Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of Economic Affairs, Education and Research EAER
State Secretariat for Education, Research and Innovation SERI
EU Framework Programmes

ESFRI:
Basics and Principles

Philipp LANGER

Head EU Framework Programmes

EuroRisNet High Level Training - January 29, 2013

ESFRI – European Strategy Forum on Research Infrastructures

- Set up by the EU Council of Research Ministers in 2002

- Brings together representatives of Ministers of the 27 Member States, 10 Associated States, and of the European Commission

- Supports a coherent and strategy-led approach to policy making on Research Infrastructures

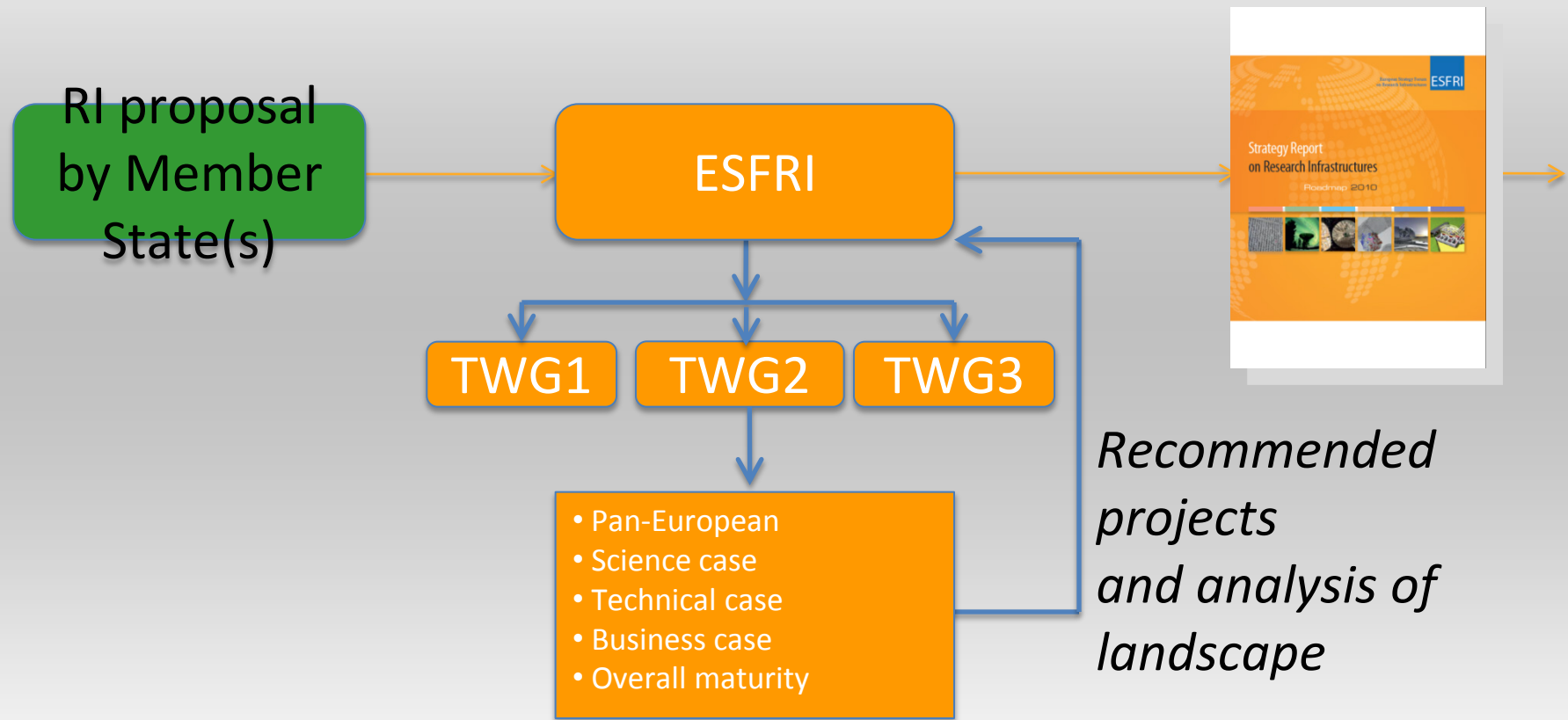- Mandate to develop a Roadmap (2006) and its updates (2008, 2010)

