain trends in Moldova, the number of researchers per million inhabitants has stagnated at a level far below those of other BS countries, and the number of new doctorate graduates per 1 000 aged 25–34 is less than a fifth of the EU average (Eröcal, D. & Yegorov, I., 2015: 331).

In Ukraine, the economy has been shrinking, mostly because of the ongoing conflict in the east, and saw his GDP dropping by 6% in 2014. The successive crises have eroded R&D spending and although all Ukrainian governments in the past decade have announced plans to restructure the economy to make it more innovative and competitive, rather limited measures have been envisaged to improve knowledge circulation, to meet business knowledge demands and to increase resource mobilization in the private sector. Ukrainian research and innovation policy with respect to industry is also almost exclusively focused on direct state support for the six national academies of sciences, state-owned companies and state universities (Eröcal, D. & Yegorov, I., 2015: 338).

In Russia, paradoxically, the rapid economic growth fuelled by the commodities boom be-

tween 2000 and 2008 weakened the motivation of enterprises to modernise. In the past few years, the government has sought to reverse this trend by encouraging companies, public research institutes and universities to innovate. Some 60 state-owned companies were obliged to implement special programmes to boost innovation (Gokhberg, L. & Kuznetsova, T., 2015: 343). The government also invested more on R&D during these past years. President Putin realised that Russia needed ‘a technological revolution’ and issued action plans in 2014 and 2015 that aimed at new partnerships with foreign countries, especially with the fellow BRICS countries. In 2014, a wide array of activities was set in motion as part of the Russian–EU Year of Science, and bilateral scientific ties with the UK and France were strengthened. But the EU and US sanctions on Russia reduced cooperation in certain areas. In January 2015, the Minister of Education and Science, Dmitry Livanov, affirmed Russia’s stance towards science: ‘There will be no substantial reductions in the level of science funding caused by the current economic situation. I strongly believe that scientific co-operation should not depend on temporary changes in the economic and political situation. After all, the generation of new knowledge and technologies is a mutually beneficial process’ (Gokhberg, L. & Kuznetsova, T., 2015: 361-362).

What catches the eye when it comes to STI cooperation in the BSR, is that all states maintain a balance between Eastern and Western partners. Armenia, Moldova and Ukraine collaborate most with Germany but the Russian Federation figures among their top four collaborators, as it does for

the other post-Soviet states. Poland makes an appearance in the top five as Ukraine's fourth-closest collaborator. Within the region, only Azerbaijan counts Turkey as its closest partner in science, but Turkey itself partners mostly with the USA and Western Europe (Eröcal, D. & Yegorov, I., 2015: 321) (see Annex 2).

3. Willingness

The desire of the EU to be an effective leader in CD and the effects that this may have on regional and inter-regional processes in the BSR can be captured in the following sub-elements: the expression of the desire to cooperate with other regions in the area of science in the Treaty on the Functioning of the EU, in secondary legislation and other relevant policy documents and the presence of visionary and committed leaders in this field in the EU itself and EU Member States (Kingay, Amaya & Van Langenhove, 2016: 11). In these sub-elements, there will also be looked at the emphasis that is put by the EU on regional and inter-regional integration processes and the EU's aspiration to enhance it through cooperation in science.

3.1 Inclusion of SD goals in Black Letter Law and Policy

One of the first requirements for effective EU leadership in SD supporting (inter) regionalism in the BSR is the inclusion of SD goals in black letter law and policy. Specifically, Articles 180 and 186 in Title XIX in the Treaty on the Functioning of the European Union make it clear that the EU envisages to play a role in the area of

science cooperation. Here it is stated that cooperation with third countries and other international organisations will be promoted in order to meet the research goals of the EU. Also in other important policy statements, the EU has conveyed its desire to be 'an effective leader in the realm of SD' (Kingah et al, 2016: 10).

After the very first cooperation projects had taken place some years before, the EU's regional cooperation initiative for the BSR was taken up as a complementary initiative to the already existing policies that involved most BS countries, in order to give more political attention to the region and enhance the ongoing cooperation process. The BSS was thus not intended as an independent BS strategy, as it was the Commission's opinion that a broad EU strategy towards the region was already set out by three other EU policies: the pre-accession negotiations with Turkey, the European Neighbourhood Policy and the Strategic Partnership with Russia. The BSS was thus meant as a flexible framework to enhance coherence and ensure policy guidance (European Commission, 2007). However, this more flexible framework also resulted in policy pluralism towards the BSR as a variety of policy options applied to the region. Additionally, the BSS and the Eastern Partnership did not take into account the already existing institutional capacity and other regional schemes with similar agendas (Manoli, 2010: 323-329).

Among other cooperation areas, the importance of the development of environment, research and education networks and science and technology have been underlined in the

BSS. It was stated that the EU intended to 'stimulate the interconnection of all countries in the area to the pan-European research backbone GEANT' and that 'legal and regulatory harmonization of these countries frameworks with the EU framework' would be promoted. The Commission also emphasized its intention 'to promote capacity-building and S&T policy dialogue with the Black Sea countries, in particular through the 7th Research Framework Programme' (European Commission, 2007: 7). In the broader European Neighbourhood Policy, the importance of cooperation in research is also underlined as it helps to tackle common challenges such as energy security, health issues, and environmental changes. It is also recognised that thanks to cooperation in science, the economic and industrial competitiveness of neighbourhood partners will be strengthened (European External Action Service, 2016). Also in the Eastern Partnership⁶, the importance of cooperation in the areas of training and youth, research and environment was underlined (European Commission, 2008).

