ERA-Net Smart Grids Plus Concept

The challenges of modernising the electricity grids in Europe lies in enabling an increased flexibility of the European power system, efficiently providing in-creased transfer capacity and enabling an active participation of users and new market actors (by providing the in-formation, services, market architectures and privacy guarantees).

To address these challenges, innovation is needed in system integration, interoperable technologies, services, tools, coordination schemes, business processes, market architec-tures and regulatory regimes to plan, build, monitor, control and safely operate end-to-end networks in an open, competitive, decarbonised, sustainable and climate-change resilient market, under normal and emergency conditions. The major challenge is now to overcome the fragmentation of knowledge and accelerate knowledge exchange between these demonstration projects and R&D initiatives with the goal to enable them to develop European wide interoperable solutions, according to a common reference architecture. With this, critical masses shall be reached in the development of a European market for smart grids technology providers and smart grids service providers. This initiative does not intend to find the final specifications for smart grids, but to organise the learning down to regional Smart Grids stakeholders, beyond the demonstration phase also along the implementation path (learning process for people, institutions and systems; future proof technologies, learning systems …).

The overall goal of ERA-Net Smart Grids Plus is to support deep knowledge sharing between regional and European Smart Grids initiatives by promoting and financing joint projects and joint accompanying activities, building on the knowledge base, R&D initiatives as well as research and demonstration facilities a ready in place at regional, national and European level.

This document summarises the basic concept for the multilateral cooperation **ERA-Net Smart Grids Plus**.

Content:

1 Objectives

One of the major European challenges lies in creating a clean, secure and efficient energy system, while ensuring EU industrial leadership in low-carbon energy technologies. Accordingly, an upgrade of our energy networks - particularly the electricity network - towards a system of highly efficient, synergetic and flexible networks will be necessary matching current developments in production and consumption patterns as well as technologies. The main related challenges are: (1) enabling an increased **flexibility** of the power system to cope with the growing share of intermittent and decentralised renewable generation and managing the complex interactions; (2) increase network **capacity** to support increased flows resulting from renewables and the internal energy market; (3) provide information, services, market architectures and privacy guarantees to support **open markets** for energy products and services, whilst facilitating the active participation of customers. To meet these challenges cross-sectoral and interdisciplinary applied research, piloting and demonstration will be needed by a Europe-wide set of stakeholders. Hence, the consortium establishes a European wide inititative that builds upon a co-funded call, but goes far beyond that in order to address the ambition outlined in the H2020 call LCE 18. This is achieved by a sustainable cooperation structure between national Smart Grids programs which enables the coordination with the European SET-Plan Initiative on electricity grids (EEGI).

ERA-Net Smart Grids Plus (SG +) will further the integration of Smart Grids system technologies, stakeholder adoption and market processes to help Europe make progress towards achieving its short-term 2020, medium-term 2035 and long-term 2050 energy targets. For such progress **cross sectoral and interdisciplinary system innovation is needed**.

ERA-Net SG + will **promote applied research, piloting and demonstration in the field of smart grids,** with a focus on validation, scaling-up and replication, integrating the layers “technology”, “marketplace” and “adoption”, aiming at pushing solutions meeting TRL 5-6 to TRL 6-7.

The EEGI has over the last years successfully taken a leading role in developing European scale smart grid solutions, by bringing together key stakeholders and achieving critical mass. **ERA-Net SG +** will contribute to this European initiative by enhancing synergies between national Smart Grids programs, creating a coherent collaboration network that can further serve the Smart Grids European Research Area Network and beyond. It will **coordinate additional national and regional RDD (Research, Development & Demonstration) budgets of more than 30 Mio € according to the implementation of the relevant European RDD agendas.**

At the same time, there exist a large number of grid operators in Europe (e.g. 5.000+ distribution operators on national and regional or local level) working under different environments. There is no “one size fits all” solution in the area of Smart Grids. More than 200 relevant Smart Grids RDD projects have been funded on a national and regional level in Europe. Yet, there is no sufficient mechanism in place to ensure coordination and cooperation between these projects. This fragmented landscape leads to significant barriers for replication as well as to inefficient allocation of funding and investments. It implies the **risk that Smart Grids prototype, pilot or demonstration projects (even well-performing ones) remain isolated examples of action** without achieving wider adoption at the European or even global level.

ERA-Net SG + will **build on the already existing, national and regional key pilots, demo projects and facilities as well as the related investments by industry and the public (>2.500 Mio €),** by facilitating deep knowledge sharing in new transnational RDD projects and taking the next step in Smart Grids development while building on the existing demos. Through experiences in their demo projects the involved stakeholders have achieved a much better understanding of the new challenges and the implied opportunities. This creates a fertile environment for collaboration and experimentation. Additionally an analysis in the former Smart Grids ERA-net has shown that the national/regional programs have had their peak in budgets in 2011/2012 and are delivering major results now.

ERA-Net SG + will **organise both horizontal and vertical learning.** Horizontal: Learning among Smart Grids RDD projects on the regional/national and transnational level. Vertical: Learning between these projects and the programming and European initiative level.