ESFRI – The Roadmap

- The ESFRI roadmap identifies new pan-European Research Infrastructures or major up-grades to existing ones, corresponding to the needs of European research communities in the next 10 to 20 years, in all fields of Sciences and Technologies, regardless of possible location

- First Roadmap published in 2006

- Followed by two updates in 2008 and 2010:

  - Now contains 48 projects
  - Requiring major financial investment (~20 b€) and long term commitment for operation (~2 b€/year)
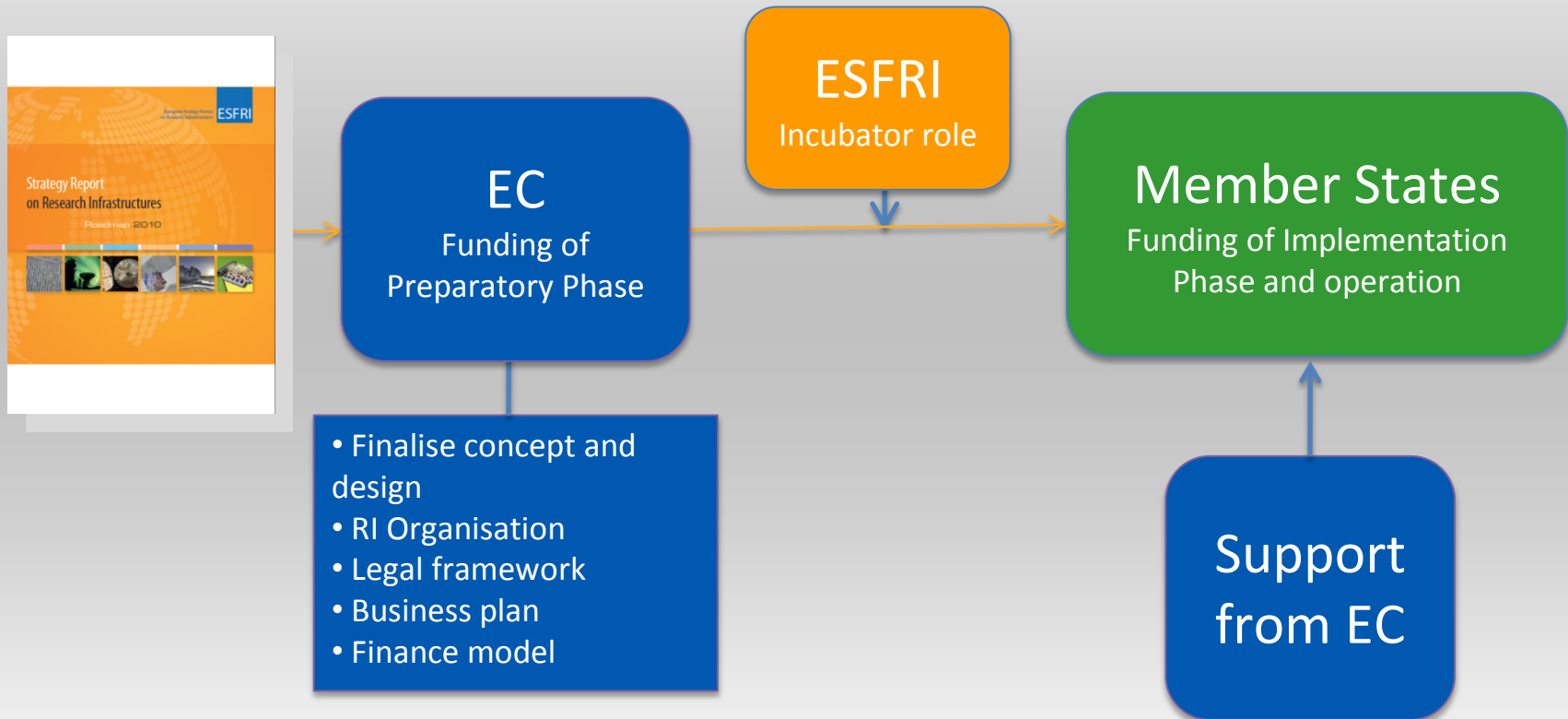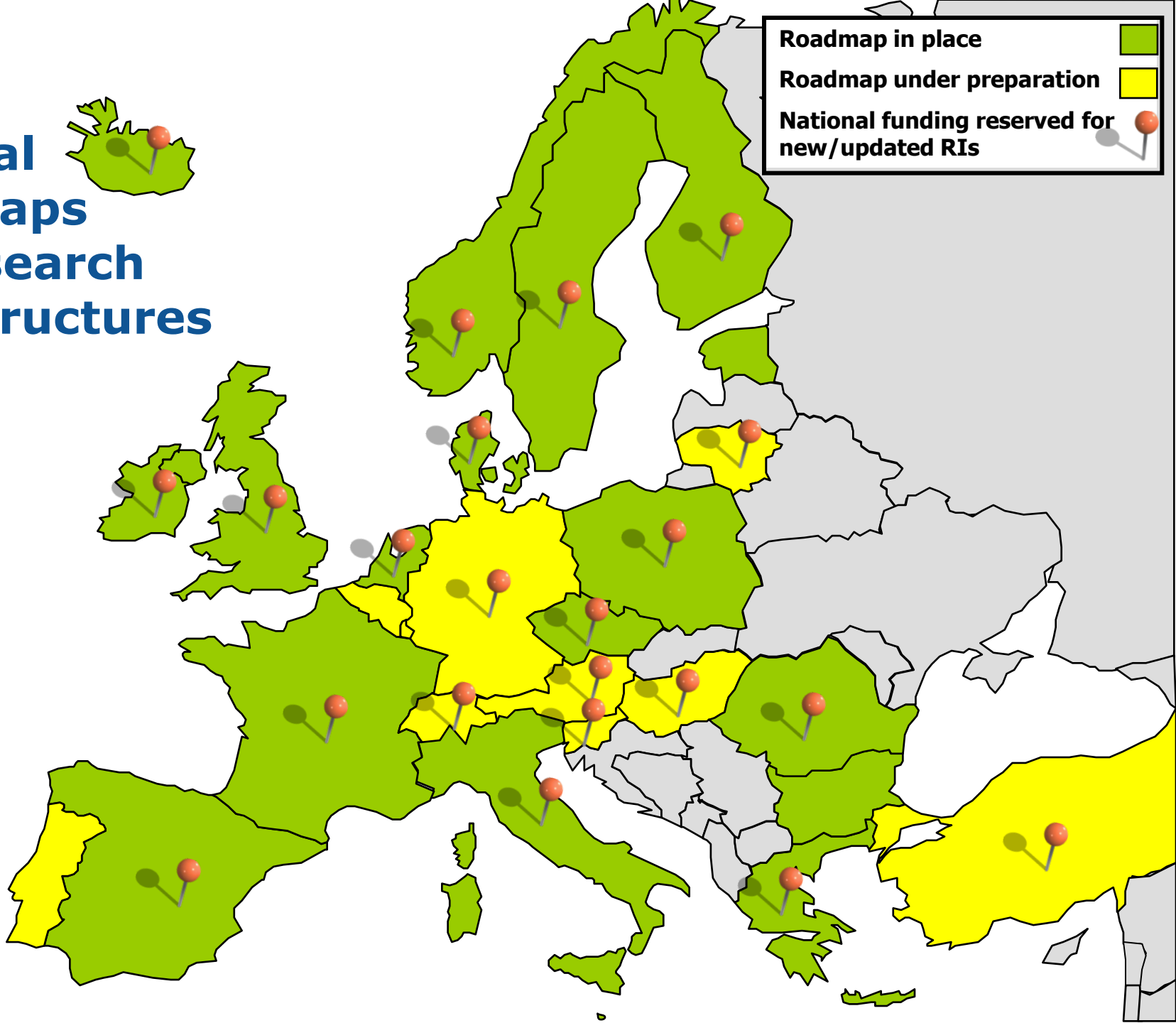
The ESFRI Process (1)