3.1.1 Regionalism

In order to assess the effects of STI cooperation on regionalisation processes in the BSR, the notion of the Black Sea states as a 'region' should be discussed first, because the 'regionness' of the Black Sea states has been contested. Namely, it was not until the implosion of the Soviet Union and the following foundation of the BSEC by Turkey and Russia in 1992, that the BS littoral states would express the ambition to

work together on regional themes. Before this, regional cooperation was almost non-existent, with the exception of some cross-border trade cooperation. Almost no knowledge or capacity was available concerning on how to work together in this region. There were links between the BS countries, but limited, and often only with neighbouring countries (Manoli, 2017). This sudden eagerness to cooperate after the implosion of the Soviet Union is something what Libman and Vinokurov (2012: 2) have called *holding-together regionalism*: 'the integration of countries which until recently were part of a single political entity'. There has been a huge lack of attention for this *post-soviet regionalism*, most likely because it is well-known that these integration projects were relatively ineffective, especially when compared to the more successful *coming-together integration* projects such as the EU and the NAFTA (Libman and Vinokurov, 2012: 2).

Therefore, the idea that the BS states form a natural 'region' with a regional 'identity' has been widely contested (Manoli, 2012; Ciută, 2008; Triantaphyllou, 2012 & 2016), and is sometimes even said to be a politically constructed idea. Surely, there are many reasons why these states could be seen as a region in theory (Ciută 2008:141). First, the countries are bound by multiple security issues (energy, crime, human trafficking, transport, etc.) and that they are thus seeking to ensure *security* through internalisation, institutionalisation and democratisation. The second one is that the countries do form a geopolitical entity, bound by the BS and by the geopolitical risks that surround them. The other

option is that the BS 'project' can be seen as a necessity, as they *need* this regional identity, *only* because it would constitute the main solution to the region's security problems. So even if there is a certain political and academic agreement that no feeling of 'regionness' exists in the Black Sea region, it is widely acknowledged that this would be needed in order to tackle regional problems. It would thus not only be thought-provoking to look at this 'regional framing' from a theoretical point of view, but also from a political one – so as to enquire *why* the region has been created. Ciută (2008: 133) phrases it like this: 'As a consequence, it is also here that the project sees 'region' and 'security' in co-constitutive terms, the achievement of each constantly requiring the building of the other'.

Also, the two reasons to exist as a region form a paradox. The first reason is endogenous. On the one hand, economic difficulties and the need for managing regional public goods such as the environment, trade and financial stability have generated demands for regional cooperation, integration and policy coordination. But on the other hand, important security issues such as the unresolved secessionist conflicts undermine the drive for regionalism and obstruct collective action and institutions (Aydin & Triantaphyllou, 2010: 375). Therefore, in order to achieve better regional cooperation and for policy measures to have a real impact, these security issues should be solved first.

The second reason is exogenous and has resulted in a balancing act of most involved countries: the region is namely 'caught' be-

tween Russian and EU-oriented development paradigms, which has resulted in multiple designs of regional multilateralism (Manoli, 2010: 323). This had as a result that 'Intergovernmental groupings of variable institutionalization, membership and rationale have been reflecting two dominant approaches: an 'EU-centric' or extra-regional one where the success of cooperation is measured against targets set by Brussels and which aims at expanding EU regime in the neighbourhood (such as the EaP) and an 'introverted' or intra-regional one whose success is measured against the deepening of policy coordination and integration among the neighbours beyond EU imperatives - such as Black Sea Economic Cooperation' (Manoli 2012: 435).

On top of that, each BS country has been forced to move in rather different directions by having to choose between Russia's customs union or an association agreement with the EU. Tensions arose between the Russian Federation and Moldova, Ukraine and Georgia when they announced their intention of signing association agreements with the EU to foster closer political ties and economic integration. This precarious regional situation has caused the Russian Federation and Turkey to choose for this delicate equilibrium in not advancing regional cooperation, whilst trying to win more influence over the region (Triantaphyllou, 2016: 8). Because of these multiple issues, there is serious doubt and concern about the future potential of regional cooperation for the BS countries and about the future of the BSS in general (European Policy Centre, 2012).

Cooperation in science with the region initially started through a purely science-oriented project under the 6th Framework Programme (FP6), BS-RESPOT, that was obtained through competition for EU funding. The main aim of BS-RESPOT was identifying the most promising field for S&T cooperation among the BSEC countries and between the BSEC and the EU (European Commission: 2014a). It is when this initiative finalised its activities with a closing conference, proposals specifically for the BSR under the next funding programme, FP7, were submitted.

