SwissCore

Contact Office for European Research
Innovation and Education

Maintain position of Swiss science in European Research Area

Idris Abdelkhalek (Student Trainee)
David Bohmert (Head of Office)
Martin Müller (European Advisor for Research)
Brussels, 14 July 2015

“Research is to see what everybody else has seen, and to think what nobody else has thought.”
Albert Szent-Gyorgyi

Executive Summary

The European Research Area (ERA) is not a new idea. It roots back to the seventies when discussions towards a truly European research policy where taking place and led to the creation, among others, of the European Cooperation in Science and Technology (COST), the Scientific and Technical Research Committee (CREST) and the European Science Foundation (ESF). Since the beginning, Switzerland was an integral part of these initiatives due to excellence and the European commitment of its science base.

The political importance of ERA got new impetus with the 2000 Lisbon European Council which aimed at making the European Community the most competitive knowledge-based economy in the world by 2010. This resulted in **the inclusion of ERA in the Lisbon Treaty** in 2007 providing for the first time a legal definition basis for the ERA with essential consequences for Europe and Switzerland.

For the first time in European history, the European Commission (EC) got the power to put forward **binding legislation** on ERA. However, due to strong resistance of several member states and in accordance with the shared legal competence in research, the EC opted in 2012 for a **partnership approach** with the main European research stakeholder organisations and the EU member states. Countries associated to the European research and innovation Framework Programmes (FP), such as Switzerland, were also invited to contribute to the partnership as the FP are defined as the main vehicle for implementing ERA.

The position for Switzerland was jeopardised following on the adoption of the popular vote on mass immigration on 9 February 2014 that led to the freezing of the negotiations on association to Horizon 2020. As a consequence and due to direct legislative links between FP and ERA, Switzerland was officially excluded from several committees governing the implementation of ERA and Horizon 2020. The situation stabilised itself in September 2014, when both parties reached an agreement which partially and temporarily allows Swiss participation to Horizon 2020. Depending on the evolution of the political situation between Switzerland and the European Union (EU), the agreement might be terminated by February 2017 with **foreseeable consequences** on the contribution of Swiss science in shaping the ERA.

This report provides an analysis of ERA from legal and political point of view with a focus on the governance of ERA and proposes several policy options which would help Swiss science **in maintaining its position in ERA**. The report identifies challenges and actions that ought to be taken by Swiss science stakeholders at the level of the EU (Chapter 2), the member states (Chapter 3) and the European Stakeholder Organisations (SHO) (Chapter 4).

First, our findings suggest that by following a strict legal approach Swiss science *de jure* is outside ERA as defined in the Lisbon treaty and therefore Switzerland does not have any formal role in defining any legislation related to ERA. Nevertheless, by participating in FP with an associated country status, Swiss science has a say on the implementation of ERA through its inclusion in the relevant groups. **It is thus essential that all is done in Switzerland to support the full association to Horizon 2020**. However, in case of non-association Swiss science could intensify its efforts to **promote *ad personam* nominations** of representatives of Swiss institutions in many ERA expert groups and advisory bodies.

Secondly, Swiss science could **act through the EU member states** to maintain is position in ERA-related groups and thus continue to actively shape ERA. Our findings suggest that the

current **reform of the ERA advisory structure** might provide an opportunity to safeguard Swiss presence in the ERA-related groups. Indeed, the current rules of procedure of the European Research and Innovation Committee (ERAC) could allow Switzerland to maintain its observer status therein, even if the current association agreement would be terminated in February 2017. Moreover, the gradual shift of power towards member states in ERAC makes its essential for Swiss science to **nurture strong ties with national representatives**. As the rules of procedures of all ERA-related groups will be finally adopted in December 2015, there is **a short window of opportunity** for ensuring favourable rules to Switzerland.

Thirdly, the May 2015 conclusions of the Competitiveness Council called upon the member states to develop **national ERA roadmaps** by June 2016, which would provide a national perspective on the implementation of ERA priorities. While not bound by these conclusions, Swiss science could show its commitment to ERA by developing a **Swiss ERA roadmap** and thereby showing that Switzerland has to be considered as an integral member of ERA.

Fourth, based on the partnership approach, the main **SHO** contribute to the governance and implementation of ERA via a dedicated platform. Swiss science institutions feature prominently among all SHO signatories of agreements with the EC on ERA. These stakeholder organisations offer a direct way of influence on ERA, **independently of the association of Switzerland to European FP**. The contribution of Swiss science representatives to the work of these organisations is highly regarded due to the excellence of the Swiss science system. However, Swiss institutions should seek **a stronger involvement**, **a more active participation** and **take leadership** when possible. Moreover, Swiss could seek at pushing **for a stronger inclusion of stakeholder organisations** in the shaping, governance and implementation of ERA.

Table of Contents

List of abbreviations

ABBREVIATION	MEANING
AC	Associated Countries to the European Framework Programme
ALLEA	European Federation of Academies of Sciences and Humanities
CERN	European Center for Nuclear Research
CESAER	Conference of European Schools for Advanced Engineering Education and Research
COST	European Cooperation in Science and Technology
CREST	Scientific and Technical Research Committee
CSEM	*Centre Suisse d'Electronique et de Microtechnique*
DSM	Digital Single Market strategy
EARTO	European Association of Research and Technology Organisation
EC	European Commission
EEA	European Economic Area
EFSI	European Fund for Strategic Investments
EFTA	European Free Trade Association
EHEA	European Higher Education Area
EIT	European Institute of Technology
EMM	Era Monitoring Mechanism
EP	European Parliament
EPFL	*Ecole Polytechnique Fédérale de Lausanne*
ERA	European Research Area
ERAC	European Research Area and Innovation Committee
ERC	European Research Council
ESF	European Science Foundation
ESFRI	European Strategic Forum for Research Infrastructure
ETHZ	Swiss Federal Institute of Technology Zurich
EU	European Union
EUA	European University Association
FP	European Framework Programme
GPC	*Groupe pour la Programmation Conjointe*
GDP	Gross Domestic Product
HES-SO	University of Applied Sciences Western Switzerland
HG	Helsinki Group on Gender in Research and Innovation
IO	International Organisations
IPR	Intellectual Property Rights
KT	Knowledge Transfer
LERU	League of European Research Universities
MoU	Memorandum of Understanding
MS	EU Member States
RTD	Research and technological development
RTO	Research and Technology Organisation
SB	Steering Board

SE	Science Europe
SERI	Swiss State Secretariat for Education, Research and Innovation
SFIC	Strategic Forum for International Cooperation
SGHRM	Steering Group on Human Research Management
SHO	Stakeholder Organisation
SIB	Swiss Institute of Bioinformatics
SME	Small- and Medium-Sized Enterprise
SNSF	Swiss National Science Foundation
TFEU	Treaty of the Functioning of the European Union
US	United States of America
VAT	Value Added Tax
WG	Working Group

1 Introduction

"To know, is to know that you know nothing. That is the meaning of true knowledge." Socrates

This introduction describes the *rationale* for this report, the research questions that it seeks to answer and the methodology used and hypotheses followed. The report provides an analysis of what is at stake for safeguarding the interests of Swiss science in the European Research Area (ERA), taking the Swiss situation after the 9th February 2014 vote on the 'mass immigration' popular initiative into consideration.

While the **'Europe of knowledge'** dates back to the time before education, training and research were organised by states and later nationalised, ERA as a modern concept, only originates back to the seventies of the 20th century[1] and has experienced many interpretations, ideologies and ups and downs since then[2]. While it clearly was a reality for researchers, *de facto* in their research collaborations for even longer (at least in Western Europe as of World War Two), the national science systems *de jure* and *de facto* jeopardised its effective functioning until very recently.

Aware of the fact that ineffective, inefficient and fragmented national research systems in Europe caused European science and research to lose out in the race for most efficient and best integrated knowledge societies at global level, the then called European Community consequently considered ERA as essential for boosting economic growth and creating jobs. Following the conclusion of the 2000 Lisbon European Council calling for "Establishing a European Area of Research and Innovation"[3], the EU in 2007 included ERA in the article 179 of the Treaty of the Functioning of the European Union in 2007 (TFEU or Lisbon Treaty)[4]. *De jure* it provided the EU with a ground for action for its realisation. Conscious of the ever worse position of European research and innovation and thus competitiveness at global level, the European Council concluded that ERA had to be 'completed' by 2014[5].

