ICRI - Internationalization
1B Fostering cooperation and synergies while avoiding unnecessary duplication of facilities and services

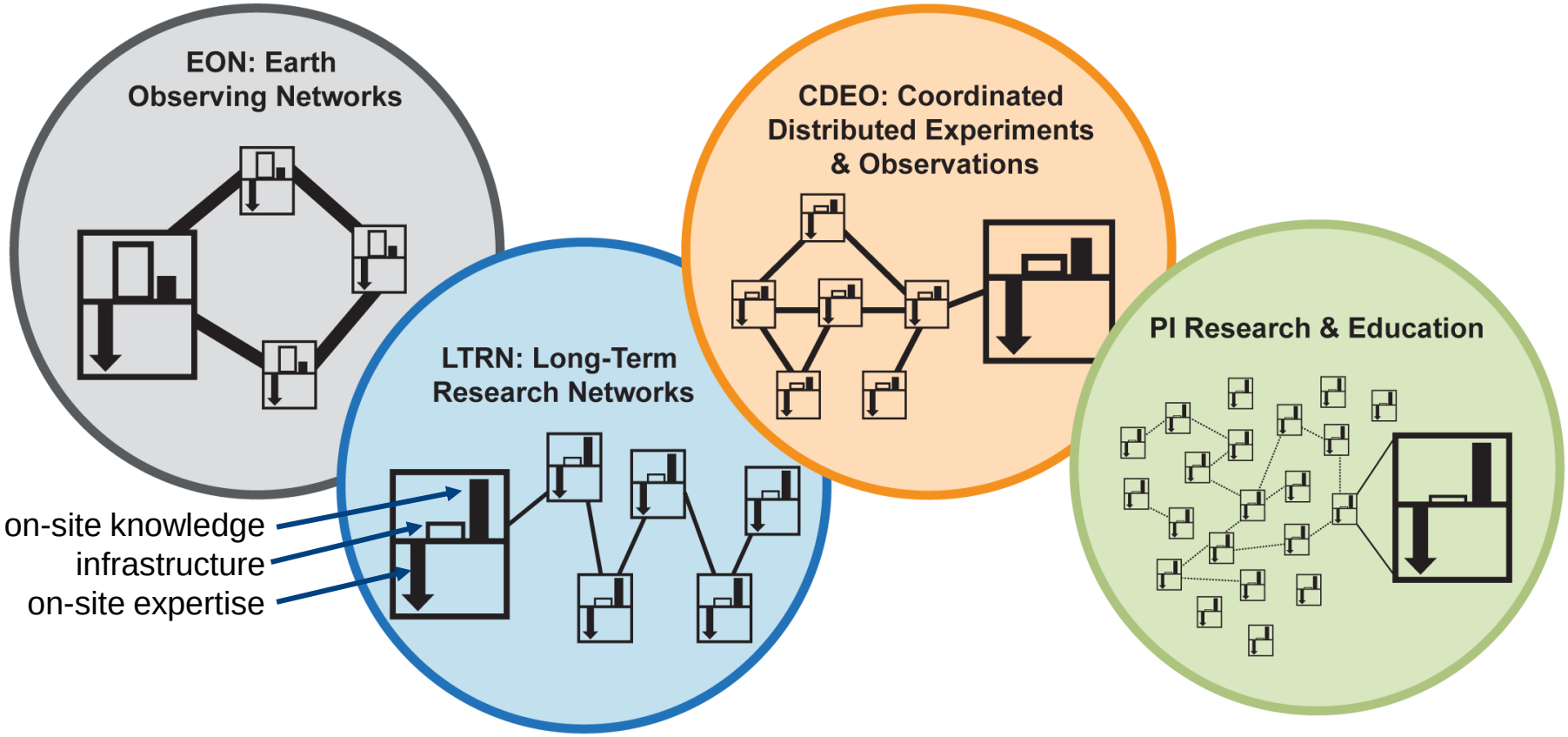
Hank Loescher | Battelle - National Ecological Observatory Network (NEON)
Director of Strategic Projects, Environment and Infrastructure Business Unit

Challenge - Technical

Infrastructure means different things to different communities:

Here, it includes Observatories, Networks, Agency Programs, fairly broad inclusion

Integrating Networks & Research



It is the integration of different observations systems that develops new ecological understandings and knowledge, each with their own level of knowledge, expertise and infrastructure

Peters, D. P. C., **H. W. Loescher**, M. SanClements and K. M. Havstad **2014**. Taking the pulse of a continent: role of observatories and long-term research networks to fill critical knowledge gaps. *Ecosphere*. 5(3), Article 29, 1-23, dx.doi.org/10.1890/ES13-00295.1

Challenge - Technical

It is all about the data, and what the data can tell us

e-infrastructures

FAIR = Findable, Accessible, Interoperable, Reusable (1)

<u>Interoperability for Scientific Utility is different</u>

(2) Why the data are taken? Hypotheses / requirements

(3) Traceability to Standards / First Principles / BCP + uncertainties

(4) Data Product Algorithms + Uncertainties

Forums / Projects = ***RDA, ESIP, ENVRI+, Coop+, CoopEUS***

Challenge - Programmatic

Internal activities

Use of International Advisory Boards

Technical Working Groups

Periodic Evaluations

Joint Reviews of Standards, Protocols

Joint Scientific Forums

external activities

Joint Scientific Projects

Memorandum of Understanding

International Bodies (e.g., GSO, GEO, SAON)

Example: Global Research Infrastructure Initiative

Challenge - Cultural

Numerous studies and analyses: ***the challenge is NOT technical.***

The Challenge is ***overcoming Cultural Barriers in how science is done***

Cultural challenge is still prevalent:

- ***How to best balance top-down and bottom-up approaches***?
- How best craft ***a governance and management structures*** that also takes into account the top-down and bottom-up approaches

THANK YOU