This resulted in concrete cooperation proposals for three areas: environment, transport and energy - each package led by Romania, Greece or Bulgaria. The actors here were thus not only purely governmental: also think tanks and research centres were involved. This concluding conference of BS-RESPOT had a long-term impact, seen that it gave the incentives for a more formal framework under FP7. So while under FP6 science cooperation was still obtained through competitive applications, under FP7 the EU became more politically committed towards the region with the Action Plan and the drafting of the BSS (Manoli, 2017). Attention was given to regionalism as 'the primary tasks of Black Sea Synergy would be the development of cooperation within the Black Sea region and between the region as a whole and the European Union' (European Commission, 2007: 3).

Most EU-funded initiatives are aiming at cooperation between the EU and the BSR, although some also had the specific aim of improving S&T cooperation in the region itself. This was

done under FP7 after the success of BS-RESPOT. Especially Black Sea Scene (2004-2008) and the following UP-GRADE Black Sea Scene (2009-2011) were designed to develop a common information structure in the region that would be maintained by the BS partners themselves. It was to improve access, exchange and quality of their data information on the Black Sea. In total, 51 partners were involved, of which 43 were located in the BS countries. The scientific network consisted of research institutes, universities and NGOs (Black Sea Scene, 2017).

Also under the ENPI and later under the ENI Instrument for funding, a programme specifically aimed at the BSR was set up: the Black Sea Basin Programme. This programme already runs for ten years and is funded under the EU's Cross Border Cooperation (CBC) programme until 2020. This programme brings together the BS littoral states to tackle regional issues. An important share of this programme is dedicated to joint environmental monitoring and raising awareness and initiating actions to reduce water pollution. There is also a CERES, a Research Fellowship Programme that enables the transnational mobility of scientists in Central Europe (UEFISCDI, 2013: 19-24). Many of the eligible countries here are also BS countries. Another important regional cooperation programme between the EU and eleven partner countries in Eastern Europe, the Caucasus and Central Asia, is INOGATE. This is an EU-funded assistance programme that aims at improving energy security and encouraging the production of green energy (INOGATE, 2017).

3.1.2 Inter-Regionalism

The EU's approach towards the BSR has been a mix of hybrid or quasi-interregionalism (between the EU and a country in the BSR) and bilateral interregionalism (between the EU and the BSR as a regional group) (Baert et al., 2014: 4-6). Especially Black Sea Horizon, the new framework for STI dialogue between the EU and the BSR that has received funding from Horizon 2020, is a perfect example of bilateral interregionalism. Hybrid interregionalism proved to be more useful towards the 'big players' in the region, such as Russia, Turkey and often also Ukraine, with whom the EU has made many bilateral agreements, also in STI. Especially with Russia, S&T cooperation has mostly proceeded bilaterally, as it is 'the EU's scientifically most important non associated neighbour country' (European Commission, 2016: 1). This mixed approach reflects well the prediction of Baert et al. (2014: 2) on how the rise of new national actors and the geopolitical shift from a unipolar to a multipolar world results in 'new bilateralism' and EU Strategic Partnerships.

The objective of the BSS was also certainly to promote inter-regionalism processes, as it has recognised the importance of the linkages between the BSR and the neighbouring regions like the Caspian Sea, Central Asia and South-Eastern Europe. The cooperation initiative was thus meant to have substantial 'inter-regional elements, and it would also take into account other regional cooperation programmes supported by international organisations and third countries' (European Commission, 2007: 3).

Moreover, many efforts have been made to involve the BS countries in several projects that aim to integrate the participating countries in the European Research Area (ERA) by linking the existing national, bilateral and regional programmes with the ERA.

Georgia, Moldova and Ukraine also signed the EU association agreements in 2014, whilst Armenia is in the process of becoming an Associate country (EEAS, 2017). These envisage the countries' enhanced participation in Horizon 2020⁷, but the conditions under which the agreements were signed were significantly more advantageous and at a seriously reduced cost in comparison to the initial negotiation proposals to become an Associate Country. This full participation to H2020 will prove itself a huge challenge to these countries, as they did not have much time to fully adapt to the Framework Programme. Moreover, they will now have to contribute the same amount as the other countries to H2020 – although they did not have to pay that much for their 'entry ticket' (Bonas, 2017). The challenge will be the equal competition between their researchers and the researchers who have been participating for a longer time in the EU's research and innovation programmes, as proposals are chosen based on excellence and other participants might have a better know-how on how to attract funding. Those BS countries which do not have association agreements with the EU are also eligible for Framework Programme funding; moreover, projects such as ERA's Networking on Science and Technology in the Black Sea (BS-ERA.NET) have been aiming at involving them in the Framework

Programme. Also Turkey actively participates in various European research cooperation networks. The country has long had close ties to the EU, but Science Diplomacy got off to a slow start under FP6 before it accelerated under the FP7, starting from 2007 (Eröcal, D. & Yegorov, I., 2015: 321). Efforts are now being made to seize the opportunities available under the Horizon 2020 programme (2014–2020) more fully.

