European SMR pre-Partnership Reports

Workstream 3 – SMR initiative financing framework

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SNETP
Sustainable Nuclear Energy Technology Platform

SMR European pre-Partnership

Workstream 3

SMR initiative financing framework

Contents

ACRONYMS:

Abbreviation	***Expansion***
EC	European Commission
EESC	European Economic and Social Committee
EU	European Union
IA	Industrial Alliance
IPCEI	Important Project of Common European Interest
JU	Joint Undertaking
R&D	Research & Development
RTO	Research and Technology Organisation
SMR	Small Modular Reactor
SRIA	Strategir Research and Innovation Agenda
TFEU	Treaty on the Functioning of the European Union
WS	Workstream

Foreword

On 17 January 2023, the kick-off meeting of the European SMR pre-Partnership Workstream 3 (WS3) on Financing established a roadmap with short and long terms objectives.

In the short term, WS3 was tasked to produce a report recommending an appropriate structure to be considered for the next phase of the European SMR pre-Partnership.

In the long term, WS3 will have to identify barriers and enablers for a EU financial support to SMR technologies and their value chain and to assess the needs for a conducive investment framework for the development of a EU SMRs value chain.

This report will focus on the short-term objectives and will analyse the different options regarding the legal structures that could be envisaged for the future SMR partnership.

Introduction

Following a preliminary assessment done by nuclearеurope and members of the WS3 that can be found in the annex of this report, 3 different options were identified as potentially suitable and therefore requiring further investigation:

Industrial alliances (IA)

Overview

Industrial alliances are, according to the European Commission, "a tool to facilitate stronger cooperation and joint action between all interested partners"**.** They can play a role in achieving key EU policy objective through joint action of all the interested partners.

They bring together a wide range of partners in a given industry or value chain, including public and private actors and civil society.

IAs have the following characteristics:[1]

- they are built around a common goal to implement EU policy objectives;
- they involve all relevant partners (EU countries, regions, industry, financial institutions, private investors, innovation actors, academia, research institutes, civil society, trade unions, and others) along the value chain;
- they are based on the principles of openness, transparency, diversity and inclusiveness and comply with EU competition rules;
- they are not directly involved in decision-making on policy, regulation or financing, but can provide robust recommendation that could serve as useful tools for policy-makers;

[1] https://single-market-economy.ec.europa.eu/industry/strategy/industrial-alliances_en

- they aim at encouraging investments in strategic projects;
- there is no direct funding for alliances and they do not prejudge potential Important Projects of Common European Interest (IPCEI) which are designed by EU counties and need a separate approval by the European Commission.

IAs can make European economies more resilient, ensure the global competitiveness of the industry, support a successful transition to a carbon-neutral continent by 2050 and make Europe fit for the digital age. Industrial alliances are used as one of the delivery vehicles for relevant European strategies, e.g. on hydrogen, raw materials or plastics.

IAs have the particularity of not having a fixed legal basis. Their structure is not provided for in any treaty or any regulation. Most of the time, they arise from political declarations or strategies from the European Commission. Consequently, there is no predefined framework for alliances, allowing for a tailor-made approach during the designing phase, and therefore a lot of flexibility to match the specific needs of the initiative.

The main purpose of European industrial alliance is to create a forum for dialogue between stakeholders from the entire value chain , but also public institutions such as R&D organisations, in order to stimulate investment projects and collaborations, and to identify the proper framework conditions to accelerate the development of a specific sector.

IAs also offer visibility and are well positioned to suggest regulatory changes. They can be referenced to in European legislative and non-legislative initiatives and constitute a privileged discussion partner during the preparatory phase of relevant legislation. This aspect is mainly due to the broad presence of industrial actors from the entire value chain and to the involvement of the European Commission in the IA. Other structures such as R&D partnerships or Joint Undertakings do not necessarily offer the same conditions for an efficient political and industrial dialogue.

Strategic plans of action and objectives are determined by the stakeholders involved in the IA.