The European Commission (EC) thus defined ERA as "**a unified research area open to the world based on the internal market**, in which researchers, scientific knowledge and technology circulate freely and through which the Union and its Member States strengthen their scientific and technological bases, their competitiveness, and their capacity to collectively address grand challenges"[6]. The EC moreover identified four possible ways for implementing ERA through:

- binding European legislation imposed on MS;
- a partnership with MS;
- a partnership with Stakeholder Organisations (SHO);
- a pact with the European citizens through a new 'European act' launching the next phase of European integration through knowledge.

Worried to lose their influence on the geopolitically, more and more important (national) research systems, the MS put pressure on the EC to opt for a `**soft approach**` based on the partnerships with MS and countries associated to the European Framework Programmes - or Associated Countries (AC) - and SHOs. Progress towards the realisation of ERA is therefore assumed to happen both at MS level, monitored biannually by the EC's ERA Progress Reports as well as since recently, yearly through its inclusion in the European Semester, and at

[1] (André, 2006)
[2] (Philippe Busquin, 2005) (John Krige, 1997)
[3] (European Council, 2000)
[4] (European Commission, 2012)
[5] (European Council, 2011)
[6] (European Commission, 2012)

institutional level, through the ERA stakeholder platform and the engagements taken by SHO in Memoranda of Understanding (MoU) signed with the EC and joint and unilateral statements.

1.1 Swiss science in ERA

Swiss science[7] has for a long time been **contributing to ERA**[8]. On the one hand, Switzerland has contributed to ERA through active participation in ERA-related policy groups within EU structures and through numerous reporting and evaluation exercises. Individual Swiss organisations like the Swiss National Science Foundation (SNSF), Swissuniversities, the Swiss academies as well as single universities have been invited to report on the Swiss science system and to participate in the shaping of ERA through ERA surveys. Clearly, the attractiveness and the competitiveness of the Swiss research landscape are linked to its association to EU research programmes, but also research policy developments. Be it issues related to the free movement of researchers (establishment of a dedicated pension fund or visa regulations for third country researchers) or the establishments of new research infrastructures, ERA-related developments are bound to be relevant for research performers and funders in Switzerland.

While the supranational approach based on the TFEU only includes the EU MS in ERA, the precise geographical scope remains rather unclear and unconfirmed. Whilst included in monitoring exercises, the AC are seldom analysed jointly or compared with the EU MS. This *de jure* implies **a second layer (external circle) of ERA countries**. The EC thus has so far avoided defining ERA's geographical scope and remains vague on this issue.

It should be pointed out that some ERA-related issues and groups were first **closed to Switzerland**, following the adoption of the popular vote on mass immigration of 9 February 2014. Some of these were open again, after the adoption in September 2014 of the association agreement, which provides a partial and temporary participation of Switzerland to Horizon 2020. However, this current status in Horizon 2020 indisputably adds an additional complexity concerning the future position of Swiss science within ERA.

In the light of its history, the immediate developments to come and the particular status of Switzerland in Horizon 2020, this report analyses the state of ERA and provides for recommendations on how to safeguard the position of Swiss science in ERA. It is the result of a research project carried out between February and June 2015 at SwissCore, the Swiss Contact Office for Research, Innovation and Education in Brussels. The project included a refined desktop study and semi-structured verifying interviews with key experts of the EC, MS and European SHOs involved in the implementation and the governance of ERA. At the request of the contacted experts, the interviews remain anonymous.

[7] By Swiss science we mean the main stakeholders concerned by ERA in Switzerland, i.e., but not exclusively, SNSF, Swissuniversities, Swiss academies and single universities.

[8] (Lavenex, 2009).

1.2 Structure of the report

The structure of the report follows the model of analysis as illustrated in Figure 1 and considers three layers namely **the legal context, the political steering including the historical perspective and the ERA governance**. The aim is to show, following a legal-based approach, how the respective European, national and SHO interests are intertwined, with an outlook on Swiss science. We start with European perspective by looking in **Chapter 2 at the description of ERA in TFEU** and the position of the EC in the ERA process. Chapter 3 then introduces **the point of view of MS**, their interests and the respective legal implications. Chapter 4 **looks at the involvement of SHOs** in ERA and their intentions for immediate future actions. Particular attention is paid to the **MoU signatories and members of the ERA stakeholder platform**, which are the League of European Research Universities (LERU), Science Europe (SE), the European Association of Research and Technology Organisation (EARTO), the Conference of European Schools for Advanced Engineering Education and Research (CESAER), and the European University Association (EUA). At the end of each chapter, we will look at how the main knowledge institutions in the Swiss scientific landscape like the SNSF, swissuniversities, the Swiss Academies, single universities or the Swiss State Secretariat for Education, Research, and Innovation (SERI) are affected by ERA. We will identify where they contributed to its realisation and how Swiss actors can maintain best their position therein in the future.

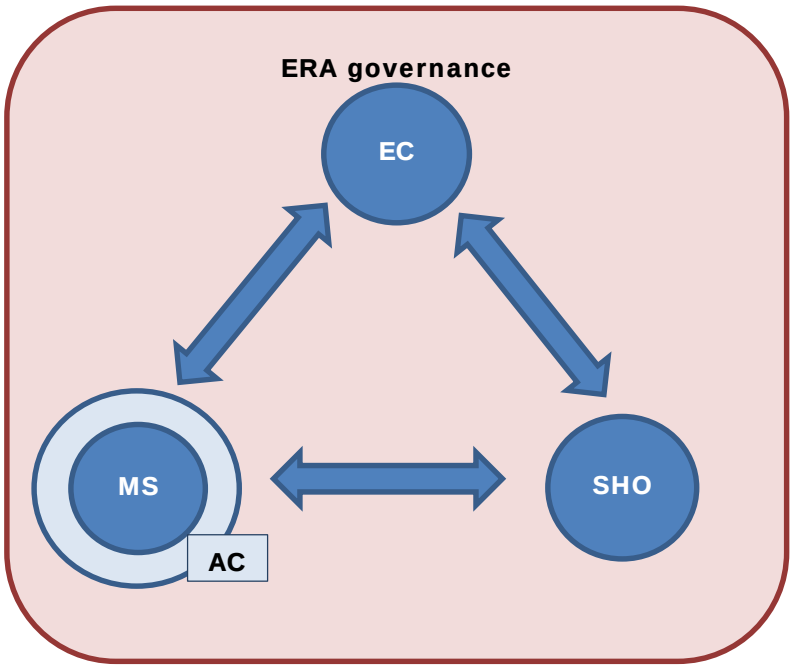

Figure 1: model of tension and interaction in ERA

It is important to note that in this document, **we neither describe ERA as such nor the progress achieved toward its realisation**, but explain the legal and political process in the shaping of ERA, its governance and implications. We considered developments until the ERA conference from 22 to 23 June 2015.

2 *Rationae materiae*

"The supremacy of Community Law when in conflict with national law is the logical consequence of the federal concept of the Community" H.P. Ipsen

This chapter elaborates on the definition and the legal basis underpinning ERA. It starts by discussing the legal foundations of ERA based in TFEU (2.1), the political steering given to ERA by the different actors involved (2.2), and illustrates the governance of ERA (2.3). Finally, based on this first analysis, we reflect on the current position of Swiss science and determine the way for maintaining its position (2.4).

2.1 Legal foundations of ERA

Following the Lisbon process and the adoption of the TFEU, ERA has found its way for the first time into the legal texts. More specifically, article 179 TFEU[9] provides the EU with "the objective of strengthening its scientific and technological bases by achieving an European Research Area in which researchers, scientific knowledge and technology circulate freely". The letter and spirit of this article recalls that the purpose of ERA and its meaning for the EU is to realise **a fifth freedom in the single market**, next to the free movement of persons, goods, capital and services. This must be achieved by calling and encouraging the different academic and public institutions, enterprises - including Small- and Medium-sized Enterprises (SME) - along with universities and research performing and funding organisations in **cooperating** together for realising ERA[10].