The ESFRI Process (2)

EC
Funding of Preparatory Phase

ESFRI
Incubator role

Member States
Funding of Implementation Phase and operation

- Finalise concept and design
- RI Organisation
- Legal framework
- Business plan
- Finance model

Support from EC

ESFRI Roadmap 2010

Social Sc. & Hum. (5)	Life Sciences (13)		Environmental Sciences (9)		Energy (7)	Material and Analytical Facilities (6)	Physics and Astronomy (10)		e-Infra-structures (1)
SHARE	BBMRI	ELIXIR	ICOS	EURO-ARGO	ECCSEL	EUROFEL	ELI	TIARA*	PRACE
European Social Survey	ECRIN	INFRA FRONTIER	LIFEWATCH	IAGOS	Windscanner	EMFL	SPIRAL2	CTA	
CESSDA	INSTRUCT	EATRIS	EMS	EPOS	EU-SOLARIS	European XFEL	E-ELT	SKA	
CLARIN	EU-OPENSCREEN	EMBRC	SIAEOS	EISCAT_3D	JHR	ESRF Upgrade	KM3NeT	FAIR	
DARIAH	Euro BioImaging	ERINHA BSL4 Lab		COPAL	IFMIF	NEUTRON ESS	SLHC-PP*	ILC-HIGRADE*	
	ISBE	MIRRI			HiPER	ILL20/20 Upgrade			
	ANAEE				MYRRHA				

🟨 **Distributed research infrastructures**

🟦 **Single sited research infrastructures**

***Projects from CERN Strategy for Particle Physics**

National Roadmaps for Research Infrastructures

Legend:
- Roadmap in place
- Roadmap under preparation
- National funding reserved for new/updated RIs

ERIC:
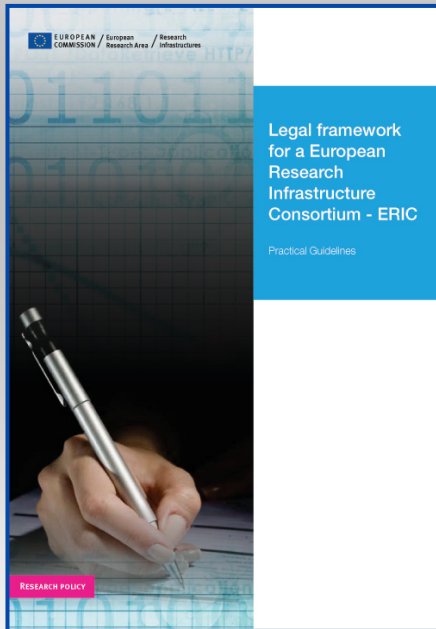# European Research Infrastructure Consortium

- A new legal framework, at EU level, to facilitate the joint establishment and operation of Research Infrastructures of European interest among several countries

- A legal personality recognised in all EU Member States

- Amendment under way to enable contributions from Associated Countries to be fully taken into account

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- The Commission has awarded the ERIC status to SHARE and CLARIN

Legal framework for a European Research Infrastructure Consortium - ERIC

Practical Guidelines

- The Commission is examining currently three more ERIC applications: EURO-ARGO, ECRIN and ESSurvey. About fifteen ERICs are expected to be launched by 2015.