Although IAs offer a privileged platform to serve as a basis for the creation of an IPCEI, there is no automatic correlation between IAs and IPCEIs.

IAs are not funded by the European Commission but by their own members. A financial support can however be provided.

 A financial scheme suiting the structure and objectives of the SMR initiative will have to be established, including Secretariat financing by the European Commission.

Success factors

The existing IAs can offer a viable return of experience of success factors. Quantified, ambitious and achievable objectives as well a flagship project help ensuring strong involvement from IA's stakeholders, all of these are necessary for an Industrial Alliance to work efficiently. A strong political involvement from the EC is also required to make the Alliance a success.

Benchmarking of Industrial Alliances terms of reference

To draw an overview of the existing Industrial Alliances and their structure, a benchmarking of their declaration or terms of reference can be found in the first Annex of this report.

Key elements

- Industrial Alliances constitute flexible, adaptable structures that can be tailor-made to suit the needs of involved stakeholders. IA can be used as an umbrella to oversee diverse structures within the initiative such as Horizon Europe public-private partnerships, Joint Undertakings, IPCEI,…
- IA require strong political engagement to be a success. This engagement needs to be maintained over time to keep the alliance working.
- They do not preclude the creation of an IPCEI and are not funded by EU institutions but are aimed to encourage and facilitate investments in strategic project.
- The EC is automatically involved and considered as a facilitator of the alliance.

European Partnerships under Horizon Europe

Co-Programmed European Partnerships

These are partnerships between the EC and mostly private (and sometimes public) partners.[2]

A memorandum of understanding is the basis for the cooperation in these partnerships, as it specifies the objectives of the partnership, the related commitments in terms of contributions from the partners, the key performance and impact indicators as well as outputs to be delivered and reporting modalities.

Through the redaction of a Strategic Research and Innovation Agenda (SRIA), they include the identification of complementary research and innovation activities that are implemented separately by the partners and by the EU through work programs (comitology procedure).

Implementation runs first and foremost through the Horizon Europe work programmes and their calls for proposals. Each partnership provides the EC with recommendations on relevant call topics to be included in the work programmes, identified based on the market needs. The grants resulting from these calls are funded by Horizon Europe.

The private partners also develop additional activities, which are not funded through Horizon Europe, but which are included in the partnership's Strategic Research and Innovation Agendas.

[2] https://eufundingoverview.be/funding/european-partnerships-in-horizon-europe-under-horizon-europe

These additional activities typically focus on issues such as market deployment, skills development or regulatory aspects.

 Some EU funding programmes exclude nuclear activities (InvestEU or the Just Transition Fund). Other funding programmes do not explicitly exclude or even include nuclear activities such as the European Regional Development Fund and the Recovery and Resilience Facility.

Task 2 of WS3 will investigate the different possibilities and exclusions for nuclear activities in diverse EU funds.

Benchmarking of Co-programmed partnerships

To better understand the scope and funding of European Co-Programmed partnerships, a benchmarking has been inserted in Annex II of this report.

Co-Funded Programs

These are partnerships involving EU Member States and Associated Countries, with research funders and other public authorities at the core of the consortium[1], such as EURAD, ORIENT-NM, EUROFUSION which are Euratom co-funded programs.

The partnership is based on a grant agreement between the EC and the consortium of partners, resulting from a call for proposals for a programme co-fund action in the work programme of Horizon Europe. The programme needs to specify the objectives, the activities and associated outputs to be delivered, and the expected results and impacts that need to be monitored with specific key performance and impact indicators. This type of initiative is suited for partnerships involving public authorities supporting research, but it is also possible to include foundations and international organisations as partners.

In the case of Euratom co-funded program, a commitment to provide the co-financing is mandatory. Each partner must be able to bear the costs that are not funded by the EC. The calls are considered open. However, to participate in the consortium (and contribute to the definition of the calls), the entity should be part of the College through the mandated actor defined by the Member States (an RTO). Affiliated entity has a legal link with the mandated actor. There is also a possibility to include associated partners (for instance UK or Switzerland, international partners) participating at their own costs and not receiving EC funding.