There have been many STI cooperation initiatives that included BS countries. One of the first was SCOPE-EAST under FP6 and involved Germany, France, Ukraine and Russia, which main aim was to see how national cooperation strategies and the EU R&D cooperation strategy could be better coordinated. A programme under FP6 and FP7, SEE ERA.NET and SEE ERA.NET PLUS, was another inter-regional initiative that intended to integrate the Western Balkan countries and research communities in the ERA. One of the most important programmes regarding the BSR was BS-ERA.NET under FP7, as it specifically aimed at integrating the BS countries into the ERA. However, also the programmes ERA.NET-RUS (with Russia) and SEAS-ERA.NET (with the three EU sea basins) involved BS countries in the process of integrating STI policies in the ERA. Other inter-regional programmes that try to support and facilitate S&T policy dialogues to strengthen S&T cooperation are IncoNet EECA (with Eastern Europe and Central Asia) and IncoNet EaP (with Eastern Partnership countries). The most recent (2015-2018) inter-regional cooperation initiative between the EU and the Black Sea region is Black Sea horizon, which aims to support the EU's external relations with

the region by contributing to STI dialogues and STI cooperation. It also tries to create a framework for pooling resources and identifying challenging areas for cooperation in STI in the region.

3.2 Presence of Committed Leaders in the Member States and EU Institutions

Selleslaghs (2017: 7) points out that science diplomacy needs to be seen as a shared competence between the EU and its member states as there is no exclusive legal competence for a single European science, higher education and innovation policy foreseen in the European Treaties. Therefore, member states can carry out Science Diplomacy initiatives simultaneously with the EU, whilst complementing each other. This also accounts for activities with third countries. Germany, France and the UK are excellent examples: whilst they are leading many EU-led science cooperation initiatives in the region (see Annex 1), they also collaborate intensively with these countries in pure science initiatives (usually without a focus on Science Diplomacy). They are also one of the most important partners in science for the countries involved, together with the USA, the Russian Federation and Turkey (see Annex 2).

In this context, the Commissioner for Science, Research and Innovation Carlos Moedas has several times pointed out the unique place science and their practitioners hold on the international stage, as he argues that science has the reputation of being a *universal language*: non-political, non-ideological and evidence-based

(Moedas, 2015). He also stated that he wants the EU to play a more active and visible role in international SD, as it can keep communication channels open in times when it is difficult to maintain good political relationships with countries or regions (Moedas, 2016).

Also, in the STI cooperation programmes, experienced leaders were chosen to enhance the collaboration between the EU and the BSR. Dr. George Bonas would be an ideal example, as he has been leading many STI cooperation initiatives between the EU and Russia, Central Asia, the Eastern Partnership countries, the Western Balkan countries, etc. Under his expertise, many Action Plans on S&T and capacity building projects (among which the IncoNet programmes) have been drafted. Many other people who have been successful in early STI cooperation programmes, have each time been actively involved in subsequent projects as well (CeRISS, 2017). In addition, the EU member countries Greece, Romania and Bulgaria have always been at the forefront in enhancing collaboration, as they had the expertise in attracting funding and drafting proposals (Manoli, 2017). Therefore, usually the STI projects that had an impact were funded through the EC and not through a regional funding programme (Filippidis, 2017).

4. Capacity

Making financial resources available for the science cooperation initiatives and making sure that there are enough skilled professionals engaged in the process is of course also of utmost importance to implement the policies effective-

ly. The willingness to engage in SD thus needs to be backed by the needed capability to foster the set goals (Kingah, Amaya & Van Langenhove, 2016: 17).

4.1 Engaged and Skilled Professionals

Programme Coordinators often had an extensive knowledge on how to initiate and encourage regional STI cooperation processes in the region. Also, training and capacity building events have been regularly organised (BSEC, 2012). The implementation of high-level policy documents or action plans, however, has been often missing. An example is the lack of implementation of the BSEC's Action Plans on Science and Technology. At a certain point, it was agreed that an inventory would be made on the research infrastructures in the region. However, this plan never came into action, and an inventory was never made. There is a broadly accepted consensus that the BSEC has never fully delivered on the implementation of S&T plans (Bonas, 2017 & Gajdusek, 2017). Also, in some countries, the willingness of scientists to go abroad or to collaborate internationally has been sometimes low. Nevertheless, most countries have showed to be very strong in international collaboration, like Ukraine and Georgia. Remarkable is that most countries and researchers have been very determined to work together despite the political issues, although the will to fund themselves is sometimes absent (Gajdusek, 2017).

As also confirmed in the European Commission's Review on the BSS (2015: 9-10), it has been sometimes difficult to implement plans

due to weak political commitment of some partners and due to a gap between high-level policy makers and stakeholders. The EC thus recognised that the impact of the EU's assistance remains limited in the region unless there is sufficient commitment from the littoral countries. It was suggested that in the future, in order for the projects to be successful, not necessarily all partners had to be involved in the projects. Also, with the changing political situation in the BSR, a more flexible approach was suggested, *'allowing partners to opt in and out depending on their willingness, capacity and readiness to participate'*.

As some countries have become Associate Countries to H2020 and all others have a broad access to funding, a supportive environment that simultaneously facilitates the free movement of the researchers has been enabled. Science networks and forums which include *inter alia* research centres and NGOs other than government institutions (such as academies of science) have also been set up by the EU, and occasionally by BSR countries themselves. Examples are the Black Sea Research Network, the Black Sea NGO Network, the Black Sea Universities Network, etc. (UEFISCDI, 2013: 19-14).