- ERICs suits well distributed facilities and data services in the domains of social sciences and humanities; biological and sciences; and environmental research facilities.

ERIC applications

Application Step 1	Project	Host country	Members – (Observers)
2011 July	ECRIN	FR	FR, DE, ES, IT
2011, July	EUROARGO	FR	FR, DE, BG, EL, IT, NL
2012, March	ESSurvey	UK	UK, AT, BE, BG, CY, EE, FR, DE, IS, IL, LV, LT, NL, NO, PL, PT, SI, ES, SE (CH)
2012, July	BBMRI	AT	AT, BG, CZ, EE, FI, FR, EL, IT, LV, MT, NL, NO, ES, SE- (PL, CH)
2012, June	C-ERIC	IT	IT, AT, CZ, HU, PL, RO, SI
2012, June	EATRIS	NL	NL, DE, CZ, DK, FI, IT, NO, ES
2012 , October	DARIAH	FR	FR, AT, DE, DK, NL, SI
2012, June (pre-submission received)	Lifewatch	ES	Environmental Sciences
2013 (expected)	JIVE	NL	Physical Sciences and Engineering
2013 (expected)	EMSO	IT	Environmental Sciences
2013 (expected)	CESSDA	NO	Social Sciences and Humanities
2013 (expected)	ICOS	FI	Environmental Sciences
2013 (expected)	EU Openscreen		Biological and Medical Sciences
2014 (expected)	EMBRC		Biological and Medical Sciences
2015 (expected)	ELI		Physical Sciences and Engineering

ERIC applications

Application Step 2	Project	Feed-back Commission on Step 1
2013 1st Semester (expected)	ECRIN	September 2011
2013 1st Semester (expected)	ESSurvey	August 2012
2013 1st Semester (expected)	EUROARGO	December 2011
2013 1st Semester(expected)	BBMRI	October 2012 (expected)
2013 1st Semester(expected)	C-ERIC	October 2012 (expected)
2013 1st Semester(expected)	EATRIS	October 2012
2013 2nd Semester (expected)	DARIAH	December 2012 (expected)
2013 2nd Semester (expected)	Lifewatch	Informal feed-back pre-submission October 2012

IMPLEMENTATION: Projects expected to be implemented by 2013

- Social Sciences:
  CLARIN, DARIAH

- Environmental Sciences:
  EISCAT, EURO ARGO, IAGOS, ICOS, LIFEWATCH
  Health&Food:
  BBMRI, EATRIS, ECRIN, ELIXIR, INFRAFRONTIER,   INSTRUCT

- Material Sciences:
  European Spallation Source
  Physical Sciences:
  E-ELT, ELI

Projects officially under implementation (Roadmap 2010):

CESSDA, ESRF Upgrade, European Social Survey, SHARE, XFEL, ILL 20/20, FAIR, SPIRAL2, PRACE, JHR

Implementation of ESFRI projects

«A combination of resources from national budgets, Community programmes, EIB instruments and structural funds should lead to the development of excellent research infrastructures throughout Europe»

EU Council of Research Ministers
March 2009

Commitments within Innovation Union

- « By 2015 (…) have completed or launched the construction of 60% of the priority European research infrastructures currently identified by the ESFRI (…) »

- « … opening of Member State operated research infrastructures to the full European user community… »