While article 179 TFEU defines the general objectives and the will **to include external SHOs** in the realisation of ERA, article 4 TFEU recalls the areas where the EU possesses a shared competence with its MS, including research[11]. As it is known, a shared competence implies that MS are only allowed to legislate in an area as long as no legislation exists at EU level. If the EU decides to use its competence in an exhaustive manner, then MS cannot legislate anymore, in this area covered by the adopted European legislative acts[12]. However paragraph 4.3 TFEU, which defines the EU competences in research, states that the EU only has the competency to take actions and implement programmes **without preventing MS in implementing theirs**. Therefore, this article limits the action that can be taken by the EU, more than in a standard EU shared competence. This is recalled in art. 180 TFEU which delimits the activities that shall be carried out by the EU, in order to pursue the objectives described in article 179.2 TFEU.

The different initiatives launched by the EC on ERA must show added-value and be implemented by closely involving the MS in the process as stipulated in article 181.2 TFEU. Article 181 TFEU thus calls upon EU and MS to **coordinate** their research and technological development activities. The coordination measures are defined as measures aiming at the **establishment of guidelines and indicators**, the **exchange of best practices** and the necessary elements that could be used to conduct a **periodic monitoring and evaluation**. The form of such initiatives could follow the **ordinary legislative procedure** if decided by the EC according to article 182.5 TFEU. However, where a **strong legislation** is needed, the EU must respect the separation of competences with the MS, as stated in the article 4.3 and 180 TFEU. It is also mandatory for the EC to conduct an **impact assessment**, which would determine if legislation is or not **necessary**, according to the subsidiarity principle, described at the article 5 paragraph 3 TFEU and recalled in article 182.5 TFEU.

[9] See ANNEX I for a detailed list of ERA related articles in TFEU
[10] Art. 179 par 2 TFEU
[11] Art. 4 par. 3 TFEU
[12] Art. 2 par. 2 TFEU

The TFEU thus provides the necessary elements allowing the EC to legislate and work in partnership with both SHOs and MS for implementing ERA. It is further worth pointing out that article 182 TFEU also allows for the **adoption of European Framework Programmes (FPs)** (following the ordinary legislative procedure), which the EC defines as **being the most important and powerful instruments** for the implementation of ERA[13]. Countries associated to FPs are thus participating in the implementation of ERA even though they are *a priori* excluded from the single market. Finally, article 186 and 187 TFEU **extends the ERA to international organisations and joint undertakings** via the FPs.

2.2 ERA political steering

ERA as a political initiative was re-launched by the EC in January 2000 with the communication 'Towards a European Research Area'[14]. The document sets out the *rationales* for establishing ERA and lists all activities it should cover. However, at that time, no precise definition of the scope of ERA was provided. The aim of the initiative was to improve **Europe's competitiveness** and close the existing performance gap with the United States (US) and Japan. For achieving this objective, the EC envisaged the use of policy instruments such as **financial**, **legal** and **coordination** measures which would be developed under a large-scale framework for ERA. From the point of view of the EC, ERA was thus not something that would come into being instantly in its final form, but would develop gradually. Moreover, by having such an approach, the EC linked the realisation of ERA **strongly to economic competitiveness**[15].

This dominant economic orientation for the realisation of ERA was strongly supported by the **Lisbon strategy** launched in March 2000. This strategy set as goal that the EU would become the **most competitive** and dynamic **knowledge-based economy** in the world capable of sustainable economic growth, creating better jobs and greater social cohesion. The strategy highly supported the ERA initiative and assigned it to a central role in achieving its main targets. Specific steps for the realisation of ERA were highlighted, notably by the idea to **set up an open method of coordination** based on quantitative indicators for benchmarking national research policies, assessing performance and setting up a European innovation scoreboard. In addition to this, the Lisbon strategy fixed also the **Barcelona target** defined in 2002 in order to achieve combined national public and private research and development spending of **three per cent** of Gross Domestic Product (GDP)[16].

Two years after launching the ERA initiative, the EC published a **review** in 2002, in which the ERA concept started to become more concrete with a focus on creating **an internal market for research**, improved coordination of national policies, and development of **a full European research policy** going beyond mere research funding activities. This review stated that one of the main factors that were slowing down the progress for realising ERA was **an insufficient participation from the MS**. Here also the EC presented a list of activities to be taken, in order to increase the MS participation in the process[17].

Important changes in the ERA initiative were proposed by the EC in the 2007 **ERA Green Paper**, which launched a public consultation on ERA. Therewith **European and national policy makers** as well as some **private** and **public research organisations** got involved to work on

[13] (European Commission, 2014, p. 24)
[14] (European Commision, 2010)
[15] (Ulnicane, 2015, p. 39)
[16] (Ulnicane, 2015, p. 40)
[17] (Ulnicane, 2015, p. 40)

ERA. The result of this consultation established that ERA should focus on **six main priorities** which more or less remain unchanged until today. The Green Paper led to the creation of the **European Research Council** (ERC) and the **European Institute of Technology** (EIT). The ERC was built on the ideas of creating a pan-European competition for research based on scientific excellence, academic freedom, the mobility of researchers and self-governance of the research community[18]. The ERC and the EIT can be seen as the two first very concrete results of the ERA process.

This engagement of broader actors in the ERA process was **reinforced** by the Council in 2008 with the **Ljubljana process**, which aimed to strengthen ERA by pushing it towards an enhanced **partnership** between the MS and the EC, **with broad support from SHOs** and **citizens**. The Council also noticed the important role of the knowledge triangle - i.e. education, innovation and research - within the long-term realisation of ERA[19].

The Lisbon strategy ended in 2010 and was replaced by the **Europe 2020 strategy** for 'smart, sustainable and inclusive growth'. ERA is an essential component of its **Innovation Union flagship initiative** which stated that the ERA must be completed by 2014[20].

This deadline for the completion of ERA was recalled in the EC 2012 ERA communication[21]. This document defines ERA as a concept **mainly based on the internal market**, as defined in TFEU, and acknowledged the need to implement **five main priorities** directly linked to the ones previously defined in the 2007 Green Paper. In this communication, the EC reminded the possibility of **implementing ERA trough hard legislation**, with a framework directive, based on article 182.5 TFEU, but only as last resort. In order to implement the ERA priorities, the EC suggested to launch a **partnership** with MS, AC and the main SHOs. The latter ones would be called to contribute to the ERA process and ERA policy-making, via the **SHOs platform**. The platform also served as a tool for information exchange, to share their views and take positions on ERA. This even led in July 2012, to the conclusion of MoU between the EC and some SHOs.

The 2012 communication also called for developing an **ERA Monitoring Mechanism (EMM) to assess progress in MS on the implementation of ERA priorities** in **close cooperation with the MS**. This monitoring and its progress has to be done in the framework of the **European Semester** for economic policy coordination, linking ERA to economic competitiveness, jobs and growth. The EMM aims to identify progress made so far in achieving ERA, to help the **political steering process** and to identify the areas where further focus would be needed. The output of the monitoring process are then analysed in **bi-yearly ERA progress reports** prepared by the EC. In accordance to the partnership approach taken by the EC, the EC organised a consultation with SHOs through the SHO platform and launched an additional stakeholder survey on ERA, complementing the MS-driven EMM. The purpose was to guide the ERA implementation for MS, EC and SHOs. The first report, published in 2013 called upon the EC and the MS, **to develop an ERA roadmap** in order to facilitate the national implementation of the main ERA priorities. The second ERA progress report, published in 2014, considered that Horizon 2020 already delivered on some main ERA objectives; that **the necessary framework conditions were now in place** and that it was **up to the MS and the SHOs to implement the necessary ERA reforms, in order to make ERA a success**.

[18] (Ulnicane, 2015, p. 41)
[19] (Ulnicane, 2015, p. 42)
[20] (Ulnicane, 2015, p. 42)
[21] (European Commission, 2012)

In May 2015, the Council finally endorsed the ERA roadmap for 2015 to 2020 put forward by the European Research Area and Innovation Committee (ERAC). The Council considers the roadmap as a 'living document' which is likely to be updated and adapted regularly[22] and whose purpose is to guide the MS in structuring their implementation of ERA at national level. The Council also noted the need to place this roadmap in a **broader context** of Europe's growth agenda, **including the Digital Single Market strategy (DSM), open science** and the **Innovation Union**[23]. The Council further called MS and the EC to start implementing the top action priorities identified in the ERA roadmap by mid-2016[24] by devising national ERA roadmaps. In addition, the Council acknowledged the importance of the work undertaken by the EC, MS, SHOs and ERAC[25].