[1] https://www.era-learn.eu/partnerships-in-a-nutshell/type-of-networks/co-funded-european-partnerships

Members of the WS3 noted that this form of partnership is not suitable for the SMR initiative needs as it is mostly designed for public-public collaboration.

Key elements

- Public-public Partnerships under Horizon Europe require an existing research program to serve as a implementing body. They are created following a call from the EC and are financed by the institutions.
- These Partnerships are only dedicated to support R&D.

Joint Undertakings

Joint Undertakings are defined as any form of agreement between two or more participants, ie States, international organizations, and/or private persons in any combination.[3]

In EU law, the members of these JUs are typically the European Union (represented by the European Commission) and industry-led associations, as well as other partners. JUs adopt their own research and strategic agenda and award funding mainly on the basis of open calls for proposals. (EC website)

Structure

In the Impact Assessment accompanies the proposal for a "Regulation on the Community legal framework for a European Research Infrastructure the EC provided the following observations about Joint Undertakings: [4]

“The governance structure is robust with a clear line of authority and responsibility covering scientific, technical, administrative, and commercial aspects of the facility. Decisions taken by the Administrative Board are implemented by the Executive Committee, assisted by the Advisory Committee under the guidance of the joint undertaking Director.

However, the setting up of Joint Undertakings requires a very strong Community involvement. In all the above examples this ended up with the Community becoming a member of the joint undertaking and the main financial contributor. The structures thus created have all the characteristics of "Community bodies" with the corresponding characteristics and constraints i.e. application of the Staff Regulation for the labour and social security law, of the Protocol on Immunities and of the Financial Regulation of the European Communities.

Considering the present situation in Europe where Member States wish to continue to play a central role in the development and financing of research infrastructures, the limited funding available for research infrastructures at Community level and the possible subsequent administrative and

[3] Oxford Public International Law dictionnary.

[4] Commission staff working document accompanying document to the proposal for a council regulation on the community legal framework for a european research infrastructure (eri) impact assessment {com(2008) 467 final} {sec(2008) 2279}

managerial difficulties, it is clear that the development of Joint Undertakings for the new European research infrastructures could be only considered in exceptional circumstances."

TFEU Joint Undertakings

The framework for Joint Undertakings under the TFEU is laid down directly in the treaty through articles 187 and 188.

Article 187 TFEU:

"*The Union may set up joint undertakings or any other structure necessary for the efficient execution of Union research, technological development and demonstration programmes*"

It follows from this provision that JUs created via the TFEU are created for the "efficient execution of Union research, technological development and demonstration programs", this therefore requires that some previous existing program must justify the creation of the JU that will work as a 'supervising structure' for its execution.


Consequently, to what is detailed above, to adopt this structure for the EUSMRP, it is necessary for the scope of the partnership to be covered by the priorities of the program as defined by the regulation.

The procedure for the creation of joint undertakings is laid down in article 188.

Article 188 TFEU:

"*The Council, on a proposal from the Commission and after consulting the European Parliament and the Economic and Social Committee, shall adopt the provisions referred to in Article 187*.

The European Parliament and the Council, acting in accordance with the ordinary legislative procedure and after consulting the Economic and Social Committee, shall adopt the provisions referred to in Articles 183, 184 and 185. Adoption of the supplementary programmes shall require the agreement of the Member States concerned."

The last creation of Joint Undertakings under the TFEU was in 2021 for the implementation of the Horizon Europe program (2021-2027) through a Council Regulation (2021/0048) that followed the Council Regulation implementing the Horizon Europe Program. Following the procedure detailed above, the EC submitted the original proposal to the Council that ultimately adopted the regulation after consultation of the European Parliament and the European Economic and Social Committee.


Creation of Joint Undertakings usually take place at a fix moment after the adoption of the EU research program or at the occasion of an amendment of this program.

Euratom Joint Undertakings

Procedure

The Euratom Treaty allows for the creation of joint undertakings through a different procedure and offers different benefits than those created via the TFEU.

