FZK – KOLLOQUIUM

Marine Ressourcen und erneuerbare Energien

Gerry Sutton : MARINERG-I Project Manager

Leibnitz Universitat – Hannover. 21st March 2019

OVERVIEW

- How MARINERG-I evolves
- The ESFRI roadmap
- MARINERG-I H2020
- What comes next
- What could this mean for participants

MARINERG-i is already fully supported by the EU Commission and ESFRI review panels

ESFRI European Strategy Forum on Research Infrastructures

- Advanced community
- Unique technical know-how
- Sector of key EU strategic importance
- Emerging ESFRI DRI

MARINERG-i H2020 (Jan 2017-June 2019)

- €2M budget
- 14 Partners, 12 Countries
- Scientific Plan, Legal, Business, Financial & Communication Frameworks
- Stepping stone to 2020 ESFRI Application

MaRINET2 H2020 (Jan 2017-June 21)

- €10.5M budget
- 39 partners, 13 countries, 57 facilities
- Consolidates and expands upon MaRINET
- €5M allocated for Transnational Access (TA)
- Industry training, Staff exchanges, e-infrastructure
- Standardisation, Round Robin testing

MaRINET FP7 (March 2011- Sept 2015)

- €10M budget
- 29 partners, 12 countries, 45 facilities
- Expert ORE technical community united under Irish leadership
- Strong global brand recognition with EU support
- Proven industry relevance – >700 weeks, access provided to 150 companies

€22.5M in EU funding

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ESFRI – European Strategy Forum for Research Infrastructures

ESFRI Facilitates multilateral initiatives for better use of Research Infrastructures

e.g. CERN (particle accelerator), ECCSEL (CO2 Storage), EU- SOLARIS (Solar Power)

https://www.esfri.eu/

2018 ESFRI Roadmap

DOMAIN	PROJECT	RM ENTRY
ENERGY	IFMIF – DONES Hybrid research reactor (S)	2018
	EU – SOLARIS – solar power	2010
	MYRRHA – nuclear fission energy (S)	2010
	WINDSCANNER - wind energy	2010
ENVIRONMENT	ACTRIS – atmospheric Studies	2016
	DANUBIUS-RI – environmental reive/sea system management	2016
	DiSSCO Distributed system of scientific collections	2018
	eLTER Integrated European long term ecosystem	2018
HEALTH & FOOD	AnAEE- -terrestrial and aquatic systems for food security and environmental sustainability	2010
	EMPHASIS – plant phenomics for food security in a changing climate	2016
	EU IBISBA industrial biotechnology innovation	2018
	METROFOOD-RI Infrastructure promoting metrology in food & nutr	2018
	ISBE – systems biology	2010
	MIRRI – microbial studies	2010
PHYSICAL SCIENCES & ENGINEERING	EST – solar telescope (S)	2016
	KM3NeT – astrophysics for neutrino discovery	2016
SOCIAL & CULTURAL INNOVATION	E-RIHS – heritage service	2016
	European holocaust research infrastructure	2018

2016 EMERGING PROJECTS-(Infradev-funding)

MARINERG-i offshore renewable energy

eLTER ecosystem & ecology

METROFOOD metrology in food

GGP ageing & gender

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H2020 Infradev Project

**2.5 yrs
Jan 2017- Jun 2019**

Delivers

- Key components for ESFRI Roadmap Bid in 2021
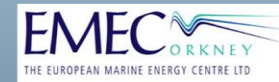- ERIC-EU Company template
- Commitment from member states

Bird & Bird

UPPSALA UNIVERSITET

MARIN

AALBORG UNIVERSITY DENMARK

UNIVERSITEIT GENT

PLOCAN PLATAFORMA OCEÁNICA DE CANARIAS
MINISTERIO DE ECONOMIA, INDUSTRIA Y COMPETITIVIDAD
Gobierno de Canarias

SINTEF

Marine Technology Research Institute INSEAN

Fraunhofer

WavEC Offshore Renewables

University of Strathclyde

EMEC ORKNEY
THE EUROPEAN MARINE ENERGY CENTRE LTD

Ifremer

UCC University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

MARINERG-i project is the **first step** in forming an **independent legal entity** of distributed testing infrastructures for ORE operating through a central hub with a common access portal.

