



# PSDI

## PHYSICAL SCIENCES DATA INFRASTRUCTURE



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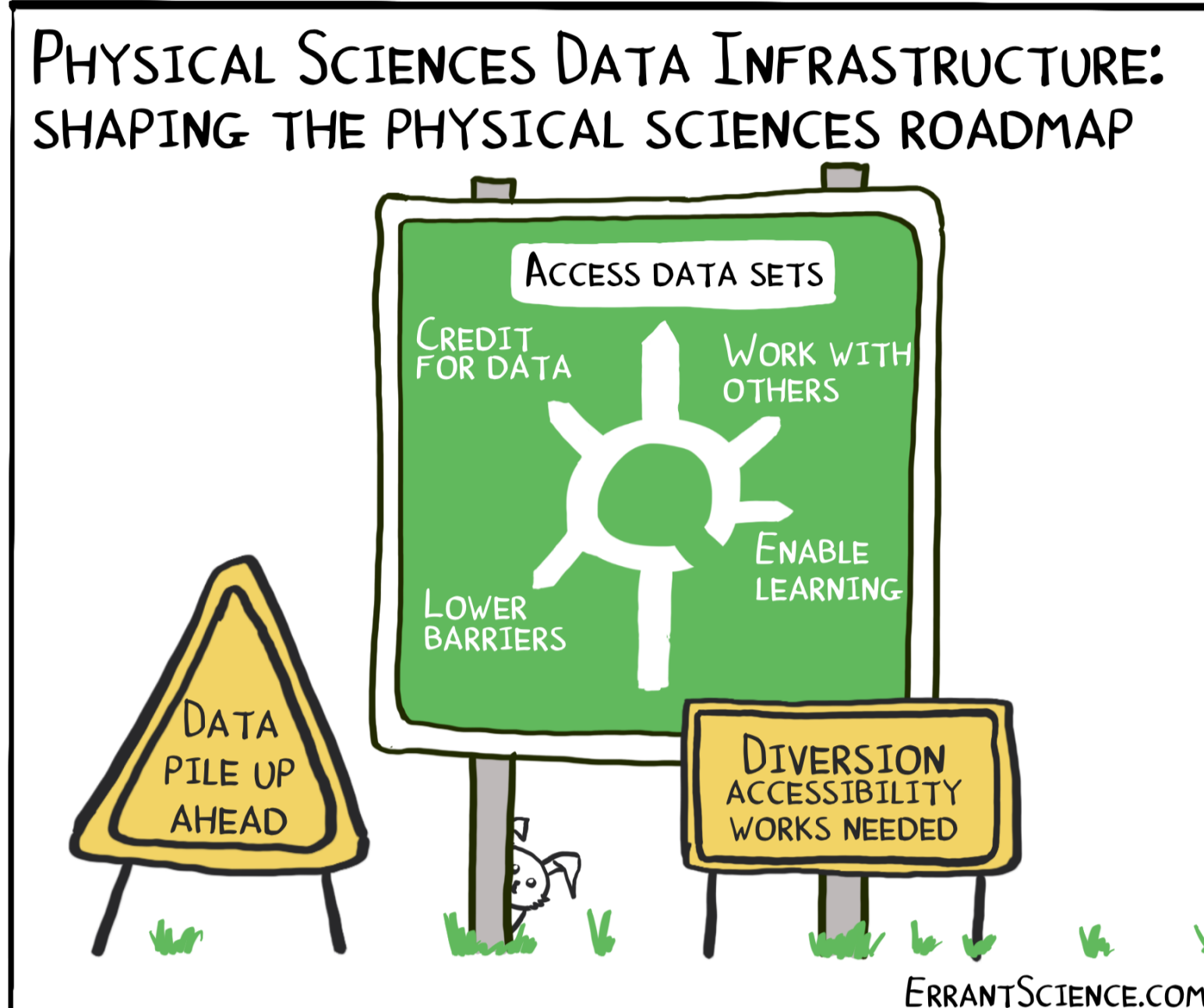
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### An Integrated Data Infrastructure for the Physical Sciences

PSDI aims to accelerate research in the physical sciences by providing a data infrastructure that brings together and builds upon the systems researchers currently use. PSDI will bring together existing support infrastructures, widening their applicability, and adding value through aggregation.



### The Driver

Data needs in research are growing at previously unimaginable rates and the need for collaboration around data has never been clearer. Data is not simply an output of research, but a driver of further discovery in and across the physical sciences. But mostly every research infrastructure, from large facility to laboratory, has its own data infrastructure with limited ability to share, integrate and reuse data across systems.

### Pilot Phase

The PSDI exploratory pilot phase ran from November 2021 – March 2022. In this pilot phase we undertook a wide range of community engagement, scoping and design work. This involved partners from STFC, University of Southampton, Cardiff University, The University of Sheffield, University of Liverpool and CCDC.

#### WP1: Coordination, Governance and Strategy

Pilot project organisation, communication and governance framework for later phases. Developing a plan for PSDI going forward.

#### WP2: Stakeholder Engagement

A broad programme of workshops, focus groups, discussions and interviews, engaging with a wide range of stakeholders to elicit requirements.

#### WP3: Architecture & Technology

Investigated and evaluated technology options and potential architecture designs for PSDI, including small-scale technology trials for interoperability, security and data semantics.

#### WP4: Case Studies

8 small case studies covering a range of domain applications and cross-cutting techniques. Each case study produced a report on their work which will be published on our website.



### Our Recommendations

From our exploratory pilot, we produced a series of recommendations for future development of data infrastructures in the Physical Sciences. These focused around 4 areas:

- Connecting Existing infrastructure
- Best use of people
- Best use of data
- Best use of technology

### PSDI Initiation

The next phase of PSDI will continue our stakeholder engagement and initiate development of components to connect existing infrastructures.

The activity will be focused around:

- **The PSDI-Hub:** developing the core functionality to make PSDI work as a whole, engagement with community and training
- **Pathfinder projects:** small scale projects that will work to create prototype tools and services. These may be focused on domain integration, cross-domain application or expertise delivery

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