Main Objectives:

- ➔ Expand the existing network of national/regional funding agencies by substantially increased transnational Smart Grids funding, thereby strengthening cooperation on a European level.
- ➔ Coordinate during 2015-2019 national and regional RDD budgets of more than 30 Mio € according to the implementation of the relevant European RDD agendas.
- ➔ Enable the sharing of already existing, national and regional key demo project knowledge and results and step-up the related funds already invested in Smart Grids development
- ➔ Organise horizontal and vertical learning bottom-up from the regional and national level towards the European level.

What ERA-net Smart Grids Plus wants to achieve during 2015-2019:

- ➔ 15-20 transnational projects on applied research, piloting and demonstration in the field of Smart Grids, taking a next step in Smart Grids development
- ➔ Building on existing demos and aiming at pushing solutions already reaching TRL 5-6 to TRL 6-7, with the contribution of stakeholders from 21 participating countries and regions, funded via a co-funded joint call with an overall funding budget of about 40-45 Mio Euros (incl. EC co-fund).
- ➔ More transnational projects resulting from three additional calls, expanding the first co-funded joint call as well as focusing on specific topics and cross-cutting issues.
- ➔ Establishing ERA-Net SG + knowledge community that contributes to Smart Grids development, scaling-up and replication on a European level.

Major long-term impacts:

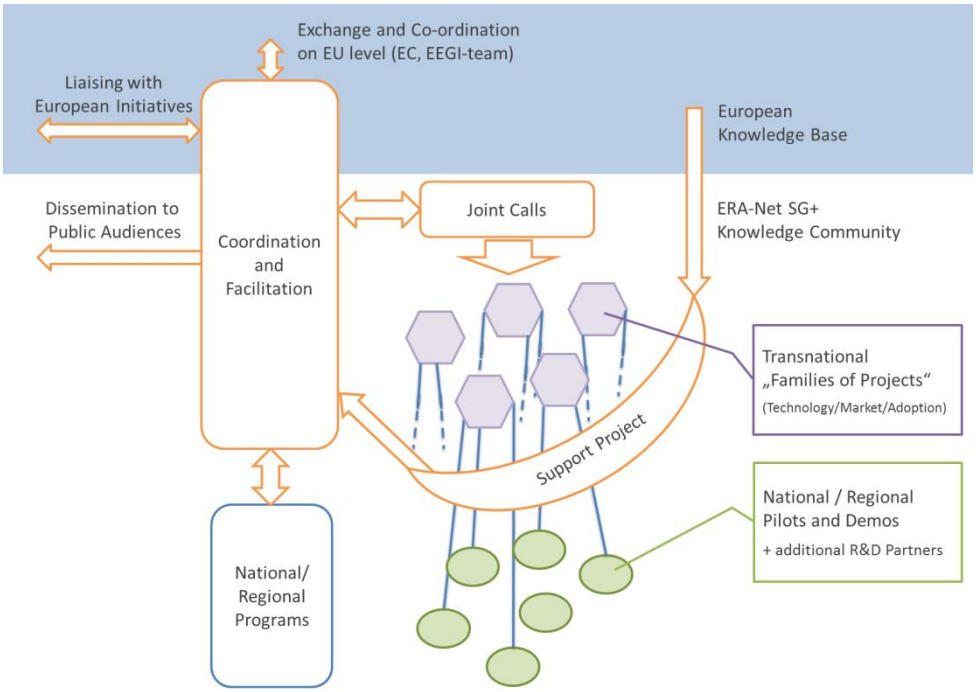
- ➔ *Completion* of the strong cooperation in Smart Grids development on the Pan-European level in the SET-Plan Initiative EEGI covering all levels: regional, national, transnational and European.
- ➔ *Acceleration* of shared Smart Grids development and implementation in Europe by much deeper knowledge exchange within and between transnational projects.
- ➔ *Efficiency* of the transition process by furthering the broad implementation of interoperable best practise solutions based on common knowledge and understanding.
- ➔ *Convergence* of the development by accelerating the establishment of standards as well as critical masses for technology and service markets.
- ➔ *Strengthening* of the path from electricity systems only towards holistic energy systems by considering cross energy carrier synergies for flexibility in the electricity system.

2 Overall Concept and Approach

The EEGI member states initiative on mapping and gap analyses in 2012 (Final Report, http://setis.ec.europa.eu/newsroom-items-folder/new-report-presents-a-detailed-overview-of-european-smart-grids-projects) identified **more than 200 relevant Smart Grids RDD projects on a national and regional level** in Europe with a total investment of more than 2.500 Mio € from industry and public funding. These pilots and demonstrations took different approaches according to regional grid technology, regional energy system characteristics, regional market and regulatory framework, models and roles. Yet, at the same time there are no mechanisms in place that ensure coordination and cooperation. This leads to significant barriers for replication of innovative pilots as well as to inefficient allocation of funding and investments. It implies the **risk that Smart Grids prototype, pilot or demonstration projects (even well-performing ones) remain isolated examples of action** without achieving wider adoption regionally, nationally or at the European and even global level.

Based on this analysis the overall ERA-Net SG + concept was prepared in the course of a "Series of Events" in 2013 with Program Managers and experts from the participating countries and regions, consulting also with national and European Smart Grids stakeholder platforms, resulting in a consolidated working paper and documentation material (www.sgeranetplus.eu).