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vision

Testing facilities united to form the world's leading distributed infrastructure for delivering Offshore Renewable Energy Technologies to the market

mission

- Drive the development of innovative, investable Offshore Renewable Energy (ORE) technologies by :
  - Streamlining research, testing, training & user access
  - Adopting common codes of practice for uniformity in testing performance metrics, validation and certification
  - Implementing an E-infrastructure platform for remote access & secure data and analytical services
- Accelerate the development of the (ORE) industry by leveraging and combining local/regional knowledge and capacity.
- Inform national and EU policy and infrastructure investment strategies to sustain global leadership and reputation in the ORE sector.

- Categorised structure of MARINERG-i stakeholder database by category
- ~300 members across 30 countries

Pie chart legend:
- Facility users — 7.0%
- Public Funders — 1.4%
- Testing Facility — 12.6%
- Industry & value chain — 36.7%
- Academia — 32.5%
- Private investors — 0.7%
- Policy Makers — 3.1%
- NGOs, competing coastal area users & others — 2.1%
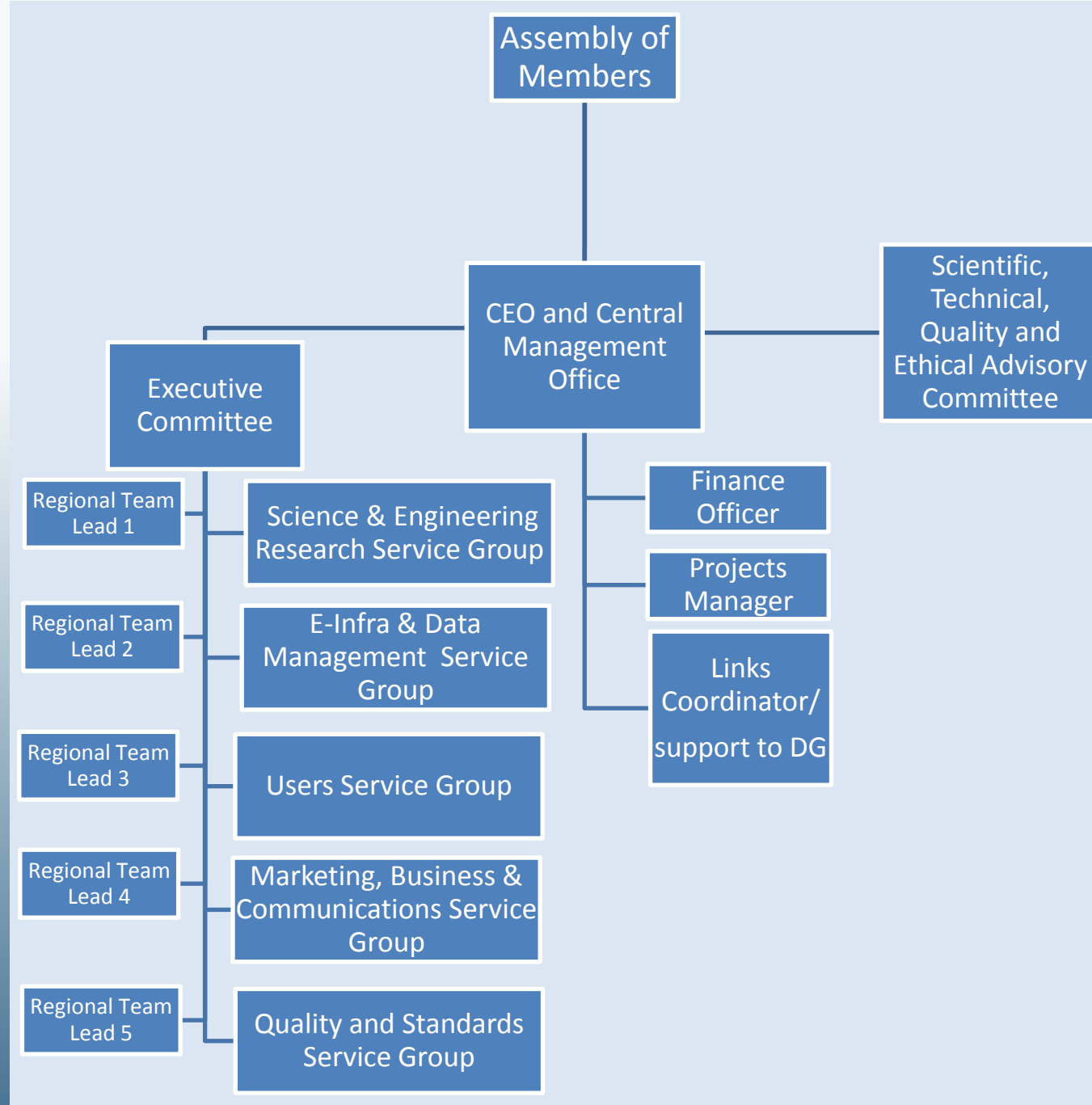- Civil society, media & others — 3.8%
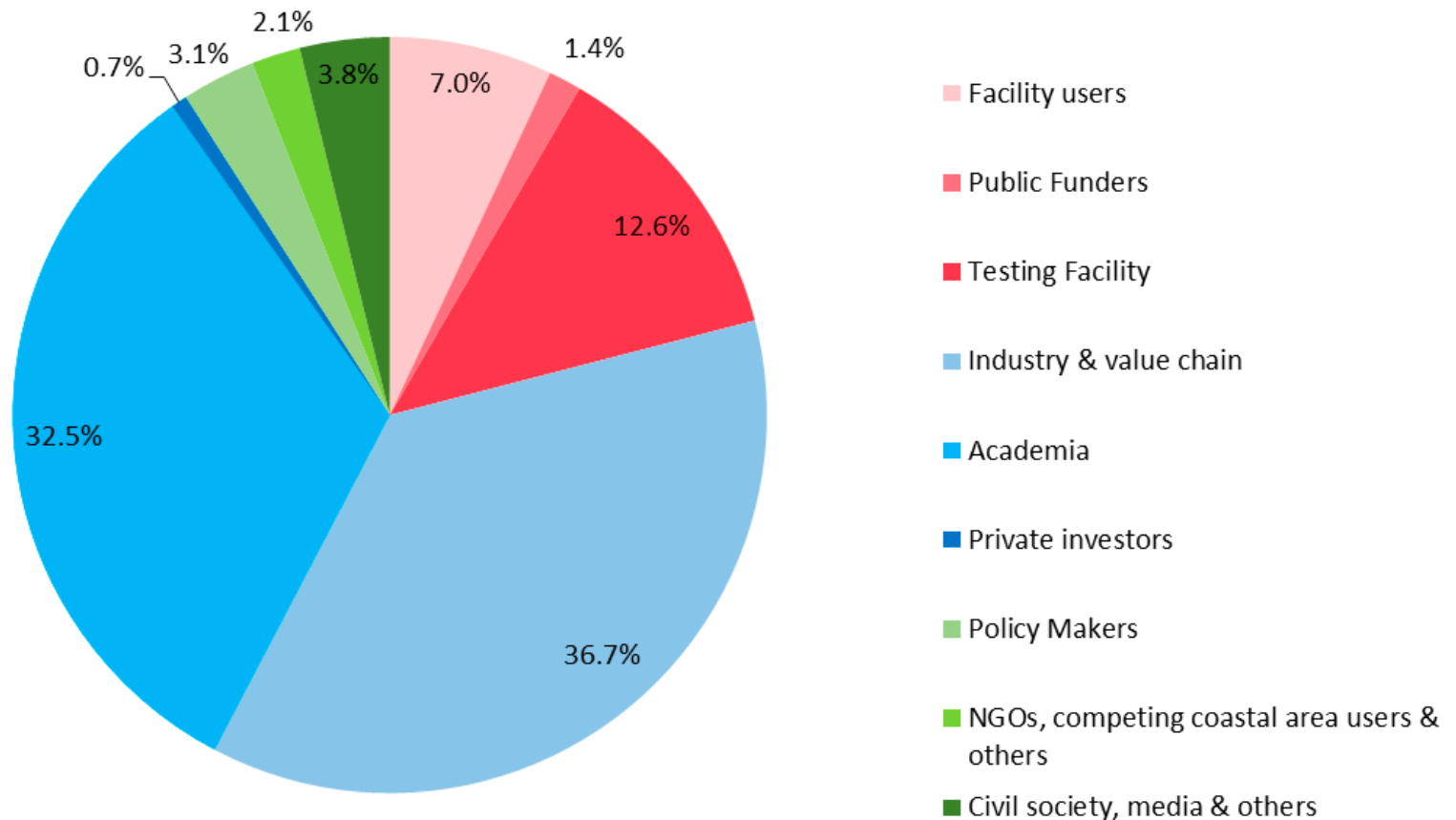
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Science Plan (SP), Design Study (DS) and E-infrastructure