2.3 ERA governance

We have seen in the previous sections that ERA is bound to the internal market of the EU and is implemented in partnership with MS and SHOs. The by-yearly monitoring process follows as well the partnership model by combining the EMM with stakeholder surveys and outcomes of the SHO platform. All those measures derive from the description of ERA in the treaties. We will now discuss what this means for the governance of ERA by looking at how this governance structure evolved in the past.

In order to facilitate the establishment of a common space for Research and Technological Development (RTD), the Scientific and Technical Research Committee (CREST) was put in place in 1974 already by the Council. Its role was to coordinate the different national policies, in the field of science and technology among the MS. In 1995, because **the European Single Act** gave a legal basis to the EU in RTD, the Council decided in its 1995 resolution that CREST would **become an advisory body**, whose function would be to assist the Council and the EC in performing the tasks incumbent on them in the area of RTD. CREST was composed of MS and EC representatives and was chaired by the EC. It is worth noting that European Free Trade Association (EFTA) and European Economic Area (EEA) countries could participate in CREST meetings as observers since 1995 and European Cooperation in Science and Technology (COST) countries since the seventies. However, because of the new emphasis given to ERA by the Lisbon Treaty, the Council decided in its May 2010 resolution to replace CREST by the **European Research Area Committee** which role is to serve as **monitoring** and advisory board for the EC, the Council and the MS in:

- improving the national research systems;
- provide advice on strategic priorities;
- monitor the progress of ERA;
- provide advice on possible orientation for future policies;
- make the necessary recommendations for a faster progress of ERA and;
- contribute to preparing any ERA ministerial conferences convened and organised under the auspices of the MS holding the Presidency of the Council.

In May 2013, the Council decided to rename the European Research Area Committee, the European Research Area and Innovation Committee (ERAC), taking into account the growing importance of innovation. Until May 2015, this general governance of ERA was however **shared between six different ERA-related groups, working as dedicated configurations of, in**

[22] (ERAC, 2015)
[23] (Council of the EU, 2015, p. 5)
[24] (Council of the EU, 2015, p. 7)
[25] (Council of the EU, 2015, p. 4)

parallel to, or under ERAC, namely the High level Group on Joint Programming (GPC), the Strategic Forum for international Science and Technology Cooperation (SFIC), the European Strategy Forum on Research Infrastructures (ESFRI), the Steering Group on Human Resources and Mobility (SGHRM), the Helsinki Group on Gender in Research and Innovation (HG) and the ERAC working group on Knowledge Transfer (KT). Their task was to **help determining all the useful actions that could be taken for contributing to ERA in their respective fields.**

Up to May 2015, ERAC was composed of representatives of the MS, AC (as observers) and of the EC under the chairmanship of the EC[26]. MS, on the other hand, hold the vice-chairmanship of ERAC and the chairmanship of the ERAC Steering Board (SB)[27]. The **Chair** is responsible for chairing meetings of the committee, for **the overall guidance** of its activities in line with the mandate and work programme of the committee, and for the **efficient and smooth** conduct of discussions[28]. The ERAC SB, shall regularly draw up and update the work programme of the committee, prepare the agenda of the meetings, monitor the impact of the committee's opinions and send to the committee an annual monitoring report[29].

In May 2015, the Competitiveness Council decided on a new for **governance structure of ERA**[30]. The Council agreed that in order to insure a coherent implementation of ERA, ERAC should cover all ERA priorities defined in the ERA roadmap[31]. The Council also noted that the current mandates and rules of procedure of the ERA-related groups shall be reviewed by December 2015[32]. It was also decided that ERAC shall be **now co-chaired** between the EC and an elected representative of the MS[33].

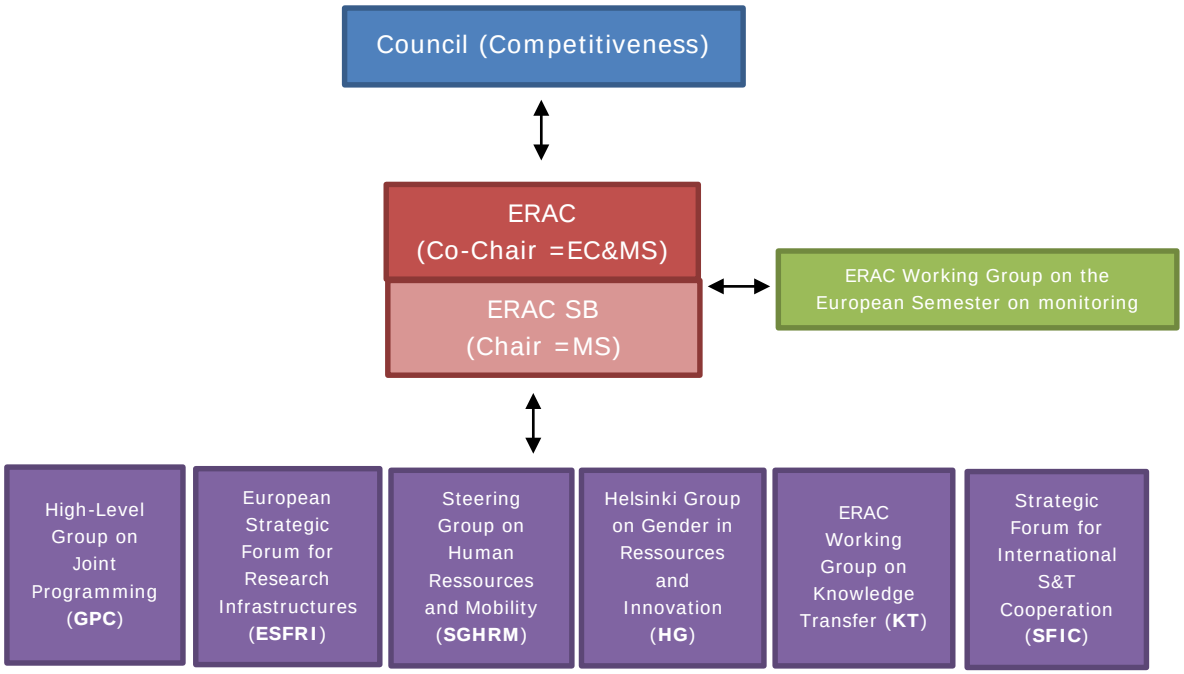

Figure 2: planned structure and hierarchy of ERA-related groups.

[26] Article 2 ERAC rules of procedure
[27] Article 3 and 4 ERAC rules of procedure
[28] Article 2 ERAC rules of procedures
[29] Article 4.6 ERAC rules of procedures
[30] (Council of the EU, 2015); (Council of the EU, 2015, p. 9)
[31] (Council of the EU, 2015, p. 4)
[32] (Council of the EU, 2015, p. 5)
[33] (Council of the EU, 2015, p. 5)

Finally, in order to insure a better coordination in the overall ERA governance, the Council noted that the different work programms developed by each ERA-related groups, shall be discussed within the ERAC SB. The comments brought by this SB shall be taken into account. Before the final adoption of these work programmes, they shall be presented to ERAC, in order to ensure an overall coherence among the ERA-related groups[34]. With these conclusions, **a significant increase** of the weight of ERAC towards the ERA-related groups can also be observed. Before this review, these groups had their own guidelines and rules of procedure. Now they might have to **adapt themselves to the ERAC guidance and rules and therefore lose some of their autonomy**. Indeed, the Council asked ERAC to streamline the advisory structure, adjust the mandates of these groups and develop standard clauses which should be present in the mandates of all ERA-related groups. The proposal concerning the review of the ERA advisory structure shall be **prepared by ERAC 15 October 2015** and presented to the Council for **adoption in the form of Council conclusions in December**[35]. The new governance structure intends to bring more **coherence** to the ERA process by coordinating the different ERA priority groups and aims to give **more leadership to ERAC**.

2.4 Position of Swiss science in ERA

We have seen in section 2.1 that following a rigid legal interpretation of the TFEU, ERA can be considered as the fifth freedom of the internal market. Moreover, the TFEU provides the EC with the possibility to come with legislation to implement its vision of ERA. Therefore, by not being an EU MS, Switzerland does **not have any formal role in defining any legislation related to ERA** and **Swiss science *de jure* is outside the ERA**. However, by participating in the European FP (adopted following the ordinary legislative procedure), Swiss institutions are directly bound to ERA legislation with only informal and limited possibilities to have a say. Indeed, under the current association agreement, Switzerland can participate at the Horizon 2020 programme committee meetings covering the areas where it is fully associated, including its strategic configuration.