Article 45 Euratom Treaty

"Undertakings which are of fundamental importance to the development of the nuclear industry in the Community may be established as Joint Undertakings within the meaning of this Treaty, in accordance with the following Articles."

Article 45 implies that to use the Euratom Treaty as the legal basis for the creation of a Joint Undertaking, it is necessary to demonstrate that the establishment of this JU is of fundamental importance to the development of the nuclear industry.

 WS3 could investigate into potential existing criteria defining the "fundamental importance".

Article 46 Euratom Treaty

"*1. Every project for establishing a Joint Undertaking, whether originating from the Commission, a Member State or any other quarter, shall be the subject of an inquiry by the Commission. For this purpose, the Commission shall obtain the views of Member States and of any public or private body which in its opinion can usefully advise it.*

2. The Commission shall forward to the Council any project for establishing a Joint Undertaking, together with its reasoned opinion. If the Commission delivers a favourable opinion on the need for the proposed Joint Undertaking, it shall submit proposals to the Council concerning:

(a) location;

(b) statutes;

(c) the scale of and timetable for financing;

(d) possible participation by the Community in the financing of the Joint Undertaking;

(e) possible participation by a third State, an international organisation or a national of a third State

in the financing or management of the Joint Undertaking;

(f) the conferring of any or all of the advantages listed in Annex III to this Treaty.

The Commission shall attach a detailed report on the project as a whole.

Article 47 Euratom Treaty

"The Council may, when the matter has been submitted to it by the Commission, request the latter to supply such further information or to undertake such further inquiries as the Council may consider necessary.

If the Council, acting by a qualified majority, considers that a project forwarded by the Commission with an unfavourable opinion should nevertheless be carried out, the Commission shall submit to the Council the proposals and the detailed report referred to in Article 46.

Where the opinion of the Commission is favourable or in the case referred to in the preceding paragraph, the Council shall act by a qualified majority on each of the proposals from the Commission.

The Council shall, however, act unanimously in respect of:

(a) participation by the Community in the financing of the Joint Undertaking;

(b) participation by a third State, an international organisation or a national of a third State in the financing or management of the Joint Undertaking."

The creation of a JU via the Euratom Treaty as a legal basis excludes completely the European Parliament and the European Economic and Social Committee from the process (different from TFEU Joint Undertakings that are created after consultation of the European Parliament and the European Economic and Social Committee).

Upon proposal from the EC, a Member State or any other quarter, and after inquiry from the EC, the Council decides through a qualified majority on the creation of the JU. The Community financial participation to the joint undertaking must however be adopted unanimously.

Country	Percentage of the population of the Union
Germany	18,59
France *	15,16
Italy	13,32
Spain	10,6
Poland *	8,41
Romania *	4,25
Netherlands *	3,96
Belgium	2,6
Greece	2,37
Czech Republic *	2,36
Sweden *	2,33
Portugal	2,31
Hungary *	2,17
Austria	2
Bulgaria *	1,53
Denmark	1,31
Finland *	1,24
Slovakia *	1,21
Ireland	1,13
Croatia	0,86
Lithuania	0,63
Slovenia *	0,47
Latvia	0,42
Estonia *	0,3
Cyprus	0,2
Luxembourg	0,14
Malta	0,12
Total LMMS *	**43,39**

Following COUNCIL DECISION (EU, Euratom) 2022/2518 of 13 December 2022 amending the Council's Rules of Procedure, the following percentages have been established for calculating the qualified majority in the Council.

The current Like-Minded Member States (LMMS) do not constitute a sufficient gathering of MS to guarantee the adoption of a decision to create a JU under the umbrella of the Euratom Treaty as the qualified majority requires 55% of the Member States representing 65% of the population. This could evolve and change positively if some MS join the LMMS as far as SMR development is concerned (ie Italy?)

Benefits

The Euratom Treaty provides details on the status of JUs created taking it as legal basis.