4.2 Investing Financial Resources on SD

When the BSS was launched, there was no separate budget line foreseen for the BSR. The implementation was thus dependent on the pre-decided European Neighbourhood Partnership Instrument (ENPI) and other funds, like pre-accession funds for Turkey, external assis-

tance instruments and the Regional Development Fund. From the beginning of 2009 until 2015, the EU has invested nearly 140 million euro in the region in total (European Commission, 2007: 9).

The EU has also financially invested in S&T cooperation initiatives for the region. The very first project under FP6, BS-RESPOT, had a total cost of 506,059 euro, of which the EU contributed 480,000 euro, and was coordinated by Greece (European Commission: 2014a). Under FP7, the EU had contributed 63.1 million euro to 20 science projects where Black Sea countries participated. For the specific initiative that was aimed at networking and cooperation, BS-ERA.NET (2009-2012), 2.191.788 euro were foreseen (European Commission 2015). Also for the SEAS-ERA project (2010-2014), which linked the three European seas, the EU contributed 2 million euro (SEAS-ERA, 2017). Other important science networking initiatives were the Black Sea Scene project (2005- 2008) and the following UP-GRADE BS-SCENE project (2009-2011) that aimed at establishing a network of leading research institutes in the BSR. The EU contributed every time the bulk of the cost, with 2 million euro for the former project and 3,400,000 euro for the latter. The Black Sea Horizon project (2015-2018) has received 1,500,000 euro under Horizon 2020 (European Commission, 2017a).

Other important cooperation initiatives were for example IncoNet EECA (Eastern Europe and Central Asia) and IncoNet EaP (Eastern Partnership), which aimed at creating S&T

synergies across regions and in which many BS countries were involved. The first initiative received 3,550,000 euro from the European Commission, and the latter received 3 million euro (European Commission 2017b). Some countries like Russia and Ukraine, on the other hand, work through bilateral agreements. The ERANET.RUS actions, for example, led to 94 collaborative projects with 27.4 million funding – of which Russia contributed 6.5 million euro (European Commission 2016).

Joint funding is thus more a reality when cooperating with the Russian Federation than with BS countries in S&T. All BSEC countries had and still have a very high expectation of the EU when it comes to funding, but also when it comes to output and delivering results (Gajdusek, 2017). Although there was a general will and eagerness to participate under the FP7 and H2020 programmes, funding never seemed to be on the BS countries' agenda. This even becomes clear when looking at the EU's contribution in comparison to the total cost of all the BS-EU S&T cooperation initiatives.

5. Acceptance

Even if there is EU willingness and capacity to engage in SD, it could fall short because there is a lack of credibility or legitimacy of the EU in the area of SD. Especially buy-in from national and regional actors and the desire of other regional organisations to recognise and accept the EU as a forerunner in SD would count as evidence of acceptance in the BSR (Kingah, Amaya & Van Langenhove, 2016: 20).

5.1 Buy-in from National and Regional Politicians

The launching of the EaP in 2009 was not met with the same enthusiasm by all neighbours, especially by Russia, as it had not been involved in the EaP. On the other hand, the political elites of the three South Caucasus states welcomed the EaP as it would upgrade its relations with the EU (Manoli 2012: 434). Today, Turkey and Russia prefer to keep the status quo in the region instead of encouraging the regionalisation process. Moreover, many have stopped believing in BS regional cooperation along the lines of the EU and some have proposed other, more sustainable models of cooperation for the region. The failure of the BSEC to generate real implementation of its envisaged policies (Triantaphyllou, 2012: 5), and growing criticism on the EU's policies towards the BSR as many regional initiatives have not been effective (Triantaphyllou, 2016: 9) constitute key reasons.

Regardless of this critique, there is still this EU 'gravitational pull', as most cooperation funds come from the EU and it is still the centre of gravity for economic activity for the region (Manoli 2010). Especially in science, there is still substantial willingness to cooperate with the EU. The Black Sea Horizon is supporting an extensive network of regional partners in science, of which most have also cooperated in previous programmes. Also in EU-Russia S&T cooperation, both Russia and the EU have been eager to increase their efforts (European Commission, 2016). There is even this phenomenon of 'positive competition', as all BS countries want

to step up their results in the STI environment. This works in both ways. On the one hand, there is the EU practice of showcasing and highlighting good practices, which induces the other countries to also step up in their efforts. On the other hand, some countries are also encouraged by their own government to participate in EU H2020 projects. In Turkey, researchers even get a financial reward when they submit a proposal for a H2020 call. When their proposal is being accepted, the award even gets higher. Armenia and Georgia are following Turkey in this practice (Bonas, 2017).