The Council in its conclusions from 2012 and 2014 clearly recalled the **need of maintaining a close cooperation with AC in the development of ERA** and **underlined that their contribution has a high value to the entire process**[36]. Hence, Switzerland always actively contributed to the monitoring mechanisms linked to ERA, to the shaping of ERA through contributions to the ERA Green Paper and more recently to the ERA roadmap. The Swiss Confederation via the association to EU FP could directly influence the most important instrument implementing ERA and via the participation in the ERA related group defend the interests of Swiss science. However, because AC only have an access to ERAC, under the observers' status, they do not take **formally** part in the **decision making** process and do not have a **stable and safe** position, compared to MS[37]. It must be considered, that due to the recent developments related to the reorganisation of the ERA governance explained in section 2.3, Switzerland which was considered as a full member in **some ERA related groups like HG**, **SGHRM or ESFRI**, might see its position weakened by being considered as an observer only.

Importantly, following the adoption of the popular vote against mass immigration on **9 February 2014,** Switzerland`s association to Horizon 2020 and participation in many European *gremia* and bodies were frozen. The situation was partially restored by mid-September 2014,

[34] (Council of the EU, 2015, p. 6)
[35] (Council of the EU, 2015, p. 7)
[36] (Council of the EU, 2012, p. 3)
[37] (Council of the EU, 2010)

but Switzerland will lose its **association** status to Horizon 2020 again by 1 January 2017, in the absence of Swiss ratification of the protocol on the extension to Croatia by 9 February 2017[38]. **This would further jeopardise the possibilities for Switzerland to influence ERA and challenge its position therein.** It is worth noting that through the participation of Switzerland in international organisation such as the European Centre for Nuclear Research (CERN) or joint undertakings, Switzerland is in dialogue with the EC with regards to the implementation of ERA as pointed in Chapter 2.1. Using these platforms proactively could help Switzerland to effectively defend its interests. Indeed, the 2014 ERA facts and figures report confirmed that CERN actively contributed to the implementation of the ERA priorities[39].

As conclusion, we argue that Swiss science thus has a vital and imminent strategic interest in safeguarding the association of Switzerland to Horizon 2020 in order to be able to influence ERA and maintain its position therein. **Actively pursuing dialogue and maintaining contacts** with European institutions is in any case of upmost importance for all Swiss stakeholders. Finally, even in case of non-association and the formal exclusion of the Swiss Confederation from many European bodies, Swiss science could still intensify its efforts to promote *ad personam* nominations of representatives of Swiss institutions in many expert groups and advisory bodies in ERA and better coordinate its efforts in this respect.

[38] Art. 13 paragraph 6 Switzerland – EU agreement on scientific cooperation.

[39] (European Commission, 2014)

3 ERA from a MS perspective

"It is not acceptable that European Union countries are divided into those who give and those who take."
Jean-Claude Juncker

In the previous chapter, we defined the ERA through its basis in the TFEU, its political steering and its governance from a European perspective. This chapter focuses on the stance of the MS regarding these three aspects of ERA. We will first describe the opinion of MS regarding the realisation of ERA trough some direct legislation (3.1), their role in its political steering (3.2), their stance and importance in its governance (3.3), and we terminate with some reflections on how Swiss science could seek support from MS to safeguard its interests in ERA (3.4).

3.1 MS views on ERA legislation

"MS are the primary actors regarding the implementation of ERA[40]**."** This statement of the 2014 Council conclusions on the second ERA progress report refers to article 4.3 TFEU which sets that the EU competence in the area of research must not prevent the MS in exercising theirs. Therefore, the realisation of ERA consists of a subtile balance between the actions taken by the EU and the MS.

For all the interviewed MS experts, hard legislation on ERA bears the risk of being too vague and ineffective or on the opposite too specific by overregulating their national research systems at European level. It must also be recalled that before starting the legislative procedure, the EC (which holds the right of initiative) would have to determine if such legislation would respect the proportionality principle, would be necessary, efficient and effective, in order to reach its projected goal. Most of the interviewed experts seem to consider that their national legislation already contain **all the necessary instruments** needed for implementing ERA, like employment, gender equality or mobility measures. Therefore, in their opinion, European legislation seems useless. A minority of MS can however imagine direct legislation or common rules on the allocation of funding, taxes rules, Intellectual Property Rights (IPR) and social security provisions. However, all of them agree on the fact that **pure research** activities must not be regulated through **direct and binding legislation at European level**.

Moreover, the EU has no possibility to intervene on how the allocation of **research funding** is organised at national level. The amounts and the policy objectives of such funding is determined at national level, is part of **national budgets** and thus fall under the **sole competence of MS**.

3.2 MS and political steering of ERA

In its 2012 conclusions, for example, the Council **called MS to cooperate with the EC** and **SHOs.** It also called the EC and the MS to strongly cooperate in the monitoring of ERA and asked MS to contribute through ERAC to the EMM. At this point, the Council provided a very broad view on ERA, which would principally be based on a strong **partnership** with the different actors involved. The aim was to obtain a high level of **harmonisation** and **standardisation** within ERA, as originally stressed in the 2008 Ljubljana Strategy.

Two years later, in its February 2014 conclusions, the Council expressed its will to strongly take into account the **diversity** of **national** research systems in Europe and recalled that the future implementation of ERA should be built on this diversity. The Council also clearly underlined that the use of **direct legislation** at European level was not supported by MS and should occur only in **last resort**. Therefore it reaffirmed its will to rather work towards the ERA objectives

[40] (Council of the EU, December 2014, p. 3)

following a **soft approach**. The Council emphasised the crucial role of the MS and even encouraged them to take a **stronger ownership** of ERA. It affirmed that it is primarily **their role to define the distribution of (national) research funding** and confirmed the idea of establishing an ERA roadmap which would help the MS to **develop their ERA national roadmaps** in a way that corresponds to **their specificities** and **priorities**. It also asked the MS to **accelerate** their **national reforms where necessary**.

In its December 2014 conclusions, the Council finally considered that even if the completion of ERA is a long term process and its **path can differ among MS,** the main conditions for implementing ERA were **now in place**. It is therefore up to the MS and the SHOs to adopt the necessary efforts to make further progress on ERA. To succeed the Council considered that ERA needs a **well-structured** and effective **governance** with **further emphasising the MS ownership of the process** reforms.

In its May 2015 conclusions, the Council recalled the need of cooperation between the EC and MS, and agreed that in order to implement the different ERA priorities, **it is up to the MS to decide upon the most suited approaches for their systems**[41]. Although, the EC wants to see more commitments of the MS towards the realisation of ERA and awaits them to **deliver national strategies by mid-2016**. So far, Germany is the only MS that adopted a national ERA roadmap, in order to implement ERA within a national frame.

By looking at the arguments made in the subsequent Council conclusions**, one can observe that the Council, and thus the MS, seem to constantly aim at increasing their role and influence** in the realisation of ERA through time. This can be seen for example by the focus set by the Council on the need to better consider the diversity of national research systems.

3.3 MS in the ERA governance

After having discussed (2.3) the general governance of ERA from a European perspective and its awaited review, we will focus on the role played by the MS within this governance, as illustrated in Figure 3.

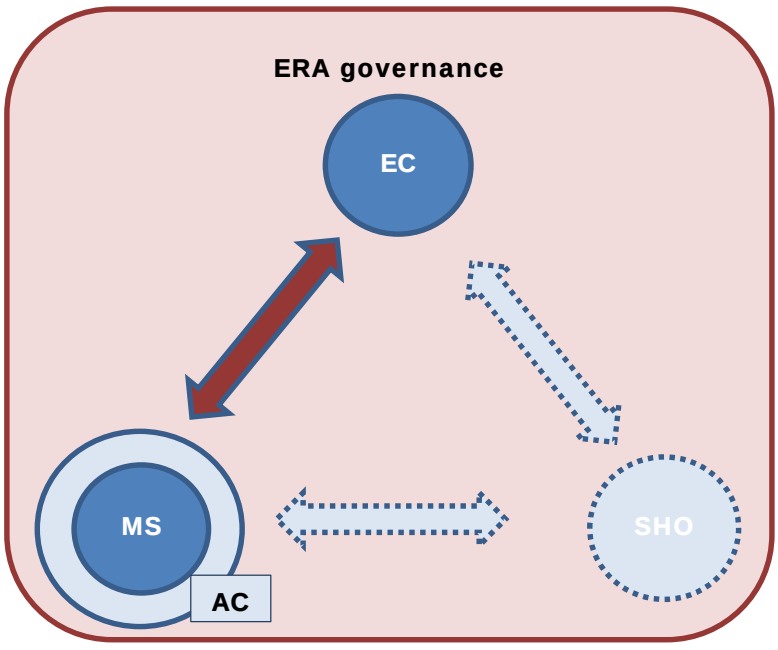

Figure 3: role of MS in the ERA governance

[41] (Council of the EU, 2015, p. 4)

As seen previously (3.1), MS are in favour of a **soft approach** and opposed to a more top-down implementation of ERA through legislation. ERAC is the body where MS **discuss and where possible, coordinate their national ERA-related research reform policies with the EC**. It is notably through ERAC that MS developed the **ERA roadmap**. In ERAC, each MS is full member and has one equal vote[42]. Each MS can nominate up to **two high-level representatives** who are responsible for research and/or innovation policy[43].