Article 48 Euratom Treaty

"The Council may, acting unanimously on a proposal from the Commission, make applicable to each Joint Undertaking any or all of the advantages listed in Annex III to this Treaty; each Member State shall for its part ensure that these advantages are conferred. The Council may, in accordance with the same procedure, lay down the conditions governing the conferment of these advantages."

Annex III of the Euratom Treaty provides a list of the advantages of the JU (see document attached to the report).

They include (not exclusively):

a. exemption from all duties and charges when a joint undertaking is established, and from all duties on assets contributed;

b. exemption from all duties and charges levied upon acquisition of immovable property and from all registration and recording charges;

c. exemption from all direct taxes to which joint undertakings, their property, assets and revenue might otherwise liable.

To be noted that it is highly unlikely that any advantages offered by the Euratom Treaty would be granted to the SMR initiative because of the need for unanimity decision in the Council.

Article 49 Euratom Treaty

"*Joint Undertakings shall be established by Council decision.*
Each Joint Undertaking shall have legal personality.
In each of the Member States, it shall enjoy the most extensive legal capacity accorded to legal persons under their respective national laws; it may, in particular, acquire or dispose of movable and immovable property and may be a party to legal proceedings. Save as otherwise provided in this Treaty or in its own statutes, each Joint Undertaking shall be governed by the rules applying to industrial or commercial undertakings; its statutes may make subsidiary reference to the national laws of the Member States.
Save where jurisdiction is conferred upon the Court of Justice of the European Union by this Treaty, disputes in which Joint Undertakings are concerned shall be determined by the appropriate national courts or tribunals."

Key elements:

- TFEU and Euratom JUs are created for different reasons:
  - TFEU JUs are created for the efficient execution of EU R&D programmes
  - Euratom JUs are created for their "fundamental importance of the development of the nuclear industry"
- Procedures are different:

- TFEU JUs require a Council Regulation with Parliament and Economic and Social Committee consultation.
- Euratom JUs are created through a Council Decision adopted via qualified majority without Parliament or EESC consultation. Financial participation requires unanimity

- Euratom JUs status offer a more favorable status :
  - In matters of state aid, personnel status, patterns or building acquisitions.

Partial Conclusion:

This report provides advantages and challenges on the different structures available at EU level. While Public-Private Partnerships under Horizon Europe appear to be too restrictive regarding the objectives of the SMR initiative, Industrial Alliances and Joint Undertakings constitute good overarching structures that could effectively pilot it.

Industrial Alliances do not require a legal act for their creation and therefore offer a flexible tool. They can suit different needs and be organized to fit the participants expectations. However, they require strong and continuous political engagement from the European Commission to deliver on their target. An Industrial Alliance is as much a governing tool as the expression of a political will. If Industrial Alliances result in the creation of an IPCEI, they are then not financed by the EU institutions.

Joint Undertakings, especially created through the Euratom Treaty, benefit from a defined legal structure that grants them consistency over time. They do not benefit from the same flexibility as Industrial Alliances but can receive financial support and other advantages from the Euratom Community. The procedure to create Euratom Joint Undertakings however requires strong political engagement in the Council and the above-mentioned financial support will be impossible without a unanimous decision.

Comparative Table:

	Pros	Cons
Industrial Alliances	-Flexibility. - Forum for the establishment of a regular dialogue between the EC and an entire industrial value chain, acting as a project pipeline - Privileged interlocutor to push for regulatory evolutions. -Large scope, allowing for maximum stakeholder engagement. -Creation of an IA is accompanied by political engagement towards the objectives of the alliance.	-Absence of funding outside of secretariat missions. -Lack of legal basis require continuous political support to remain efficient.
Co-Programmed European Partnerships	-Direct funding from the EU -Research agenda defined by the stakeholders	-Funding from the EU will only support research activities.

		-Scope limited to research activities
Euratom Joint Undertakings	-Legal basis provided by primary law allows for the JU to remain immune to political changes.	-Absence of EU funding possibilities due to unanimity requirement in the European Council. -Massive administrative structure complex to structure and to pilot.