The overall ERA-Net SG + concept:



One of the major barriers to stronger collaboration of national programs concerns limited resources of national/regional Program Managers. Hence, ERA-Net SG + will establish a **supportive and facilitating coordination** to enable sustainable joint programming beyond the implementation of a single joint call. Specifically, it will organise the joint calls and moreover support the network in coordinating on a European level with the EC and the EEGI as well as liaising and cooperating with other European initiatives like the EERA, (post) GRID+, SG-ETP, KIC InnoEnergy, etc. (see EERA support letter as Annex to Part B, chapter 4 and 5 of the proposal).

Via its **joint call(s)** ERA-Net SG + will create **transnational RDD projects** building on key national and regional pilots and demonstrations, thereby pursuing and expanding on the "**families of projects**" approach. This was set up by the EC in the last calls of FP7, by bringing also the demo projects of smaller grid operators on board with the support of their national programs as well approachable interfaces. It is expected that the first (co-funded) call will create about 15-20 transnational projects with diverse granularity, with major parts of the call budget being spent on a small number of core projects.

Moreover ERA-Net SG + will set up a **Support Project** to build up an ERA-Net SG + **knowledge community** tasked with organising the horizontal and vertical learning. It will closely work together with the transnational (and key national/regional) projects (see "Knowledge community and formative evaluation" below), thereby deriving strategic knowledge for the ERA-net partners and stakeholders as well as referring to the **European knowledge base** (findings, resources and expertise from the EEGI, GRID+, SG Task Force, CEN/CENELEC/ETSI working group, CEER, etc.).

Key Benefits for Stakeholders in the Smart Grids area:

Policy Makers	Program Owners and Managers	Grid Operators	Industry and Research
Learning about best practice of Smart Grids programming; Strategic knowledge for Smart Grids policies (status of development, comparison of approaches and solutions, cost-benefit, resilience and security);	Burden sharing in financing Smart Grids Research and Demonstration; Reduce duplication and identify gaps in Smart Grids RDD;	Knowledge on scaling-up and replication; Complementing own use-cases, concepts and solutions with outcomes from other demos and pilots; Best practice solutions by comparative evaluation of pilots and demonstrators;	Access to other test beds to develop methods, models and products; New partnerships and cooperation;

3 Joint Calls for Transnational RDD Projects

3.1 Proposal submission and selection

Project participants of transnational projects will have to submit a joint proposal at their responsible national/regional funding agency (Program Manager), according to national rules and eligibility criteria on the one hand side and to the ERA-Net Smart Grids Plus concept and ambitions on the other hand side.

After a first selection process according to eligibility and relevance for the involved national programs, the proposals will be evaluated by a panel of independent experts, according to an equal set of weighed criteria for (a) **excellence** (including sub-criteria derived from the ERA-Net SG + ambitions and "call criteria"- see below), (b) **impact** (including sub-criteria derived from the ERA-Net SG + goals and call criteria) and (c) **quality** and efficiency of the implementation (including sub-criteria derived from the obligations defined for projects towards participation in knowledge exchange activities and joint final reporting.

3.2 Call topics

The **Call topics** will be defined on the basis of (a) the existing European roadmaps and implementation plans, i.e. the EEGI Research and Innovation Roadmap 2013-2022, the ENTSO-E Research and Development Roadmap 2013-2022, the ENTSO-E Implementation Plan 2014-2016 and the Smart Grids Strategic Research Agenda 2035 defined by the European Technology Platform Smart Grids, also taking into account necessary updates according to the Integrated Roadmap; (b) the 22 topics for a critical mass of transnational cooperation identified in the preparation process (http://www.sgeranetplus.eu/index.php).

The analyses of these topics showed a focus on distribution grid and distribution-transmission-interrelation topics. Also mentioned were: large transmission system simulation compatible with the TEN-E (Transeuropean Energy Networks – Electricity); synergies with non-electric energy carriers and other supply systems will be included in case they contribute to increased flexibility in the electricity system. "Multi terminal DC networks (onshore connection facilities)" are expected to be covered by Offshore Wind ERA-Net and will not be covered by **ERA-Net SG +**.

3.3 Evaluation sub-criteria for projects

For the co-funded call, the ERA-Net Call Management will finalise the set of subcriteria incl. thresholds and maximum points dedicated to each of the criteria in accordance with the Program Managers. The following evaluation sub-criteria apply: Projects
(1) must be **transnational** by nature, involving at least two independent entities from two different countries of the **ERA-Net SG +** members;
(2) must show a **critical mass of participants and a critical size** according to their subject;
(3) must describe

- (3.1) their **relevance** to the ERA-Net core goals and ambitions,
- (3.2) how they **build on existing national Smart Grids demonstration** (transfer of results, new developments, opening-up, new demonstration and validation),

- (3.3) planned efforts in terms of **project scalability and / or replicability** (comparative validation, best practice, interoperability, parametrization, environments),
- (3.4) intended **link to the interdisciplinary 3-Layer Research Model** "Stakeholder/Adoption, Marketplace, Technology",
- (3.5) intended **contributions to roadmaps** based on available gap analyses (EEGI Innovation Roadmap 2013-2022, ENTSO-E Implementation Plan 2013-2022, ENTSO-E Research and Development Roadmap 2013-2022, ETP Smart Grids SRA 2035, GRID+ and Mapping and Gap Analysis EEGI Member States Initiative 2012),
- (3.6) **IPR strategies** foreseen (Exploitation and Evaluation Plan, Acceptance to participate in knowledge sharing and formative evaluation activities organised and worked out (also in terms of resource allocation) by the ERA-Net Support Project.
- (3.7) **Cooperation and transfer strategies** foreseen (Exploitation and evaluation plan; acceptance to participate in knowledge sharing and formative evaluation activities organised and worked out - (also in terms of resource allocation-) by the ERA-Net Support Project).