- « The European Union should step up its cooperation on the roll-out of the global research infrastructures. By 2012, agreement should be reached with international partners on the development of research infrastructures, including ICT infrastructures, which owing to cost, complexity and/or interoperability requirements can only be developed on a global scale »
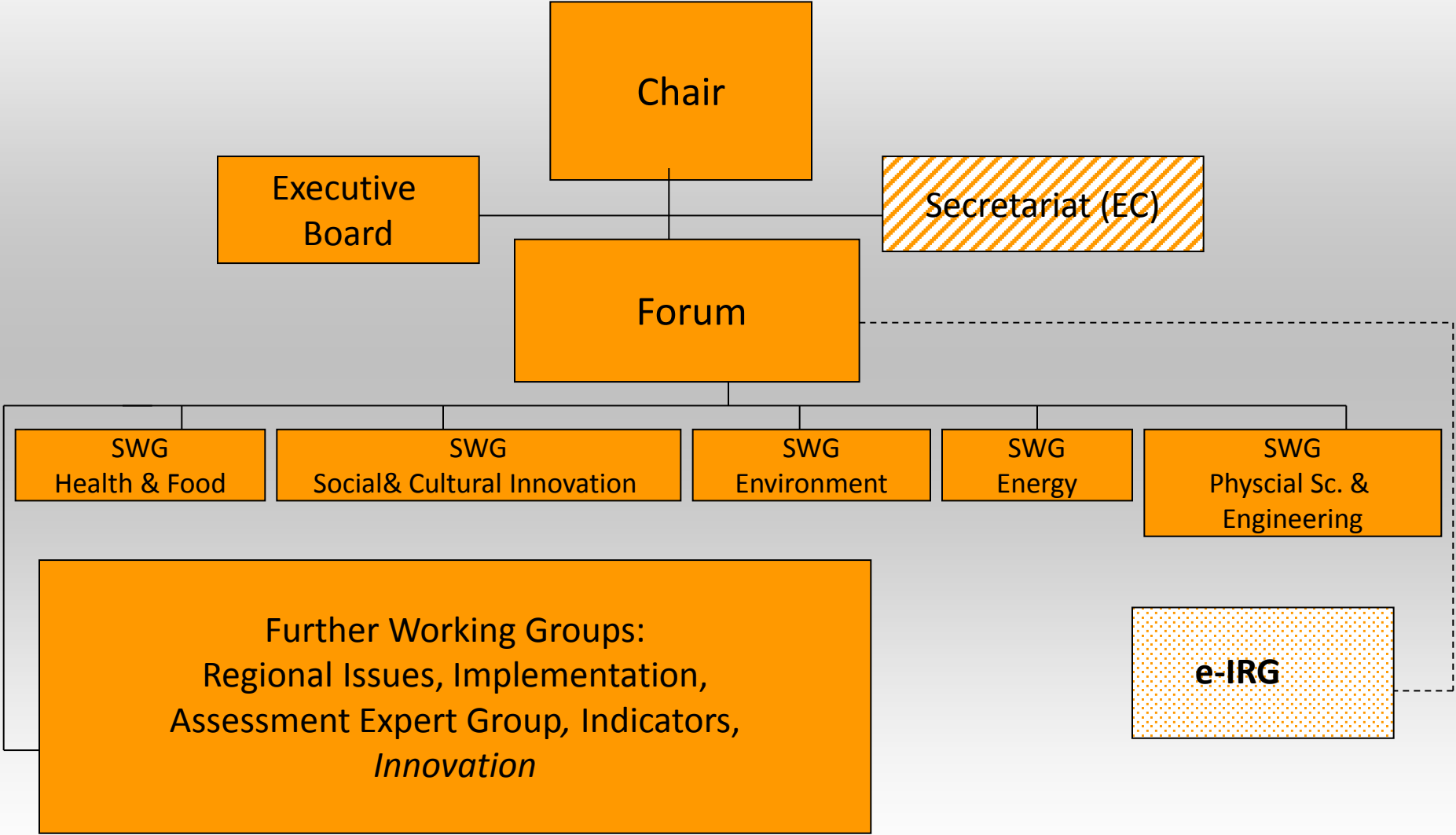
Adapted ESFRI Mandate (Dec 11, 2012)

On 11 December 2012, the **Council** adopted Conclusions on A reinforced European research area partnership for excellence and growth.