According to the decided May 2015 review of the ERAC advisory structure by the Council, the weight of the MS in the ERA governance stays limited. First, by putting all the different **ERA groups under the umbrella of ERAC** some groups like GPC, SFIC and ESFRI, which were directly chaired by the MS, would **now fall under a certain surveillance by ERAC,** because of their obligation to report regularly to this ERAC about their work and the coordination of their activities by the ERAC SB. Second, **the chairmanship of ERAC, which is responsible for the overall guidance of the activities of ERAC will be shared with the EC.** Third and most important, **ERAC does in no way play any role with regards to the most important instrument implementing the ERA, i.e. the FPs**. Quite contrary, FPs completely follow the ordinary legislative procedure with a very strong role of the EC, the European Parliament (EP) and the Council through the **Research Working Party** which *de facto* operates as a much more powerful and productive body of the Council than ERAC and *de facto* can be seen as its powerful competitor.

Therefore, even if MS wish to increase their weight in the governance of ERA, notably by obtaining the co-chair of ERAC, their formal power is limited both in ERAC and it is not sure that this new governance structure will effectively do so.

3.4 Swiss science and MS

Switzerland can be considered as an AC and is therefore allowed to participate in ERAC, the different ERA related groups[44] and some of the Horizon 2020 programme committees. However, this participation has to follow the rules of procedures of each group. The current ERAC and ERA-related groups rules of procedures allow **AC representatives** to attend these group meetings either **as observers or if possible as full members**. As explained in chapter 2.4, if the future advisory structure of ERA, will apply the current ERAC rules of procedure to all the existing ERA related groups, Switzerland would be considered **as observer in the groups where it had a full membership.** A final decision on the ERA advisory structure and the rules of procedures governing the ERA-related groups is awaited for December 2015. Switzerland should therefore pro-actively seek to maintain rules of procedures favourable to AC in all ERA-related groups, especially where full membership was given.

However, if the current association agreement is terminated in February 2017, Switzerland loses its AC status. Still, this will not automatically drive Switzerland out of ERA-related groups. Indeed, the current ERAC guidelines specify that if an association agreement under which a country is entitled to be represented with observer status **would expire, without there being a new association agreement in place**, the representative of that country shall **provisionally retain its right of representation**. The modalities of this provisional right of representation shall be decided by ERAC[45]. **Switzerland could rely on this ERAC rule of procedure to keep its observer status within ERA-related groups** if it would be

[42] Art. 1.1 and 10.1 ERAC rules of procedure
[43] Art. 1.1 ERAC rules of procedure
[44] Art. 6.5 of the association agreement of Switzerland to Horizon 2020
[45] Art. 6.4 ERAC rules of procedure

considered as an 'industrialised third country'. Switzerland must therefore make sure that this clause remains while the ERAC rules of procedures are discussed.

Moreover, because the decision to invite or not an observer to ERAC meetings is taken **by a simple majority**[46]**,** and that ERAC is mainly **composed of MS representatives**, Switzerland has an imminent and vital interest in finding **support among MS.**

Finally and in any case, Swiss science has a large interest that **Switzerland maintains its commitment** to ERA and that it hands in, like MS, a Swiss ERA roadmap by mid-2016. This would be a clear statement highlighting the inclusion of Switzerland in ERA.

[46] Art. 10 ERAC rules of procedure

4 Position of European SHOs

"Great research universities must insist on independence from government and in the exercise of academic freedom". Alan Dershowitz

Similar to the previous analysis of the MS, this chapter describes the involvement of the main European SHOs in the realisation of the ERA. It first gives an introduction on their position in ERA, their stance towards a legislative approach on the ERA realisation (4.1), their stance on the political steering of ERA (4.2) and their role and expectations in the governance of ERA (4.3). Finally, we explain the position of the different Swiss SHOs within these European SHOs, and come with some recommendations on how Swiss science could remain present among those, in order to safeguard its presence in ERA (4.4).

Following the 2012 ERA Communication, in which the EC considered that the involvement of SHOs would reinforce the ERA and better overcome its fragmentation[47], EARTO, EUA, LERU, Nordforsk and SE, made a so-called joint statement on 17 July 2012, wherein they confirmed their involvement in the ERA implementation process[48]. In the statement, the SHOs encouraged their members to take the necessary actions needed to implement the key ERA priorities. Their vision of ERA and their contribution was completed by **unilateral statements**, adopted separately by each one of them. To foster the dialogue between EC and SHOs, **a SHOs platform** was set up for best practice sharing, exchange of information and to provide inputs for the actual development of ERA[49]. The precise contribution of SHO to ERA are summarized in ANNEX II.

In addition, EARTO, LERU, EUA and Nordforsk[50] went further in the cooperation with the EC, by signing MoU, in which they decided to give a more formal cooperation to the actions to be taken[51], even if this kind of instruments **do not have any legally binding consequences**[52]. As recalled in these, SHOs only act on a **voluntary basis** and their members will operate only within **national** legislative and administrative frameworks, which would be the only regulations allowed to limit their autonomy and freedom of action. One and a half year later, on 13 December 2013, the partnership was renewed with a new joint declaration on the previous MoU signed, which included CESAER[53]. Today SHOs acknowledge that these MoU have built a good basis for a **partnership** between each actors, even if some SHOs consider that this cooperation could go further than a **voluntary** and **non-legally binding** approach.

On 23 June 2015, a new joint statement was signed by the same SHOs and the EC. With this new agreement, the partners decided to pursue their collaboration in the spirit of the TFEU towards the achievement of ERA. This new joint statement runs until **the end of 2019 and is thus clearly linked to Horizon 2020**. It also calls for expanding the SHO platform by the end of 2015 to other relevant organisations, such as **innovation agencies**. Finally, the statement calls for enhanced communication between the EC, the members of the SHO platform and citizen at large[54].

It is worth noting that, SHO not signatories of MoU and thus outside the ERA SHO platform also have a stake in its further development. For example, the European Federation of Academies

[47] (European Commission, 2012, p. 15)
[48] (Joint SHO Statement, 2012)
[49] (European Commission, 2014, p. 9)
[50] Because of the relative limited geographical scope of Nordfosk, we decided on not including the organisation in the analysis.
[51] SE is the exception to the rule and did not sign the MoU in 2012
[52] (MoU between the EC and SHO, 2012)
[53] (Joint Declaration by EARTO, EUA, LERU, SE, CESAER and the EC, 2013)
[54] (European Commission, 2015)

of Science and Humanities (ALLEA) expressed its willingness to **cooperate** with the EC and the other relevant SHOs in order to achieve ERA[55]. However, contrary to the other SHOs, ALLEA's members **are self-governing scientific communities**. They therefore cannot offer to implement the ERA key objective, but would offer evidence-based advice for the realisation of ERA.

4.1 SHOs towards ERA legislation

Each SHO has its own position concerning the possibility of adopting binding legislation, unlike the signed MoU. For SE, the 2012 Communication and the December 2014 Council conclusions on ERA only consider the SHOs as **pure implementers** of the defined ERA key priorities. For SE, ERA should be more ambitious and its spirit has to be **evolving**, **dynamic**, **flexible** and **creative**. Because of all actors involved in the process, **trust** in between partners must be considered as a crucial element. **SE considers that progress towards ERA can not be achieved through an ERA framework directive and recommend the use of sectorial legislation instead**. SE also does not see ERA as a concept that has to be **completed,** but must rather stay an **evolving concept**[56].