These sub-criteria (1), (2) and (3.1) - (3.7) are additional to the obligatory main criteria (a) excellence, (b) impact and (c) quality and efficiency along which the experts will make their evaluation and ranking. The derived final set of evaluation (sub-) criteria for evaluation step 2 will be published in the call text. The Steering Board takes the final decision about the call text including the criteria to be handed over by the Coordinator to the EC for approval.

3.4 An integrated, interdisciplinary, three layer research model for transnational RDD projects

The European energy system and the electricity system in particular are in many ways facing a paradigm shift. Drivers for change are the result of (old and new) challenges appearing together with new enabling technologies (opportunities to "rethink"). In order to move forward and reach the desired impacts of **ERA-Net SG +** in such a multi-dynamic environment it is necessary not only to continue developing and introducing the right enabling technologies, but also to develop and structure the market with new goods and services and to learn more about how to overcome barriers built into communities and society. This indicates the need for a cross-sectoral and interdisciplinary approach, including and taking into account aspects like system integration of technologies, services, tools, business processes, market architectures, and regulatory regimes, potential synergies in infrastructures, convergence of technology and application areas as well as essential design principles like security and privacy, resilience, energy and resource efficiency of equipment and components.

The essential innovations to be achieved can be seen on **three layers**:

Stakeholders / Adoption - overcoming*; why do or don´t we do it?*
(Innovation and transition, consumer acceptance, education, policy, retail, community/society, social research, etc.);

Goods and Services - structuring*; how do we organize it?*
(Business models, regulatory frame, market design, economic research, etc.);

Technology – enabling - *which technology do we need?*

Following discussions with industry stakeholder platforms in the course of the preparation process ("Series of Events" www.sgeranetplus.eu), ERA-Net SG + will promote transnational projects with consortia that cover more than one of the three layers. Such projects shall be given priority to over "technology only" projects. Projects that cover only levels "stakeholder/adoption" and/or "goods and services" must however have a strong link to technology projects

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Stakeholders / Adoption - *overcoming; why do we or don´t we do it?*

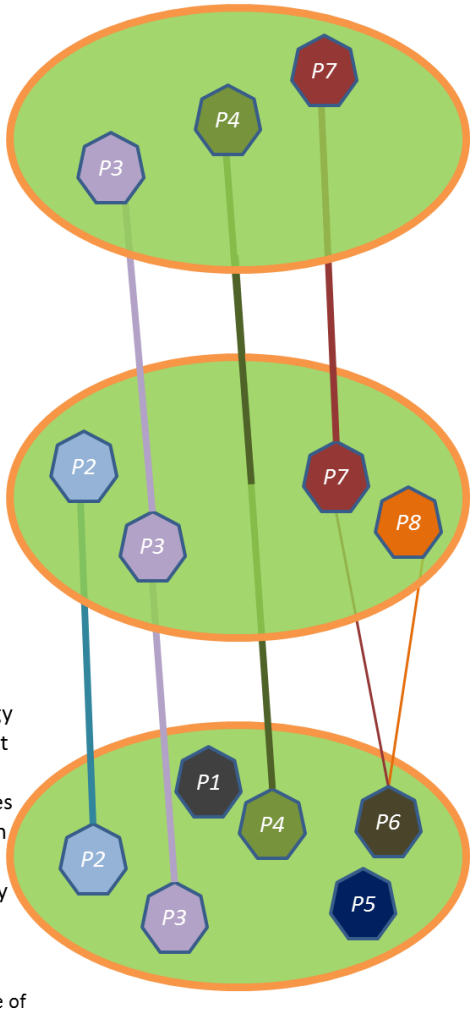
- Goal: overcome barriers to massive user adoption
- Research targets: people, community, stakeholders, society, industry
- Typical topics: innovation and transition, consumer acceptance, prosumer interaction, education, policy, retail, community/Society, human behaviour, privacy, business modelling methods European scope, social research, etc.
- Transnational cooperation because habits are different all over Europe and many learning can be made through this diversity (comparisons, similarities, differences, etc.). Such cooperation will comprise findings sharing on, for instance, typical observed behaviours.

Marketplace - *structuring; how do we organize it?*

- Goal: create solutions for energy market participants to leverage smart resources across national borders and participate in changing energy market structures
- Research targets: goods and services
- Typical topics: retail market and interfaces, business modelling methods, standards, abolition of barriers between member states, prosumer interaction, forecast, demand side management, integration of microgrids, flexibility, energy exchange with neighbours, economic research, etc.
- Transnational cooperation because: Smart technologies create stability challenges in all countries and divergent solutions lead to market failure at borders. Such cooperation will comprise several projects by transnational consortia on convergent issues and different aspects of future energy market structures.