5.2 Acceptance Beyond the EU: Other Regional and International Organisations

Regarding the BSEC, cooperation with the EU in the area of S&T was greatly encouraged from the start and this committed stance has been repeated in the BSEC action plan on cooperation in S&T for the period of 2010-2014 and 2014-2018, and in the meanwhile also in the BSEC plan of action for the period 2012-2014. More coordination and cooperation at the regional and international level was encouraged, with a particular focus on the EU. The EU FP7 was recognised to hold a prominent place in this endeavour, as it involved also many of the BSEC member states (BSEC, 2010). In the Plan of Action of the BSEC working group on cooperation in S&T, the importance of the EU Framework Programmes came forward as well, as synergies with other international programmes was one of the general objectives (BSEC, 2012). In 2014, BSEC stated that 'several significant pro-

jects had been successfully implemented with the participation of various organisations from the BSEC Member States as well as the International Centre for Black Sea Studies (ICBSS) in different EU Research and Development Programmes' and that, in this context, 'sharing experiences and good practices within the BSEC and close cooperation with innovation forerunners in the EU and beyond, is essential...' (BSEC, 2014).

The EU also tried to join the Bucharest Convention and was therefore an observer to the Commission on the Protection of the Black Sea against Pollution (which is the intergovernmental body established in the implementation of the Convention) and has provided financial support, but an official accession has not yet been granted. In addition, the EU has been working together with the General Fisheries Commission for the Mediterranean, which is also active in the Black Sea (European Commission, 2015: 9).

6. Conclusions

After 10 years of BSS and 25 years of BSEC, there are still many challenges that should be dealt with in order to achieve better regional cooperation. Cooperation with the EU, but also within the BSR, has been moving extremely slowly or has not made any progress at all. Addressing the unresolved conflicts in several areas and building common goals, political will and more commitment are essential to obtain more results in the region. Also, providing more co-financing and engaging the private sector and civil society could contribute to this. More recently, the development of regional programmes has also been taking place in a precarious geopolitical context. For most cooperation topics, it seems that the BS countries are trying to keep the balance between the 'bigger players' in the region, whilst those prefer to maintain the status quo and do not wish to move regional integration forward.

However, most regional partners (national academies of science, research centres, universities, private stakeholders, etc.) have been keen to participate in EU-funded science cooperation projects. Significant effort has been made from both the side of the EU and the BSR partners to enhance regional and inter-regional cooperation in the area of science. Also Turkey and the Russian Federation have been eager to take part in the EU's FP7 and Horizon 2020 projects. Many of the programmes did indeed enhance integration of the BS countries into the ERA or spurred dialogue on STI policies. This being said, collaboration with the EU always went more smoothly

when conducted bilaterally. So, even in science, the BS partners would display the tendency to rather cooperate with the EU itself than with the neighbouring BS countries. More efforts should thus be made from the side of the BS countries to team up in science projects instead of only looking at the EU partners for guidance.

The EU's efforts to involve the BSR in its science projects and frameworks had positive effects in terms of inter-regional integration, as the degree of BSR participation in EU science programmes was high and many countries were integrated into the ERA. Cooperation in science also does not face pronounced unwillingness of national or regional actors; on the contrary, most partners seem very motivated to participate in the FP7 and H2020 framework. The absence of any political issues and the eagerness to gain more results in science projects and to receive funding (as that is what most BS countries expect from collaborating with the EU) seem to be the most important incentives for this phenomenon. On the other hand, it did not have as much effect on regional integration processes, as BS countries regularly keep refusing to collaborate between themselves, even on non-politically charged science projects. Moreover, the positive effects of the science initiatives didn't seem to have substantial spill-over effects on other cooperation areas.

Based on the indicators of *willingness, capacity and acceptance*, science has proved to be a most advantageous cooperation area for the EU and the BSR to enhance relationships and encourage regional integration. Although there

are hurdles that still need to be overcome in this field as well, the neutral and non-political environment could probably induce more willingness in the BSR to open up and start cooperating among themselves, and not only bilaterally with the EU, Turkey or the Russian Federation. In this context, the EU science cooperation projects with the region can only partially be seen as a good example of SD, as it did indeed improve the relationship between the EU and the BS countries, but not between the BS countries itself. In that sense, the EU did indeed have an impact on inter-regional processes and was rec-

ognised to be a leader and forerunner in the field of science. It is therefore imperative to keep investing in these projects, as they have a lot of potential and it keeps an important communication channel with this region open. Especially now diplomatic contacts have been limited due to political tensions between particular countries and the EU, an argument can be made to encourage and ensure the proper functioning of the Horizon 2020 projects in the BSR, as their non-political nature could ameliorate relations between these countries in other areas in the long term.

7. Footnotes

- 1 The BSS comprises the littoral states (Russian Federation, Ukraine, Bulgaria, Romania, Turkey, Georgia) as well as Armenia, Azerbaijan, Greece and Moldova.
- 2 Interestingly, the BSEC member countries are the same countries as in the BSS + Serbia and Albania. Six of these countries have been part of the former Union of Soviet Socialist Republics (USSR) as well.
- 3 The ICBSS functions as a think tank and research center for the entire Black Sea area and works closely with the BSEC as it is a related body to the organisation.
- 4 Science cooperation which improves bi-and multilateral relations. There is thus a distinction made between pure science projects that involve multiple countries and science initiatives that aspire to enhance regional cooperation and better relationships between countries through this channel.
- 5 For example in National Academies of Science, ministries of science, think tanks...
- 6 the joint initiative involving the EU and its member states and 6 eastern European partners: Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine.
- 7 The current EU funding programme for research and innovation (2014- 2020).