LERU holds a strong position on the legislative option. It states that **the success of ERA will not be achieved through direct legislation** based under art. 182.5 TFEU. First, LERU believes that such legislation **would allow any EU citizen to challenge the national measures** adopted according to the EU framework directive, and then block the realisation of ERA. Second, such legislation could avoid imposing **active** obligations on MS and would instead **only define prohibited actions for MS**. Third, such a directive would need to respect the general principles of EU law, especially attribution (which establishes the delimitation in between MS and EU competencies under art. 4.3 TFEU), subsidiarity and proportionality and would thus be limited in scope. Fourth, LERU fears that such a legislative instrument would encounter strong opposition from MS and would therefore slow the implementation of the ERA[57]. However, because the implementation of ERA has today not made so far sufficient progress, LERU acknowledges the fact that **some legislation could be adopted**, where a **clear need** could be identified. Such legislation should **focus where a bottom-up approach is not successful**. As example, LERU cites the regulation of open access, Value Added Taxes (VAT) rates for purchase of research equipment and variations in between the different national pension and social security systems. According to LERU, because these barriers bring **a distortion in the free circulation of knowledge in the Single Market**, a top-down legislative approach is needed in order to solve these issues[58].

However, the **question on legislation is left to MS** because SHOs are not involved in the legislative procedure. Some direct legislation could also damage their position within ERA by discouraging their members to involve themselves through a bottom-up approach. Such an approach brings positive **competition** in ERA by involving all the SHOs members and pushing them **to act as best as possible** towards the realisation of ERA. **Under a legislative approach, SHOs and their members would be considered as pure implementers**.

[55] (ALL European Academies, 2012)
[56] (Science Europe, 2012)
[57] (LERU, 2014, p. 18)
[58] (LERU, 2014)

4.2 SHOs and the ERA political steering

Some relevant differences can be observed among the SHOs toward the political orientation of ERA. It is interesting to see that EUA puts forward that **the development of ERA has to be made hand in hand with the European Higher Education Area** (EHEA). On this point, EUA considers that **universities** should be the main actor for realising ERA, because they are the only institutions which combine research, learning and teaching. However, the position of the stakeholder in the EHEA governance is much stronger than within the ERA governance and EUA by now sees itself rather isolated with the wish to engage stronger in the realisation of ERA at European level. EARTO, on the other hand, supports the continuation of the ERA SHO platform as a forum for exchange without any stronger ambitions. EARTO also strongly calls for a **stronger focus on innovation for the realisation of ERA**.

SE sees ERA as a **flexible**, **open** and **evolving** concept, based on relationship of **trust** that must include all related SHOs groups among universities, research performing and funding organisations and the private sector[59]. For SE, this collaboration has to be **useful**, appropriate and **mutually-beneficial**. However, SE stays really attached to its **independence** and its unique voice within the European research systems[60]. Therefore, because of its members are the national research councils and possess a **high level of expertise in the field of European research**, SE considers itself as the **ideal partner** when it comes to discuss issues related to European research policy. It is for example worth to mention that SE is the only SHO which adopted its own ERA roadmap at its November 2013 general assembly[61]. On top of this, SE always wanted to **continue the dialogue with the EC, MS and AC** on an equal basis through related bodies and *gremia*[62]. Moreover, the SE position is that national research systems **stay essential**, because of the need **to keep diversity and competition within ERA**. Therefore, maintaining strong national policies in research is primordial.

LERU agrees to consider ERA as a **unified research area based on the internal market**. Therefore, LERU believes that common basic principles must apply to all involved actors. If the EU loses this idea of harmonisation, it would lose the ambition of being the world leading knowledge society. LERU also believes that the EC and the MS have to continue to work in partnership with the different SHOs, especially in the ERA SHs platform[63]. Finally, CESAER acknowledges that its partnership with the EC consolidates its community. Therefore, CESAER will strongly support its members in implementing the priorities that were defined in the 2012 ERA Communication, always **in respecting the diversity of research systems that exist in Europe and among its members**[64].

[59] (Science Europe, 2012)
[60] (Science Europe, 2012)
[61] (Science Europe, 2013)
[62] (Science Europe, 2012)
[63] (LERU, 2014, p. 16)
[64] (CESAER, 2013, p. 2)

4.3 SHOs in ERA governance

SHOs can have a **concrete influence on the implementation of ERA key priorities** via **the SHO platform.** Within this process, SHOs organise joint events and regularly participate in each other's activities, when this is relevant to their mandate[65]. All the partners contribute to the ERA newsletter and participate in its publication. Together, SHOs have already taken joint positions on certain EU political decisions linked to ERA. It can be mentioned the joint statement made on the European Fund for Strategic Investment (EFSI) and the projected cuts in Horizon 2020 on 23 January 2015[66]. SHOs do not have, compared to the MS or the EC, a **formal power of decision**. However each of them wants to **pursue the actual governance system** with keeping and improving **the already strong existing partnership** with the EC and MS[67], even if there is no obligation for the EC **to implement the statements or propositions made by SHOs.**

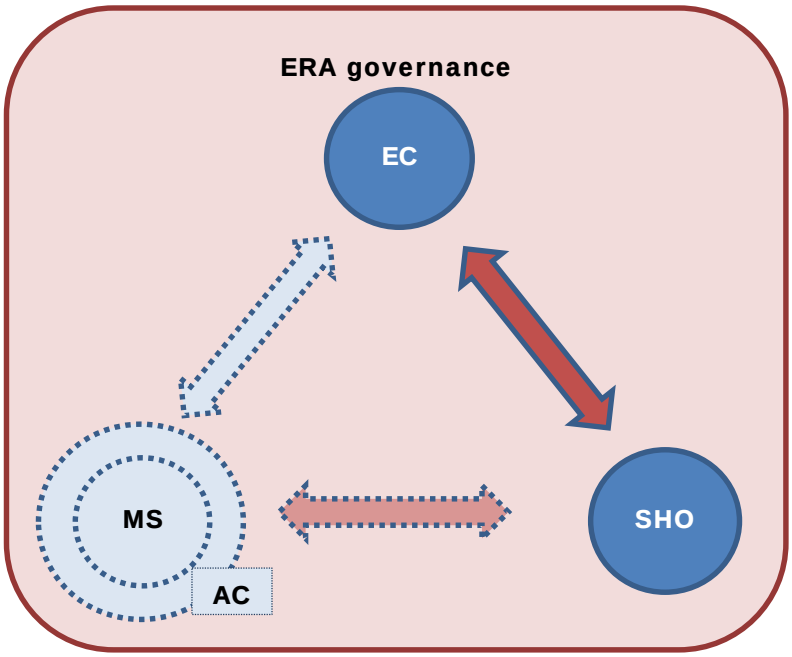

Figure 4: role of SHO in ERA governance

In order to be involved in the shaping of European research policy and not be considered as an implementer only, **SE made the request to be part of ERAC** and related groups **as observer.** The EC and MS implicitly recognised this claim as SE was accepted on an *ad hoc* manner in the EMM. For SE, **ERA has to be co-shaped by SHOs**, because ERA is too often **seen as a top-down process in which the EC and MS dictates trough ERAC and SHOs implement** via their dedicated platform the defined priorities. However, because SE is composed of national research funding and performing organisations, it cannot totally oppose itself to the decisions made by MS and the Council as illustrated in Figure 4.