Technology- *enabling; which technology do we need?*

- Goals: Develop innovative technological concepts for sustainable energy systems. Bring these solutions towards a transnational Proof of Concept and possibly Demonstration. Try to bridge the "valley of death" by accompanying measures such as solving practical implementation issues or studying the potential and barriers for the innovative technologies in question.
- Research targets: (Energy/Electricity system and ICT system) technology
- Typical topics: energy storage, high-voltage direct current, power quality, integration of micro-grids, standards, security, energy exchange with neighbours, integration of renewable energy sources, power system planning, big data, etc.
- Transnational cooperation is necessary because: It integrates a wider range of requirements to a technical solution that leads to better scalability and transferability. Transnational consortia have a better chance to sustainably disseminate their findings to a wider audience. For SMEs, transnational cooperation can open wider markets for innovative technologies



4 Knowledge Community and formative evaluation

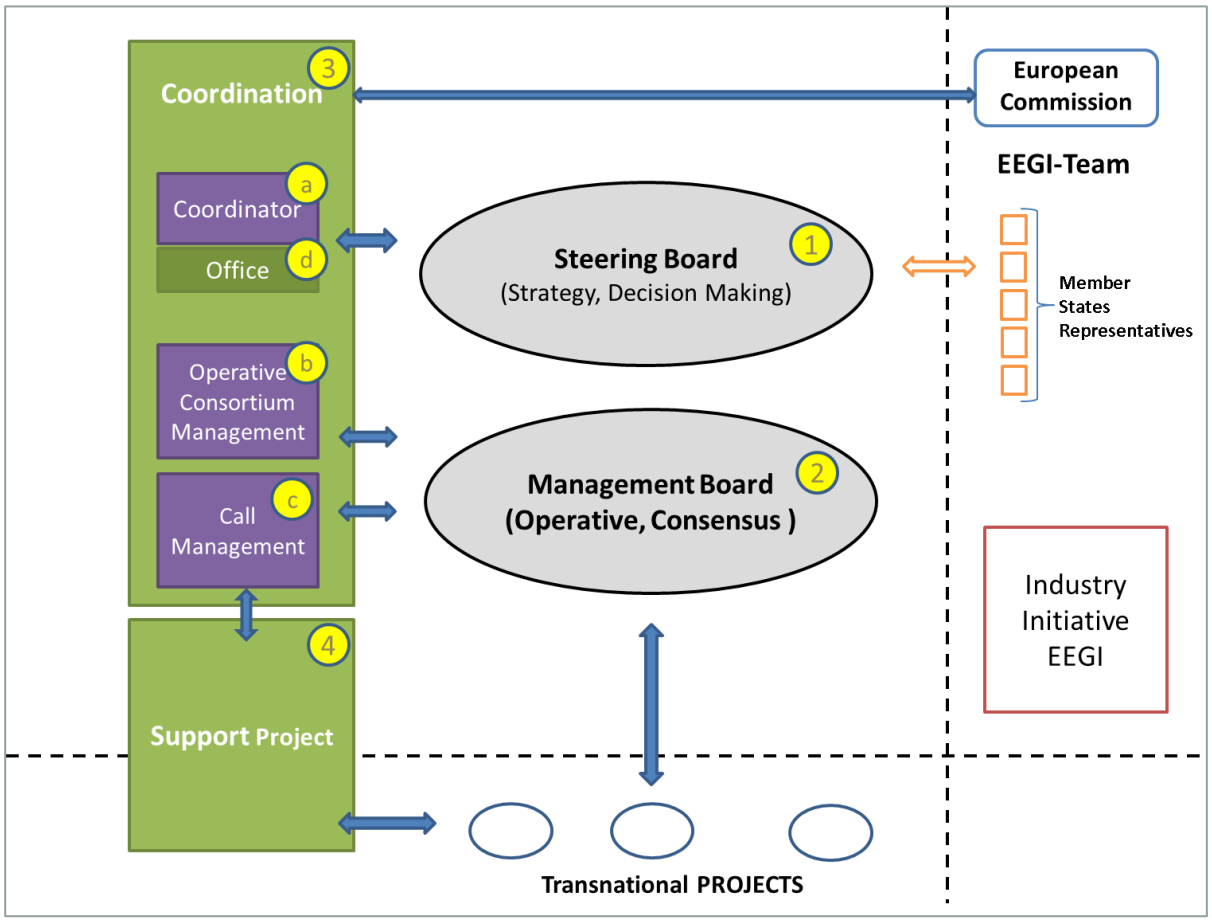
The Support Project (see section "Implementation", WP 4) will implement advanced and innovative follow-up, monitoring and transfer activities. It will continuously work with the projects on the basis of working groups and living documents and implement an **interactive, formative evaluation process**. In this process, the progress and results of the projects will be monitored, emphasizing and fostering interoperability, scalability and replicability of the results and solutions deployed on a national and European level. Additionally the projects will be enabled to self-evaluate their performance and ideally also adjust according to this evaluation.