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10. Annexes

Annex 1: Examples of EU SD interactions with the EU Region, by funding programme/institution

Programme and/ or institution	Project name and period	Countries involved	Type of interaction	Brief description	website
FP4- INCO	IC-INTAS (1993-...)	EU MS + Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan	Inter- regional	'International Association to promote cooperation between scientists from Western Europe and scientists from the independent states of the former Soviet Union.'	http://cordis.europa.eu/programme/rcn/493_en.html
FP6 -INCO	BS-RESPOT (research potential in the BSR) (2004-2006)	Greece, Austria, Turkey, Ukraine	regional, inter- regional	'The main aim of the BS-RESPOT project had been to identify the most promising field for cooperation in S&T among the BSEC countries and between BSEC and EU. In addition, particular attention had been given to the role and potential of the National Academies of Sciences, and on the role and character a Black Sea Innovation Center could have.'	http://cordis.europa.eu/result/rcn/51855_en.html
FP6-INCO	SCOPE-EAST	Germany, France, Ukraine, Russia	Inter- regional	'The project SCOPE-EAST intended to take sustainable steps in view of an enhanced coordination of the R&D cooperation of interested EU-Member States and Associated Candidate States with Russia and Eastern Europe. SCOPE-EAST addressed the question of how to achieve optimum coherence between national cooperation strategies and the EU R&D cooperation strategy and of how cooperation in R&D can contribute to other policies of the EU such as the European Neighbourhood Policy. Target countries of SCOPE-EAST were in the first step Russia and Ukraine.'	http://cordis.europa.eu/result/rcn/47377_en.html
FP6 + FP7	Black Sea Scene (2004-2008) + UP-GRADE Black Sea Scene (2009-2011)	51 partners of which 43 are located in the Black Sea countries	Mainly Regional, inter- regional	'To gather a Black Sea Scientific Network of leading research institutes, universities and NGO's from the countries around the Black Sea and to develop a virtual data and information infrastructure that is populated and maintained by these organisations to improve the identification, access, exchange, quality indication and use of their data and information about the Black Sea.'	http://www.blackseascene.net/content/content.asp?menu=0010000_000000

FP6 + FP7	SEE ERA.NET+ SEE ERA.NET PLUS	Austria, Albania, Austria, B-H, Bulgaria, Croatia, FYROMacedonia, France, Germany, Montenegro, Romania, Serbia, Slovenia, Turkey	Inter-regional	'In essence, SEE-ERA.NET PLUS is the next step in further integrating the Western Balkan countries (WBC) and selected key research communities into the European Research Area. It will further enhance the coordination of bilateral R&D cooperation with WBC. The main objective of SEE-ERA.NET PLUS is to launch and implement one joint call for trans-national research proposals (JERPs).'	https://www.era-learn.eu/network-information/networks/see-era-net-plus
ENPI - CBC (European Union's Cross-Border Cooperation)	Black Sea Basin Programme (2007-2013) + (2014-2020)	Bulgaria, Greece, Romania, Russia, Turkey, Ukraine, Moldova, Georgia, Armenia	regional	'Promote business and entrepreneurship and protect the environment and reduce marine litter (improving of joint environmental monitoring and promoting of common awareness raising and joint actions to reduce river and marine litter).'	http://blacksea-cbc.net/black-sea-basin-2014-2020/
FP7	BS-ERA.NET networking on S&T in the BSR (2009-2012)	Romania, Greece, Italy, Turkey, France, Azerbaijan, Armenia, Germany, Ukraine, Moldova, Malta, Georgia, Bulgaria	inter-regional	'BS-ERA.NET is a networking project aimed at integrating the participating countries from the Black Sea extended region in the European Research Area by linking research activities within existing national, bilateral and regional RTD programmes.'	http://bs-era.net/main/index.php?we=9bfdbe988abcff430168e60524a69c11&wchk=c1960ad06e70dbaee80ab8641db51532
FP7, Horizon 2020	ERA.NET-RUS	Russia, EU MS	Hybrid inter-regionalism	'The major objective of ERA.Net RUS Plus is to deepen the trans-national collaboration between EU MS/AC and Russia and to reduce the fragmentation of research programmes along national funding lines. This joint undertaking will create synergies and strengthen the cooperation among the consortium members.'	http://www.eranet-rus.eu/
FP7	SEAS-ERA.NET	(three EU sea basins) Spain, Belgium, Bulgaria, France, Germany, Greece, Iceland, Ireland, Italy, Norway, Malta, Portugal, Netherlands, Turkey, UK, Romania, Ukraine, Georgia	Inter-regional	'SEAS-ERA aims at embracing marine and maritime research in its entirety, overarching the previous initiatives which only targeted a given area or basin and, therefore, constituting a stable and durable structure for empowering and strengthening marine research all across Europe.'	http://www.seas-era.eu/np4/2/
FP7- Marie Curie action	Research Fellowship Programme CERES – CEI (central European Initiative) (2007-2014)	Albania, Austria, Macedonia, Moldova, Montenegro, Belarus, Poland, B&H, Bulgaria, Romania, Serbia, Croatia, Czech Republic, Slovakia, Hungary, Slovenia, Italy, Ukraine	Regional	'The Central European Initiative (CEI) strongly supports trans-national mobility of scientists and researchers across its area.'	http://www.cei.int/content/member-states