LERU in its 2014 statement, acknowledged that ERA needs a **clear governance structure**[68]. For LERU, SHOs have to play their role where needed, but for LERU, it stays obvious that the lead for **action is primarily in the hands of the EC and the MS**. However, LERU deplores that a certain **reluctance** of taking the necessary governance actions, could be identified within MS[69]. More recently, LERU expressed its disappointment and concern about the awaited 2015

[65] (European Commission, 2014, p. 4)
[66] (ERA Stakeholders, 2015)
[67] (CESAER, 2013, p. 2) (EARTO, 2012, p. 14)
[68] (LERU, 2014, p. 43)
[69] (LERU, 2014, p. 43)

ERA roadmap by giving a really harsh and critical statement about the progress made towards the implementation of ERA. First it states that ERAC has a clear **lack of ambition** and regrets the fact that SHOs were not involved, as wished, in the drafting of the roadmap. Second, it also recalls that ERA was supposed to be 'completed' by 2014, and that this awaited roadmap pushes the time frame to 2020. It further **reduces the scope of ERA to the key priorities only while ERA should be a much wider concept[70].**

On its side, EUA welcomes the possibility to **dialogue** with the EC through the SHO platform which allows EUA to **inform its members about the ongoing realisation of the ERA and achievements**. EUA members could then have a certain influence and take informed decisions at **national level.**

4.4 Involvement of Swiss SHOs

Swiss institutions are members of all of the above-described ERA SHOs. The *Centre Suisse d'Electronique et de Microtechnique* (CSEM) and the Swiss Institute of Bioinformatics (SIB) are members of EARTO. The University of Geneva and University of Zurich are members of LERU, the Swiss universities, swissuniversities, and the University of Applied Sciences of Western Switzerland (HES-SO) are members of EUA. In addition, the Swiss Federal Institute of Technology in Zurich (ETHZ) and the *Ecole polytechnique fédérale de Lausanne* (EPFL) are members of CESAER. The Swiss Academies of Art and Sciences are members of ALLEA. Finally, the SNSF is member of SE. It is thus evident that a **strengthening of SHOs' role within ERA, at a political steering or governance level** ultimately benefits to the voice of Swiss science within the ERA implementation. Indeed, due to the **excellence of the Swiss science system**, the voice of Swiss institutions is heard within those organisations and can play an active role in defining the priorities of the ERA SHO platform.

Concluding, **many players in the Swiss science are directly integrated and represented in the ERA SHOs and their biggest and most direct way of defending their interests and maintaining their position is via their SHOs**. Even if Switzerland would lose its associated status to Horizon 2020 by 2017 and hence worth be considered as an industrialised third country, Swiss institutions would **remain present in the different European SHOs.** Therefore, Swiss science institutions have an intrinsic interests in contributing largely to their SHOs and push for a stronger inclusion of SHO in the groups discussion the future of ERA.

[70] (LERU, 2015)

Bibliography

ALL European Academies. (2012). *Comments on the EC Communication "A reinforced ERA partnership for excellence and growth".*

André, M. (2006). *L'espace européen de la recherche: histoire d'une idée.* Journal of European Intergration History.

CESAER. (2013). *Statement on the ERA .*

Council of the EU. (2010). *Resolution on the developments in the governance of ERA.*

Council of the EU. (2012). Conclusions on "A reinforced European research area partnership for excellence and growth".

Council of the EU. (2015). *Draft council conclusions on the ERA.*

Council of the EU. (2015). *Draft council conclusions on the review of the ERA advisory structure.*

Council of the EU. (December 2014). Competitiveness Council Conclusions on the 2014 ERA Progress Report.

Council of the EU. (February 2014). *Competitiveness Council Conclusions on the 2013 ERA Progress Report.* Retrieved from http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/intm/141120.pdf

EARTO. (2012). *EARTO report on the implementation of the ERA Mou.*

ERA Stakeholders. (2015). ERA SHOs Joint Statement on EFSI.

ERAC. (2013). *Rules of procedure.*

ERAC. (2015). *Opinion on the ERA roadmap 2015-2020.*

EUA. (2012). *EUA Statement on ERA.*

EUA. (2014). *Europe's Universities in the ERA: Building on strenghts.*

European Commision. (2010). *Towrds a European Research Area.* Brussels: European Commission.

European Commission. (2012, July). *A Reinforced European Research Area Partnership for Excellence and Growth.* Retrieved from http://ec.europa.eu/research/era/pdf/era-communication/era-communication_en.pdf

European Commission. (2012, October). *Consolidated Version of the Treaty of the Functionning of the European Union.* Retrieved from http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:12012E/TXT&from=EN

European Commission. (2014). *Commission staff working document - ERA Facts and figures 2014.*

European Commission. (2014). *ERA facts and figures.*

European Commission. (2014). ERA Progress report.

European Commission. (2015). *Joint Statement working in partnership in ERA.*

European Council. (2000, March). *Lisbon European Council 23 and 24 March 2000: Presidency Conclusion.* Retrieved from http://www.europarl.europa.eu/summits/lis1_en.htm#

European Council. (2011, February). *conclusions.* Retrieved from http://ec.europa.eu/research/era/docs/en/brussels-european-council-4-february-2011-presidency-conclusions.pdf

John Krige, L. G. (1997). *History of European Scientific and Technological Development.* Florence.

(2013). *Joint Declaration by EARTO, EUA, LERU, SE, CESAER and the EC.*

(2012). *Joint SHO Statement.*

Lavenex, S. (2009). Switzerland in the ERA: Integration without legislation.

LERU. (2012). *LERU Statement on ERA.*

LERU. (2014). *An ERA of change.*

LERU. (2014). *LERU takes concrete steps toward ERA.*

LERU. (2015). ERAC ERA Roadmap 2015-2020: Noting new under the sun.

(2012). *MoU between the EC and SHO.*

Permanent Representatives Committee. (2013). *Draft Council conclusions on the advisory work of ERA.*

Philippe Busquin, F. L. (2005). *Le déclin de l'empire scientifique européen: comment enrayer la chute?*

Science Europe. (2012). *Science Europe ERA Statement.*

Science Europe. (2013). Science Europe Roadmap.

Ulnicane, I. (2015). Broadening Ains and Building Support in Science, Technology and Innovation Policy. The case of ERA. *Journal of contemporary European Research*.

ANNEX I: key ERA-related articles in TFEU

	4.3 TFEU	**179**	**180**	**181**	**182**
Objective	• Competences repartition in the field of research, technological development and space • This exercise of the EU's competence must not prevent the MS in exercising theirs	• Achieving an ERA in which **researchers**, **scientific knowledge** and **technology circulate freely** also by encouraging it to become more competitive, including in its industry.	• Activities that shall be carried out by the EU, in order to realise ERA, **complementing** the activities carried out in the MS. (reminder and precision of 4.3 TFEU)	• **Coordination** of national and European research development activities, to ensure that both policies are consistent	• Adoption of the multiannual FPs • If needed, establish all the necessary measures described under 180 and 181.2 TFEU, for the implementation of ERA trough the **ordinary legislative procedure (182.5 TFEU)**
Addressee	• The EU	• The EU • Small and medium-sized undertakings • Research centres • Universities	• The EU • MS	• The EU • EC • MS • The EP must be informed of the taken actions if **they do not** follow the ordinary legislative procedure (182.5 TFEU *a contrario*)	• EC • Council of the EU • EP • Economic and social committee
Actions to be taken	• Carrying of activities defining and implement programmes	• Encourage the addressee in their research and technological development activities of high quality • Support the effort of **cooperation** with one another • permitting researchers to cooperate freely across borders • enable undertakings to exploit the internal market potential to the full	• Implementation of research, technological development and demonstration programmes, by promoting cooperation described at 179 TFEU • Promote this cooperation on an international scale with third countries	• In cooperation with the MS the EC can take **any useful initiative** to promote this **coordination**. • In particular, **initiatives** aiming at: the establishment of **guidelines** and **indicators**, the organisation of **exchange of best practice**, and the preparation of the **necessary elements** for	• Adoption of a **multiannual FP** • Determine **all the other necessary measures** for the realisation of ERA, that would need (**if necessary**) to be regulated **by following the ordinary legislative procedure (182.5 TFEU)**

			and International organisations (IO). • Optimise and increase the quality of research results in the EU. • Stimulation of the training and mobility of researchers in the EU	periodic **monitoring** and **evaluation**.	

ANNEX II: European SHOs and ERA

	SE	LERU	EARTO	CESAER	EUA
Legal aspect	Opposed, because ERA as to stay an unregulated concept	In favour in needed areas where there is a single market distortion	Role of the MS and EC to decide the actions to be taken	No specific statements	Opposed because in favour of a bottom-up approach
Political steering	ERA as an open and flexible concept, based on trust for all the involved actors	ERA based on the internal market with common principles for all involved actors.	Focus on more on an ERA of innovation rather than an ERA of research	Implementation of ERA by actively supporting the measures defined in the 2012 ERA communication	Focus on an ERA developing hand in hand with the EHEA
Governance	Wants to be in ERAC as observer	Needs of a clear governance structure but actions remain mainly in the hands of the EC and the MS	In favour of maintaining the SHOs platform	In favour of maintaining the SHOs platform	In favour of maintaining the partnership with the EC and influence MS trough their members