This concept builds on positive experiences that have been made in the German *E-Energy* program and in the Austrian *Building of Tomorrow* Program, as well as in a similar form in the Finish *SGEM* program and the *GRID+* project. It has already been successfully applied in the "*Smart Grids D-A-CH cooperation*" between Germany, Switzerland and Austria. Moreover, a **knowledge community** will be built up that links experts of **ERA-Net SG +** development and deployment projects (intralink) and actors of other Smart Grid projects, but also beyond that involve disciplines and backgrounds such as policy makers, interested organisations, SMEs, academia etc. from outside the ERA-Net community (extralink). In its work the Support Project will refer to European findings, resources and expertise from the EEGI, GRID+, FI-PPP, SG Task Force, CEN/CENELEC/ETSI working group, CEER, etc.

These measures together will ensure that technological concepts and functionality as well as data and market models are in line with interests, objectives and constraints of all Smart Grid stakeholders (including consumers) and that these are compatible with general advancements in Smart Grid developments throughout Europe (e.g. SGAM model / Smart Grid Architecture). They guarantee furthering the usability of the project results for later replication and scaling-up. This effort can build on existing results from the FP7 projects GRID+, S3C, ADVANCED or FINSENY.

Establishing a knowledge community and working with formative evaluation also allows to **continuously derive strategic knowledge** for policy makers and Program Managers/Owners, EU level representatives as well as stakeholders throughout the projects' duration.

5 Management Structure, Roles and Responsibilities



(1) – (4), (a) – (d) correspond with the description below.

The design of the management structure for the ERA-Net SG + serves the following principles:

- Ensuring feasible resources for the coordination and support of the program network to handle contractual and financial issues as well as the processing of the joint call(s), taking into account a large number of participants;
- Enabling continuous cooperation between regional / national Smart Grids programs beyond a single call, considering limited resources from national/regional funding agencies;
- Implementing joint programming going beyond the funding of joint projects towards generating strategic knowledge for national/regional Program Owners and Program Managers; Facilitating the contribution of the ERA-Net SG Plus + to Smart Grids development on the European level.

1. The Steering Board and decision making

The ERA-Net SG + Steering Board is the decision making body in the consortium. Program Owners and/or Program Managers are represented in the Steering Board (ministries, agencies of the involved EU countries and regions[1,2]) with one voting right per program (a Program Manager being legal partner in the consortium agreement) .

The Steering Board is responsible for decisions on strategic issues concerning the network as well as for financial decisions such as:

- Goals, quality standards and overall work plan of the network;
- Guidelines for the preparation of joint calls, launch of joint calls (approval of call text), guidelines and launch of other activities;
- Approval of annual work plans of the Coordination and the Support Project;
- Setting-up and approval of the final joint selection list of projects to be funded;
- Supervision of project finances;
- Approval of reports to the EC, approval of reports and documents to be published;

Operational decisions in the context of the implementation of joint calls (like the agreement on a final draft call text to be handed over to EC and Steering Board, the panel design for evaluations, the selection of independent experts) are taken by the **Management Board** on the basis of consensus. In case that no consensus can be reached, the respective issue is handed over to the Steering Board to apply its formal voting procedures.

The members of the Steering Board are responsible for coordinateing and triggering the allocation of national/regional budgets. The Steering Board shall also develop a vision and perspective to maintain the network beyond the grant agreement with the EC. To enable the cooperation on the European level, Steering Board members are called to coordinate closely with their member states EEGI-Team delegates and representatives in the Horizon 2020 program committee on energy.

The Steering Board shall meet at least once a year to discuss and take decisions on the basis of the input of the Management Board, the Support Project and the ERA-Net Office. These meetings and procedures will be facilitated by the ERA-Net Coordination.

Voting procedures

Decisions in the Steering Board are taken by voting with a 2 tier approach for decision making, taking into account funding commitment and head votes. The goal is to have a robust decision process introduced which is simple for most of the uncritical cases and prevents both decisions dominated by «three big ones» and blocking decisions by a majority of «small ones» with overall minor budget:

- Tier 1 (Simple decision model): 50% of voting (one vote per program) necessary for approval.
- Tier 2 (budget related decision model): Used only, when tier 1 leads to a negative decision, but one or more programs request a budget related decision. 60% of «committed funding budget at grant agreement signing» based votes needed for approving decisions.

[1] Program Owners of associated or third countries shall also be represented in the Steering Board, but with limited decision power in case that they do not contribute to the coordination cost of the network.

[2] The EC shall be invited to the Steering Board meetings on a case-by-case basis.

- Written procedure for voting shall be made possible for individual partners if not being present at a Steering Board meeting, but only if specifically announced before the meeting and for a specific topic not undergoing dynamic changes during a meeting.

After the approval of the final joint selection list of projects to be funded the budget related decision model (Tier 2) will be based on 60% of «real cost eligible for EC co-funding» (considering self-payments of Coordination and Support Project cost by associated or third countries) also taking into account committed budgets for additional calls.