In these Conclusions, the Council endorses the need for strengthened partnership in the field of Ris and:

"Emphasises the need for **renewing and adapting** the mandate of ESFRI to adequately address the existing challenges and also to ensure the follow-up of implementation of already on-going ESFRI projects after a comprehensive assessment, as well as the **prioritisation** of the infrastructure projects listed in the ESFRI roadmap."

Structure of ESFRI

ESFRI — European Strategy Forum on Research Infrastructures

Chair

Executive Board

Secretariat (EC)

Forum

SWG Health & Food

SWG Social& Cultural Innovation

SWG Environment

SWG Energy

SWG Physcial Sc. & Engineering

Further Working Groups:
Regional Issues, Implementation,
Assessment Expert Group, Indicators,
Innovation

e-IRG

Current ESFRI Working Groups

- Strategy Working Groups:
    - Energy (Chair: H. Bindslev)
    - Social & Cultural Innovation
      (Chair: A. Dusa)
    - Environment and Climate change
      (Chair: G. Pappalardo)
    - Health & Food
      (Chair: M. Ozgoren)
    - Physical Sc. & Engineering
      (Chair *in spe*: J. Womersley)

Current ESFRI Working Groups

- Implementation Working Group
  (Chair: L. Le Duc)

- Regional Issues Working Group
  (Chair: J. Gierlinski)

- Innovation Working Group
  (Chair: J. Moulin)

- Ad-hoc Expert Group on indicators
  (Chair: G. Rossi)

- Expert Group on Assessment
  (Chair: A. Calvia-Goetz)

Next steps

- The EC has set up an **Expert Group on Assessment** of the ESFRI projects.

- The members of the Expert Group are high level managers expert in setting up and managing RIs

- This group will assess the financial and managerial maturity of the projects of the ESFRI roadmap.

- Strategy WGs monitor and report on the scientific development of projects

- The IG will work together with the this Expert Group and the Strategy Working Groups to assist the implementation of the projects.

Some Reflections

- ESFRI: Roadmapping (bottom-up)
  shifting to **Implementation** (top-down?)

- Small Funding for RIs in H2020
  > RI remain country-driven

- **EIROforum** (CERN, EFDA-JET, EMBL, ESA, ESO,
  ESRF, European XFEL and ILL):
  ESFRI could learn…

Horizon 2020

Excellent science (24 598 M€, constant 2011 prices)

- European Research Council (13 268 M€)
- Future and Emerging Technologies (3 100 M€)
- Marie Curie actions (5 752 M€)
- **European Research infrastructures (including e-infrastructures) (2 478 M€)**

Societal challenges (31 743 M€)

- Health, demographic change and wellbeing (8 028 M€)
- Food security, sustainable agriculture, marine - maritime research, bio-economy (4 152 M€)
- Secure, clean and efficient energy (5 782 M€)
- Smart, green, integrated transport (6 802 M€)
- Climate action, resource efficiency, raw materials (3 160 M€)
- Inclusive, innovative and secure societies (3 819 M€)

Industrial leadership (17 938 M€)

- Leadership in enabling and industrial technologies (ICT, space, nanotechnologies, advanced materials and advanced manufacturing and processing, biotechnology) (13 781 M€)
- Access to risk finance (3 538 M€)
- Innovation in SMEs (619 M€)

EIT (1 364 B€ + 1 461 B€)

Research and Innovation

JRC (non-nuclear: 1 961 M€)

For further information

- **Europe 2020**
  http://ec.europa.eu/eu2020

- **Innovation Union**
  http://ec.europa.eu/research/innovation-union

- **Horizon 2020**
  http://ec.europa.eu/research/horizon2020

- **FP7**
  http://cordis.europa.eu/fp7/

- **EC Research Infrastructures and ESFRI**
  http://ec.europa.eu/research/infrastructures

- **EC Regional Policy**
  http://ec.europa.eu/regional_policy