- National level consultations participating countries –Nov 17- March 18 : 10 as workshops, 1 teleconf, 2 as part of national seminars
- MARINERG-i concept established in 12 countries – key gov't and institutional contacts engaged.
- TAC established and active
- Lead Node to be in Ireland – Multi-Institutional support
- Identified MS lead nodes and confirmed internal structures
- Design study and Science Plans in draft
- E-infra – Crucial element that must enable data access but protect IP
- Draft implementation plan in progress led by Ifremer and UCC
  - Follows FAIR principles (Findability, Accessibility, Interoperability, and Reusability)
  - Builds on pilot work from MARINET2 based on Seadatacloud framework
  - Final details and costings in prep.

- DRI - ERIC model implies central hub –interlinked national nodes
- Governance model /operational model
- Draft statutes complete, pending finalisation

Assembly of Members

CEO and Central Management Office

Scientific, Technical, Quality and Ethical Advisory Committee

Executive Committee

Regional Team Lead 1

Regional Team Lead 2

Regional Team Lead 3

Regional Team Lead 4

Regional Team Lead 5

Science & Engineering Research Service Group

E-Infra & Data Management Service Group

Users Service Group

Marketing, Business & Communications Service Group

Quality and Standards Service Group

Finance Officer

Projects Manager

Links Coordinator/ support to DG

MARINERG-i Business Model

Key Objectives:

1) Promote and provide access to World leading ORE MARINERG-i research infrastructures

2) Be a Not-For-Profit ERIC leading and Informing the ORE Research Agenda

3) Become financially self sustaining Within 10 Years of receiving ESFRI recognition

4) To support and facilitate investment into MARINERG-i infrastructures to maintain global position

ERIC Operating Structure : Set-up Conditions for Financial Modelling Process

7 Participating Members [ ] ; 5 Observers [ ]

Entity	Entity Type	Mode	Central Node	Service Group Host	No of Infras	N. of Units of Access (total)	Regional Team Lead	Service Group Nominated
Ireland	Member State	Participating Member	Yes	Yes	6	10		Access Jt Lead
France	Member State	Participating Member	No	Yes	6	13		e-infra/access
Italy	Member State	Observer Member	No	No	4	6		
Norway	Associated Country	Observer Member	No	No	1	1		
United Kingdom	Member State	Participating Member	No	Yes	18	40	All UK	Q & S
Belgium	Member State	Participating Member	No	Yes	2	30	Benelux	Sci & Eng
Netherlands	Member State	Observer Member	No	No	3	1		
Denmark	Member State	Observer Member	No	No	2	4		
Germany	Member State	Participating Member	No	No	2	8	Inc Scand	
Portugal	Member State	Participating Member	No	No	1	9		
Spain	Member State	Participating Member	No	No	7	20	All spain	Business & marketing
Sweden	Member State	Observer Member	No	No	2	2		
Totals					54	145		

