This project has received funding from the European Union’s H2020 Programme for research, technological development and demonstration under grant agreement No. 739550.
OVERVIEW

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

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

- Advanced community
- Unique technical know-how
- Sector of key EU strategic importance
- Emerging ESFRI DRI
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/
<table>
<thead>
<tr>
<th>DOMAIN</th>
<th>PROJECT</th>
<th>RM ENTRY</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENERGY</td>
<td>IFMIF – DONES  Hybrid research reactor (S)</td>
<td>2018</td>
</tr>
<tr>
<td></td>
<td>EU – SOLARIS – solar power</td>
<td>2010</td>
</tr>
<tr>
<td></td>
<td>MYRRHA – nuclear fission energy</td>
<td>2010</td>
</tr>
<tr>
<td></td>
<td>WINDSCANNER - wind energy</td>
<td>2010</td>
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<tr>
<td>ENVIRONMENT</td>
<td>ACTRIS – atmospheric Studies</td>
<td>2016</td>
</tr>
<tr>
<td></td>
<td>DANUBIUS-RI – environmental reive/sea system management</td>
<td>2016</td>
</tr>
<tr>
<td></td>
<td>DiSSCO  Distributed system of scientific collections</td>
<td>2018</td>
</tr>
<tr>
<td></td>
<td>eLTER  Integrated European long term ecosystem</td>
<td>2018</td>
</tr>
<tr>
<td>HEALTH &amp; FOOD</td>
<td>AnAEE- -terrestrial and aquatic systems for food security and environmental sustainability</td>
<td>2010</td>
</tr>
<tr>
<td></td>
<td>EMPHASIS – plant phenomics for food security in a changing climate</td>
<td>2016</td>
</tr>
<tr>
<td></td>
<td>EU IBISBA industrial biotechnology innovation</td>
<td>2018</td>
</tr>
<tr>
<td></td>
<td>METROFOOD-RI Infrastructure promoting metrology in food &amp; nutr</td>
<td>2018</td>
</tr>
<tr>
<td></td>
<td>ISBE – systems biology</td>
<td>2010</td>
</tr>
<tr>
<td></td>
<td>MIRRI – microbial studies</td>
<td>2010</td>
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<tr>
<td>PHYSICAL SCIENCES &amp; ENGINEERING</td>
<td>EST – solar telescope (S)</td>
<td>2016</td>
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<tr>
<td></td>
<td>KM3NeT – astrophysics for neutrino discovery</td>
<td>2016</td>
</tr>
<tr>
<td>SOCIAL &amp; CULTURAL INNOVATION</td>
<td>E-RIHS – heritage service</td>
<td>2016</td>
</tr>
<tr>
<td></td>
<td>European holocaust research infrastructure</td>
<td>2018</td>
</tr>
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</table>
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.
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.
Infradev H2020 MARINERG-i project 2017-2019

UCC-MaREI - WP1: Lead & coordinate

Discovery → Development → Planning

WP2: Profiling
WP3: E-Infra
WP4: Governance & Legal
WP5: Financial Framework
WP6: Design Plan
WP7: Outreach & Engagement

Business Plan Options

WP8: Business Plan
WP9: Implementation Plan
• Categorised structure of MARINERG-i stakeholder database by category
• ~300 members across 30 countries
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

Governance Model & Legal Statues
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
<table>
<thead>
<tr>
<th>Entity</th>
<th>Entity Type</th>
<th>Mode</th>
<th>Central Node</th>
<th>Service Group Host</th>
<th>No of Infras</th>
<th>N. of Units of Access (total)</th>
<th>Regional Team Lead</th>
<th>Service Group Nominated</th>
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<td>Yes</td>
<td>6</td>
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<td>13</td>
<td>e-infra/access</td>
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<td>Observer Member</td>
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<td>Observer Member</td>
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<td>No</td>
<td>2</td>
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</tr>
</tbody>
</table>

Totals: | | | | | | 54 | 145 |
MARINERG-i Development Timeline
Key Milestones 2017-2027

- **Core membership clear & national commitments obtained**: 6/19
- **H2020-INFRASEFI-2016-2**: 1/17 - 6/19
  - ESRF 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
- **ESFRI 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
- **Core membership clear & national commitments obtained**: 6/19
- **ESFRI application**: 8/20
  - 2021 ESFRI roadmap publication: 4/21
- **ERIC operational**
  - ERIC established: 1/25
  - ERIC First Annual Fees Due: 2/26
- **ERIC operational**
  - 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
Value add for stakeholders

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

**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

**Stakeholders**
- Joint activities + increased funding opportunities = sustainable revenue stream
- Cross training + standardised practices = skilled workforce
- Volume + capacity = cost efficiencies
- ROI — overall increased project impact
- Coordination synergy (Data, Knowledge, Funding)
- More diverse funding matrix

**EU Commission**
- 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.
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’.
Return on Investment for Participating Infrastructures –

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.
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
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