Recommendation:

Considering the above-mentioned elements, the Industrial Alliance appears to be the best-suiting format for the European SMR Partnership. IAs offer flexibility in the design while serving as a global structure than can shelter other forms of partnerships such as IPCEI, JUs, Public-Private Partnership for specific projects to be conducted under its umbrella.

SMR financing perspectives

As mentioned in the introduction of this report, WS3 members decided during the kick-off meeting to divide the work between short-term (Task 1) and long-term objectives (Task 2). The long-term objectives focus on the financing of SMR development throughout the Union. Following the request from Task 2 participants, the work started simultaneously with Task 1. The following roadmap was discussed within members to serve as a basis for future work, to be conducted both during the pre-partnership phase but also during the partnership phase.

Roadmap:

Worsktream 3 Task 2 will structure its work around 2 different pillars. The first one will identify the solutions to promote European support to projects led by European actors. The second pillar will focus on private financing for a quick development of SMRs throughout the EU.

I) Identifying barriers and enablers for European Financial Support

WS3 will prepare an overview of the different existing EU funds available (InvestEU, Just Transition Fund, etc) and inclusion or exclusion of nuclear projects within them (to note that these EU funds are foreseen to be reviewed during 2024).

Following this analysis, a possible launch of an SMR R&D public-private partnership on the occasion of the mid-term revision of Horizon Europe should be examined, including the potential synergies between EC and Euratom funding opportunities.

WS3 could examine the possibility of specific State aid guidelines for SMR projects in order to provide legal certainty and visibility for industry, capital markets and Member States.

- A possible declination of this action could be the exploration of the use of an IPCEI for SMRs (to be further examined with Task 1), allowing national support to industrial projects beyond what is possible under State aid guidelines. IPCEIs are often used as a tool for financing projects within industrial alliances.

WS3 will identify the financial requirements for SMR development and the best use of available funds. An analysis of national/EU potential synergies for SMR financing should also be conducted.

- This could be done via benchmarking the financial schemes of current EU projects.

II) Define needs for a conducive investment environment / framework for SMRs development:

WS3 will reach out to financial institutions to prepare a workshop dedicated to the financing of SMR. This event will gather the industry and private banks to assess the particularities and the difficulties faced by financial institutions when financing nuclear activities.

- Following the conclusions of this workshop, further actions will be undertaken.

WS3 will work on a narrative to be developed regarding SMRs to enhance private financing and stimulate interest in SMR investment.

Appendix A: European SMR pre-Partnership WS3 members and observers

Participants	Organisation	Country
Bertrand Bouchet	**CEA**	France
Anne-Sophie Defay	**Gifen**	France
Antoine Bizet	**EDF**	France
Branislav Hatala	**VUJE**	Slovakia
Dan Niculaie	**nuclearelectrica**	Romania
Daniel Farmache	**Ropower**	Romania
David Fletcher	**Urenco**	UK
Sander De Groot	**Thorizon**	Netherlands
Gonzalo Saez de Montagut	**Enel**	Italy
Hugues Hinterlang	**Orano**	France
Jan Bartak	**nucadvisor**	France
Jean-Marc Capdevilla	**Framatome**	France
Jorge Molinero	**Amphos21**	Spain
Konsta Varri	**Fortum**	Finland
Lara Duro	**Amphos21**	Spain
Lorenzo Santini	**Worley**	Netherlands
Lucas Pool	**Thorizon**	Netherlands
Lukas Aebi	**Swiss Nuclear Forum**	Switzerland
Maciej Wojcik	**KGHM**	Poland
Martin Luthander	**Vattenfall**	Sweden
Peter Treialt	**Fermi Energia**	Estonia
Sabin Sabinov	**Selmeda**	Bulgaria
Silvana Jirotkova	**CEZ**	Czech Republic
Ted Lind	**Uniper**	Sweden
Ximena Vasquez-Maignan	**White & Case**	France
Yves Crommelynck	**ENGIE**	Belgium
Jordan Yankov	**Nucleon**	Bulgaria