MARINERG-i Development Timeline
Key Milestones 2017-2027

H2020-INFRADEV-2016-2 1/17 - 6/19

ESRFI info. session 1/19

Letters of support due 6/19 - 7/19

INFRADEV 2 Prep phase application CSA 1/21

c. 25 m- under MARINET2 7/19 - 7/21

INFRADEV-2 project (€2-4m) 8/21 - 1/24

INFRADEV 3 ESFRI support application 3/24

c. 8 months unfunded 2/24 - 9/24

INFRADEV-3 project (€2-5m) 10/24 - 9/26

Core membership clear & national commitments obtained 6/19

ON ESFRI ROADMAP

ERIC OPERATIONAL

ESFRI application 8/20

2021 ESFRI roadmap publication 4/21

ERIC established 1/25

ERIC First Annual Fees Due 2/26

2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027

Today

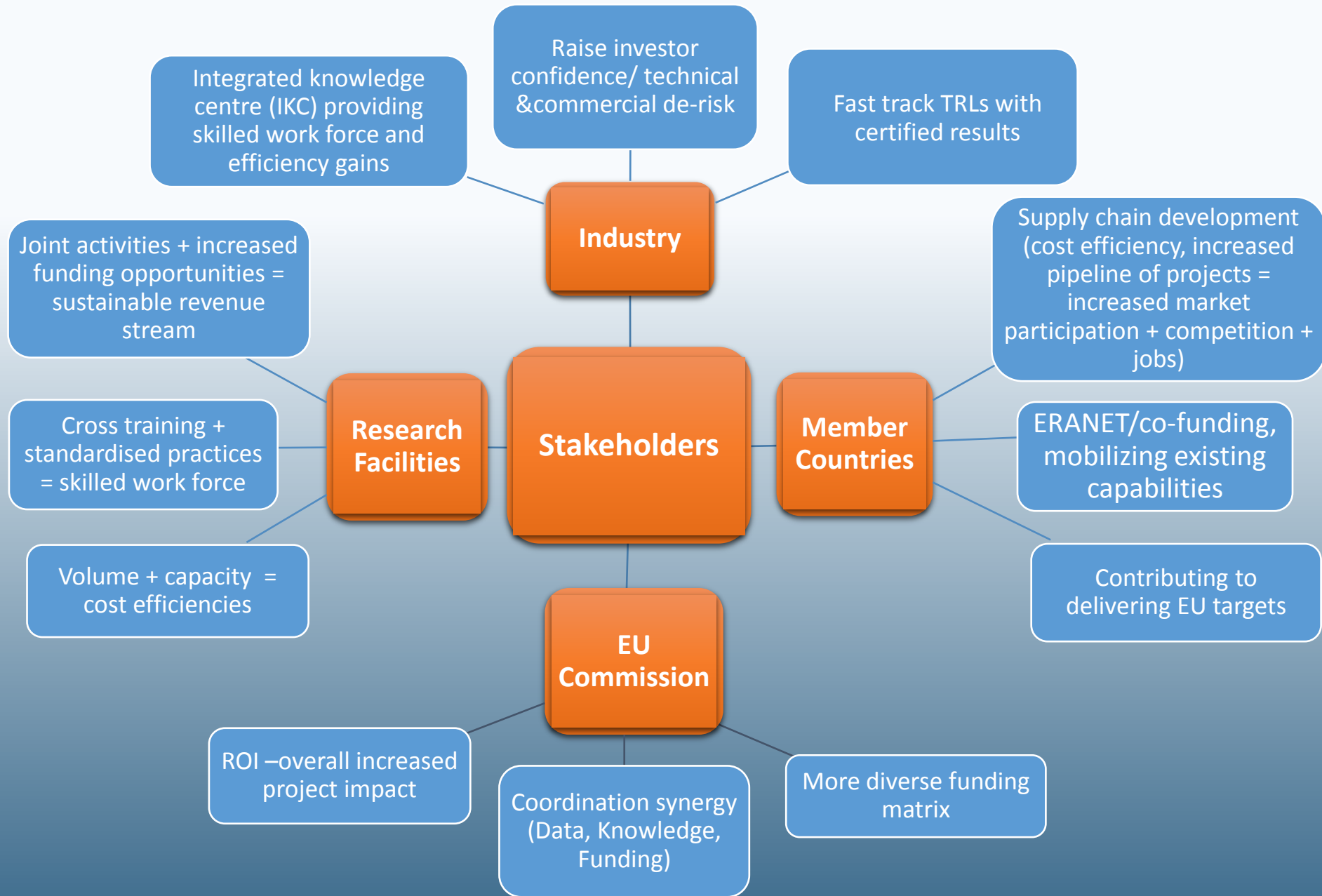marinerg-i

Value add for stakeholders

Stakeholders

Industry
- Raise investor confidence/ technical &commercial de-risk
- Integrated knowledge centre (IKC) providing skilled work force and efficiency gains
- Fast track TRLs with certified results

Research Facilities
- Joint activities + increased funding opportunities = sustainable revenue stream
- Cross training + standardised practices = skilled work force
- Volume + capacity = cost efficiencies

