Lessons Learned

Summary by Paul Laycock and Torre Wenaus

Common Scientific Software – The keys to success

- **The team is the most important** Do not separate development and operations, both ACTS and Rucio benefited from experience with developing and operating a worse software package, crucial experience. Developers keen to use modern software paradigms, open-source and open-minded, proactively searching out best practice and adopting it.
- **The project** Clear, well-focused short-term goals are important, grounded in real-world deliverables. Aligned with the long-term plan of building something sustainable and designed to be used by outside collaborators.
- **The management** Accept that the long-view takes longer to deliver the short-term product, manage expectations of the collaboration and funders to ensure the team have sufficient time and space to succeed.

Scientific software careers need support

- Recognition, encouragement and reward: Need to make software citations a priority
- Career paths of Research Software Engineers (RSE) need to be supported and not only at the labs

NP Software - should NP participate in HSF or build its own organization?

- Pros and cons, the balance of opinion favored NP participation in HSF. HSF is a do-ocracy, active participation will yield the biggest rewards.
- NP often has small groups developing solutions in-house, work with this reality.

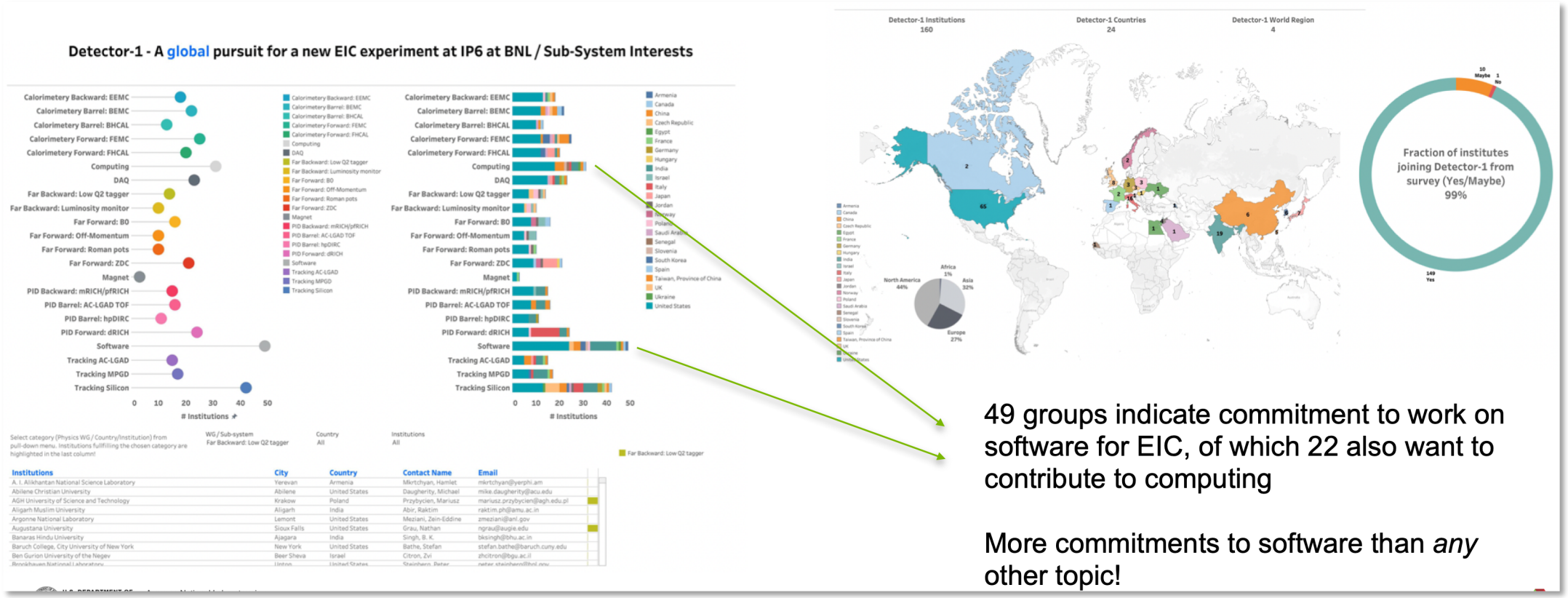
EPIC CompSoft and SimQA WGs

- We have started to merge the EPIC CompSoft and SimQA meetings.
- This reflects:
  - The overlap in topics of the CompSoft and SimQA WGs.
  - Our goal of not separating software development from software use and support. This motivated by:
    - Lessons learned from successful software projects (see previous slide).
    - The EIC Software: Statement of Software Principles:

> 8 **We will provide a production-ready software stack throughout the development:**
>
> - We will not separate software development from software use and support.

We would like to **merge the EPIC CompSoft and SimQA WGs**.

EPIC Institutions



We will reach out to EPIC Institutions about their software & computing interests and will point to opportunities for shared responsibilities and leadership.

Subgroups: Shared Responsibilities and Leadership

- **Possible subgroups**:

  - Containers/infrastructure/dependencies/spack
  - MCEGs
  - Detector Simulations
  - Digitization / Streaming Readout Simulation
  - Reconstruction
  - Physics Algorithms
  - Framework
  - Large-scale Simulations / Simulation Campaigns
  - Workflow Tools and Environment
  - AI/ML
  - Heterogeneous Computing

  - Training and Documentation
  - User Support

  - DAP