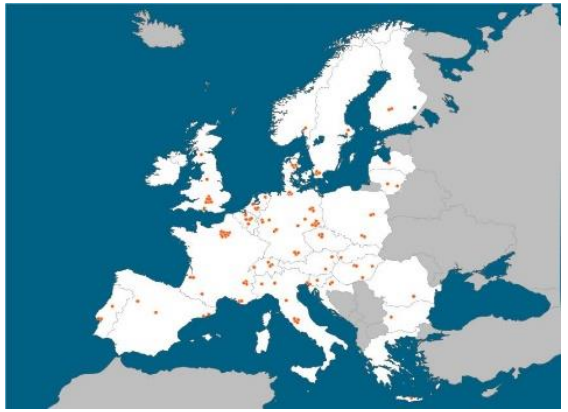
ARIE
Analytical Research Infrastructures in Europe

- ARIE is a consortium of 7 RI consortia
  - RADIATE (ion beams)
  - Laserlab Europe (lasers)
  - Inspire (proton beam therapy)
  - EMFL (high magnetic fields)
  - e-DREAM (electron microscopes)
  - LEAPS (photon sources)
  - LENS (neutron sources)



- ARIE consortia include more than 100 European RI supporting more than 40,000 researchers from academia and industry
- Current chair is Joachim Wosnitza (EMFL)

ARIE
Stakeholder interactions

- ARIE RI range from distributed collections of individual scientific instruments (e.g. electron microscopes) located in universities/institutes to large single-site international research facilities (e.g. ESRF synchrotron).
- ARIE RI are user facilities. Some have been serving external users for decades and participating in EU RI programmes since the start (FP2), some are more recent.
- Users of ARIE RI come from ESFRI stakeholders and their research is funded by ESFRI stakeholders. A high % of that research is in priority theme areas.
- ARIE RI have a significant economic and societal impact both locally and nationally. They are a core part of the ERA.

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Funding

- Most RI funding (even for international RI) comes from national research programmes.
- ESFRI does not have funding, but it does have convening power.
- The European Commission has funding (even if a small % of total RI funding) and (a lot of) convening power.
- The marginal costs of RI operation are typically low compared to the fixed costs, so small changes in funding can lead to large changes in output.
- For larger RI, and particularly as the proportion of international open access has increased, the value of funding by the host nation is often highly dependent on the funding decisions of other countries.
- Some ARIE consortia (e.g. e-DREAM) only exist through EU funding (marginal cost). Without such funding they will no longer operate as open access RI.

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The landscape

- ERICs and ESFRIs are not the majority of RI and their success is intrinsically dependent on the ecosystems of national RI in which they operate.
- ESFRI landscape analyses recognise this dependency.

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What doesn't work

- EU RI programmes developed from individual co-funded projects (FP2) to large integrated initiatives (FP6). Trans-National Access programmes were transformative. Since then there has been gradual dis-integration.
- The current Horizon Europe emphasis on RI providing 'services' is appropriate for 'measurements' but not for 'research'. ARIE RI do some of the former, but mainly the latter, and that is where their main value/impact lies. Real 'research services' are expensive.
- Common access portals make sense for consortia of distributed individual instruments. They do not add value for consortia of large RI with thousands of users.
- Successful user facilities provide opportunities for people (users) to work with people (facility scientists), not just to operate technical instrumentation chosen from a list.

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Specific suggestions

- If the ESFRI stakeholder forum is to be useful then communication needs to be two way. ARIE has an enormous wealth of experience in effective RI operation – what works and what doesn't.

- Vertical: Support RI consortia to exist, be sustainable, be efficient and collaborate/coordinate. I3s were very effective.
- Horizontal: Support these consortia to cross-collaborate (e.g. ARIE) together with other actors in priority theme areas (scientific or other).

- Landscape analyses need to include a detailed understanding of funding and its inter-relationships.
- Landscape analyses need to lead to actions.