2. The Management Board

The ERA-Net SG + Management Board represents the regional/national **Program Managers** (normally funding agencies). Steering Board members with support of the ERA-Net Call Management and the Operative Consortium Management are responsible to prepare and implement the co-funded joint call (and in variable geometry according to their participation the three additional calls). This includes:

- Agreement on procedures and content of joint calls and preparation for the decision in the Steering Board;
- Organisation and coordination of the joint calls, including:
  - Communication and advice to applicants;
  - Eligibility checks and clearing leading to a confirmed short list of fundable projects;
  - Contractual and financial procedures for project participants, according to the different national funding rules and requirements;
- Provision of the required procedures and reportings for handling the EC co-funding;
- By providing the necessary minimum standard information the regional/national Program Managers will facilitate (according to T 2.4.1):
  - The joint standard monitoring of the transnational ERA-Net projects, as carried out by the Call Management;
  - The cooperation of the Support Project with the trans-national ERA-Net projects.

3. The ERA-Net Coordination

a. **Coordinator (BMVIT)**
The Coordinator is responsible for the coordination of the overall network (WP 1-4) as well as contractual, formal and legal issues at the consortium level.

b. **Consortium Management (FFG)**
The Consortium Management is a linked third party to the Coordinator BMVIT and is authorised to administer BMVIT programmes and activities. As such it is responsible for the financial management (transfer of EC top-up funding).

c. **Call Management (SWEA; SWEA subcontracting Nordic Energy Research)**
The Call Management is responsible to develop procedures and contents of joint calls, in

agreement with and with inputs from the national Program Managers, consolidated and agreed upon in the Management Board.

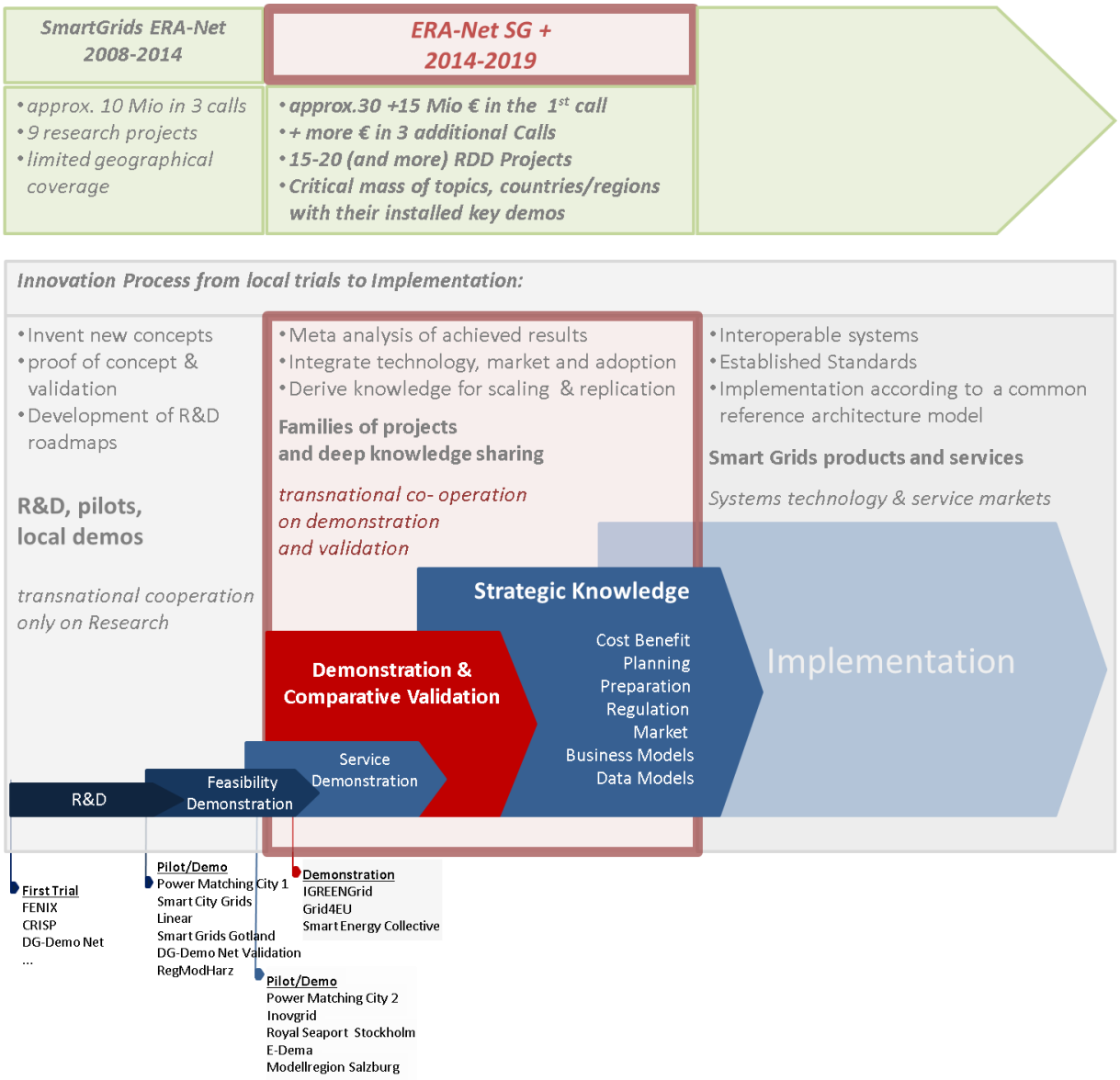
d. **ERA-Net Office (BMVIT subcontracting AustriaTech; DETEC subcontracting BACHER)** Provides communication support as well as Quality and Progress Monitoring Support to the consortium.