Member Countries
- Supply chain development (cost efficiency, increased pipeline of projects = increased market participation + competition + jobs)
- ERANET/co-funding, mobilizing existing capabilities
- Contributing to delivering EU targets

EU Commission
- ROI –overall increased project impact
- Coordination synergy (Data, Knowledge, Funding)
- More diverse funding matrix

- Maintain active engagement with the MARINERG-i team
(Germany – Jochen Bard - NC, Stefan Schimmels TAC member, GS & JM @ IE)
- Support team in awareness raising and gaining ministry level support for L.O.C
- Disseminate MARINERG-i message through your own contact networks and at national and international events
- Pass on any specific requests or to the MARINERG-i team for action
- Alert the MARINERG-i team of opportunities
- Give consideration to your potential role in regard the future MARINERG-i activities, particularly to identify where synergies may add significant value.
- Browse website for information and copies of public deliverables

Website:
www.marinergi.eu

Email: marinerg-i@ucc.ie

Thank you for your attention

Organisation

- Distributed infrastructures are set up as a central hub coordinating the operation of distributed facilities which retain their legal personality

- The state which is member or observer of the ERIC appoints and gives a specific mandate to the representing entity according to its own rules.

- The terms of the representation, including the terms for exercising voting rights, and any change in the designation of the representing entity or in the rights and obligation delegated to it should be communicated to the ERIC.

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Implementation- Task and Activities

The principal task of an ERIC is to establish and operate a research infrastructure

Under Eric- members have clear mission and responsibility for operation of infrastructure including:

- defining the overall strategy
- providing and supporting effective access to the infrastructure;
- defining common standards and improving interoperability
- providing or supporting training and facilitating mobility of researchers
- supporting technology transfer activities.

NB ERIC statutes & agreements between ERIC & legal entities operating national facilities clearly identify balance of responsibilities
I.e. for activities and resources between the parties

Statutes contain:

➢ basic principles with specific policies on:

- access policy for users
- scientific evaluation policy
- dissemination policy
- intellectual property rights policy
- employment policy, including equal opportunities
- procurement policy
- data policy.

➢ essential provisions which may be completed by detailed provisions included in the implementing rules or other internal documents adopted by the ERIC.

Scientific evaluation of the ERIC activities.
- may be included in the tasks of the scientific board or may be carried out by other external experts, also
- scientific evaluation prior to access to the ERIC facilities, under e.g. 'Access policy for users'.

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High Level Representation – Influencing Policy & Advocacy

MARINERG-i ERIC will be the organization that allows us to have greatest influence on policy going forward, instead of simply analysing what just happened.

Belonging to MARINERG-i ERIC means you get to share and interact with the leaders in the ORE space.

Main voice for progressive thinkers who want to improve the system, not just react to it.

Interactions with policy and regulators afford the ability to have essential dialogue to inform and influence direction

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Distilled and targeted analysis - information (centrally and across the network)– policy-legal/market/funding/trends/investments etc. e.g.??

Participation in concerted action for identifying and filling strategic research gaps through joint research activities leveraging the combined capacity of facilities. .e.g. ???

Efficient participation in H2020 – ERIC as a partner with participating nodes/as

Access to common pool of knowledge – knowledge sharing and staff exchange

Access to (and influence over development of) certification scheme based on application of codes of practice that include adoption of groups of standards

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Joint procurement (no VAT & own procurement rules)

- e.g. of stock of standardised reference devices (shared pool of scale models) and accompanying test data sets and protocols e.g. as exemplars for optimising device designs & to provide working applications of testing standards *
- e.g. sensors and associated calibration/maintenance contracts
- software licenses – analytical systems
- testing equipment – mechanical, electrical
- IT and associated services infrastructure
- Skills training services
- Quality standards auditing

*Benefit = fostering originality in innovation as well as technology convergence (weed out repetition right across RI)

Joint enablement of access to datasets, metadata and remote access through e –infrastructure-

Common access portal – e-infrastructure
> Capacity development to support rapid implementation and adoption of common IT approaches to enable seamless and harmonised infrastructure operation
>
> Operational efficiency/consistency through common access policy and procedures
> Drive business development and growth (more of the right types of users at the right time, less downtime, less cancellations, better preparation of users.
>> Free access = public data
>> Commercial access = proprietary data