FP7+ Horizon 2020	IncoNet EECA (2008-2012) + IncoNet EaP (2013-2016)	Greece, Austria, Italy, Belarus, Moldova, France, Germany, Estonia, Poland, Ukraine, Armenia, Azerbaijan, Hungary, Portugal, Georgia, Turkey, UNU Institute	Inter-regional	'To support and facilitate a bi-regional EU – EECA S&T policy dialogue and, in the case of Russia and Ukraine, a complementary bilateral S&T policy dialogue involving stakeholders from policy making, science community and industry. The dialogue will address national S&T potential, policy goals and demands in order to define common priorities and to develop respective joint scenarios and implementation strategies in order to strengthen the S&T cooperation.'	http://www.inco-eap.net/en/99.php
H2020	Black Sea Horizon (BSH) 2015-2018	Bulgaria, Greece, Georgia, Armenia, Germany, Hungary, Austria, Russia, Moldova, Azerbaijan, Turkey, France, Portugal, Ukraine, Poland	Inter-regional: EU and BSR	'The project aims to support the EU's external relations with the target region by significantly contributing to ongoing bi-regional and regional Science, Technology and Innovation (STI) policy dialogues, and by increasing the knowledge base about the EU's external environment. It also stresses to stimulate bi-regional STI cooperation and to strengthen the EU's economic competitiveness as well as to contribute to the establishment of supportive framework conditions by facilitating the pooling of resources and by identifying challenging thematic areas for mutual STI cooperation.'	https://blacksea-horizon.eu/
GÉANT network	Eastern Partnership Connect (EaP Connect) 2015-2020	Bulgaria, Greece, Georgia, Austria, Moldova, Romania, Russia, France, Ukraine, Poland, Armenia	Inter-regional	'The partnership aims to provide support and assistance for reforms in the region in the fields of democracy, human rights, market economy, sustainability and governance. As part of its digital agenda the Eastern Partnership recognises the importance of e-Infrastructures in: Promoting digital inclusion, stopping brain drain, Procuring and federating access to high-quality scientific content, Enabling participation of EaP countries in Horizon2020 projects.'	https://www.eapconnect.eu/
'INTERREG III- NP CADSES	PlanCoast Project (2006-2008)	the Baltic, Adriatic and Black Sea regions	inter-regional	'PlanCoast had the aim to develop the tools and capacities for an effective integrated planning in coastal zones and maritime areas in the Baltic, Adriatic and Black Sea regions.'	http://www.plancoast.eu

<p>INOGATE</p>	<p>INOGATE (1996-...)</p>	<p>Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Moldova, Turkey, Turkmenistan, Ukraine, Uzbekistan</p>	<p>regional</p>	<p>'INOGATE is one of the longest running energy technical assistance programmes funded by the European Union. It works within the policy frameworks of the Baku Initiative and the Eastern Partnership. INOGATE cooperates with 11 Partner Countries to support a reduction in their dependency on fossil fuels and imports, improve the security of their energy supply and mitigate overall climate change.'</p>	<p>http://www.inogate.org/energy_cooperation?lang=en</p>
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Annex 2: The post-Soviet states balance collaboration with Eastern and Western Europe Main foreign partners, 2008–2014 (number of papers)

	1st collaborator	2nd collaborator	3rd collaborator	4th collaborator	5th collaborator
Armenia	USA (1 346)	Germany (1 333)	France/Rus. Fed. (1 247)		Italy (1 191)
Azerbaijan	Turkey (866)	Russian Fed. (573)	USA (476)	Germany (459)	UK (413)
Belarus	Russian Fed. (2 059)	Germany (1 419)	Poland (1 204)	USA (1 064)	France (985)
Georgia	USA (1 153)	Germany (1 046)	Russian Fed. (956)	UK (924)	Italy (909)
Moldova	Germany (276)	USA (235)	Russian Fed. (214)	Romania (197)	France (153)
Turkey	USA (10 591)	Germany (4 580)	UK (4 036)	Italy (3 314)	France (3 009)
Ukraine	Russian Fed. (3 943)	Germany (3 882)	USA (3 546)	Poland (3 072)	France (2 451)

Source: UNESCO (2015), *UNESCO Science Report: towards 2030*, Paris: UNESCO Publishing, p. 323



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After this, she obtained a Master's degree in International Relations and Diplomacy at the University of Antwerp. During these studies, she completed an internship at the UNESCO headquarters in Paris at the Science Policy and Partnership Building Sector. She worked in the context of the Science Diplomacy Programme, after which she decided to dedicate her thesis subject to national and international approaches to Science Diplomacy.

About EL-CSID

EL-CSID stands for European Leadership in Cultural, Science and Innovation Diplomacy. This research project analyses the relevance of cultural, science and innovation diplomacy for the EU's external relations. The project has received funding from the European Union's Horizon 2020 programme and runs from March 2016 to February 2019.