4. The Support Project

Subcontracted from the Coordinator on behalf of the consortium; supervised by the Coordinator and the Steering Board. Provides support to build up the **ERA-Net SG + Knowledge Community.**

6 Ambition and Expected Impact

Innovation Process: From local trials to implementation with ERA-Net SG +



Compared to the former SmartGrids ERA-Net 2008-2014, the **ERA-Net SG +** intends to triple the funding from the involved funding agencies already in the first co-funded call to reach approx. 15-20 co-funded transnational RDD projects. More national/regional funding can be expected in the three additional calls. For the first time a critical mass of transnational projects – where most will be based on already existing, national/regional demonstration projects – will be interacting with each other through knowledge sharing enabled by the Support Project. The chosen setup will push stakeholder cooperation significantly beyond the former ERA-Net, substantially contributing to enhanced, trans-national cooperation on Smart Grids demonstration and validation and working toward the long-term goals of implemented SmartGrids products and services. (The term “transnational cooperation” in the upper graph does not include multinational consortia in FP7 projects).

6.1 Expected impacts

Achievement of critical mass for funding transnational projects, by pooling ressources and establishing durable cooperation

Achieve critical mass for funding transnational projects. In a first survey in the course of the preparation process of ERA-Net SG + a set of 22 generic topics regarding to the SRA 2035 were identified as potential areas for transnational cooperation with interest from more than two countries ("Working Document", www.sgeranetplus.eu).

Achieve critical mass of participating demo projects in the involved countries. Broad coverage of countries and regions identified as "hotspots for Smart Grids demos" by the JRC (Joint Research Center) analysis. Identification and description of 34 national, regional and transnational key demonstration and pilot projects ("the one or two most important projects") from 18 participating countries and regions ("Smart Grids Demo Snapshots 2013/2014", www.sgeranetplus.eu).

Achieve critical mass of resources. Funding commitments from 21 countries and regions of more than 30 Mio €. All the participants have confirmed their participation and budget with a letter of commitment, enclosed as Annex to Part B, chapter 4 and 5 of the proposal. Details on financial and resource commitments can be found in section 3.3 and 3.4 of the proposal.

Achieve critical mass for durable cooperation. ERA-Net SG + is going to set up an effective, efficient and supportive management structure including allocation of appropriate resources and budgets (see section 1.3- Concept and approach, 3.2-Management structure and procedures, 3.3- Consortium as a whole and 3.4- Ressources to be committed, Table 3.1.a- Work package descriptions. All ERA-Net SG + partners are fully committed to contribute to Coordination and Support Project costs.

6.2 Measures for Communication, Exploitation and Dissamination of Results

Following the experiences from other ERA-Net actions, it is crucial to involve stakeholders as early as possible in the process to give enough time for high quality consortia to be built, particularly with the high ambition level of ERA-Net SG +. In particular for the preparation and announcement of the co-funded joint call, the following activities have already been started:

- The preparation process "Series of Events" in 2013 involved national/regional stakeholder platforms and experts in workshops (www.sgeranetplus.eu)
- The collection of "Smart Grids Demo Snapshots", containing 34 key-demonstration projects from 18 participating countries and regions was distributed to the stakeholders (www.sgeranetplus.eu)
- A matchmaking internet-platform has been set up (http://www.b2match.eu/smart gridsplus), where potential project partners can present themselves and organise b2b meetings. Matchmaking events are expected to be organised in the ERA-Net SG + countries and regions during the coming months.

Further more ERA-Net SG + will implement the following measures:

Target Group / Measure	**Stakeholders** (Grid Operators, Industry, Research, Telecom, SME)	**Smart Grids Initiatives** (EERA, ETP, KIC, ETP, national TPs)	**Policy and Programming** (EC, EEGI-Team, SET-Steering Group, policy makers)	**The Wider Public**
Info Exchange and coordination on EU- Level (EC, EEGI-Team)			Strategic knowledge; reports and presentations	
Liaison Officer to other European Initiatives (EERA, ETP, KIC, Grid+,…)		R&D based information exchange and cooperation		
Knowledge and data basis of SG ERA-NET + national and transnational RDD projects	Smart Grids projects information in a standardised form; interface to other data- and information platforms (GRID+ project Wiki, JRC database)			
ERA-Net SG + knowledge community	Working groups and living docs			
Central information and communication hub	Information about activities (calls, events,..) and results (reports, working docs, etc.) via website, newsletter, etc.; facilitate the WP-leaders and participating Program Managers in communication			
"Outreach Events" national Smart Grids Conferences	Platform event at national/regional events (national/regional technology platforms, etc.) also attracting new participants (Telecom, SMEs, service providers, economic and social sciences, creativity sector, etc.)			
ERA-Net funded transnational projects	Non-confidential results; dissemination strategy of ERA-Net projects; participate in knowledge exchange activities as organised by the Support Project and the Call Management.			