

Dr Helen Rawsthorne (UKCEH), with contributions from Philip Trembath (UKCEH), Hollie Cooper (UKCEH), Simon Stanley (UKCEH) & Omar Elaktash (Lancaster University)

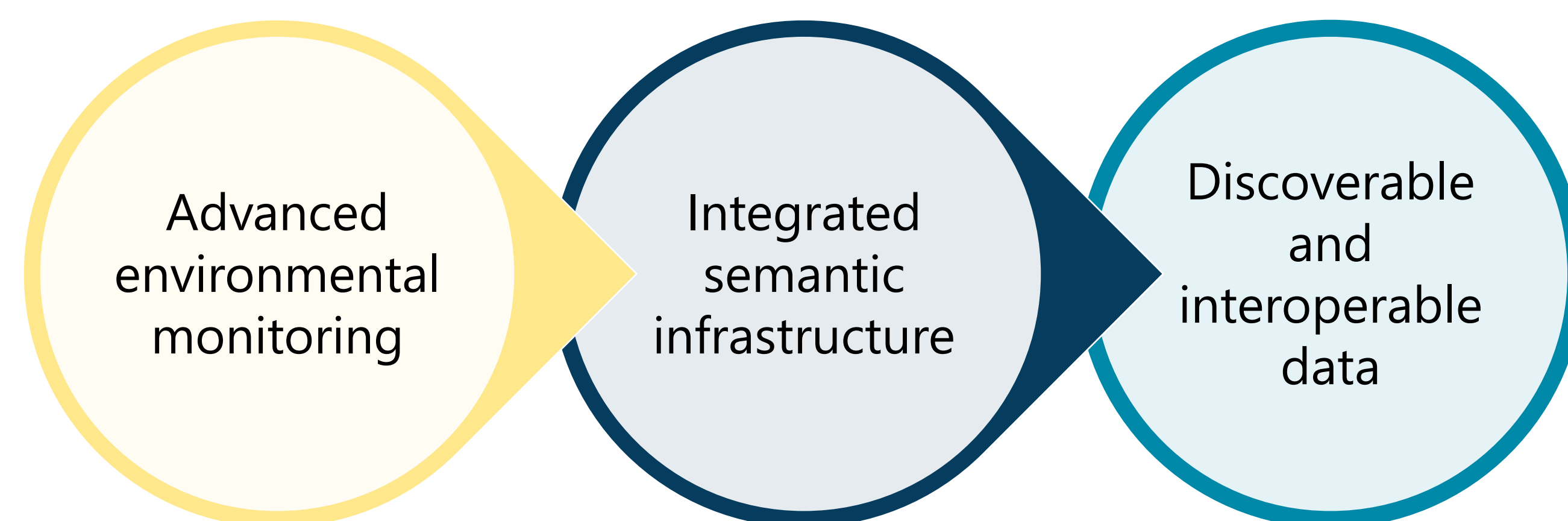
Overview

We present three complementary strands of work that **advance semantic standardisation** and **machine-readability** within FDRI and the wider environmental data ecosystem:

1. Site Infrastructure model
2. Observed Property vocabulary
3. I-ADOPT Framework trial

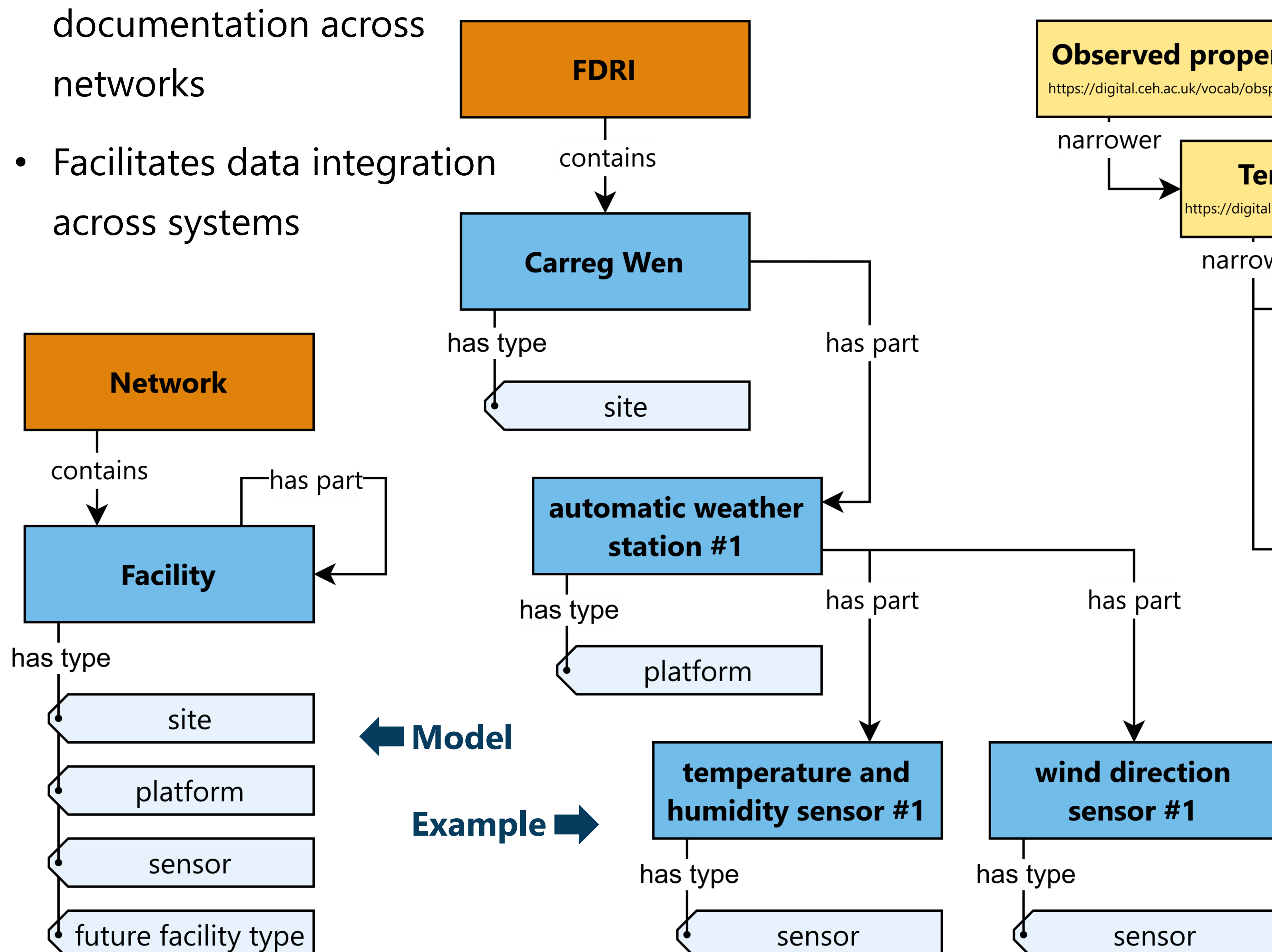
Aims

- Standardise representation of key metadata using semantic technologies
- Improve data discoverability through finer-grained metadata
- Facilitate data integration across systems by enhancing machine readability



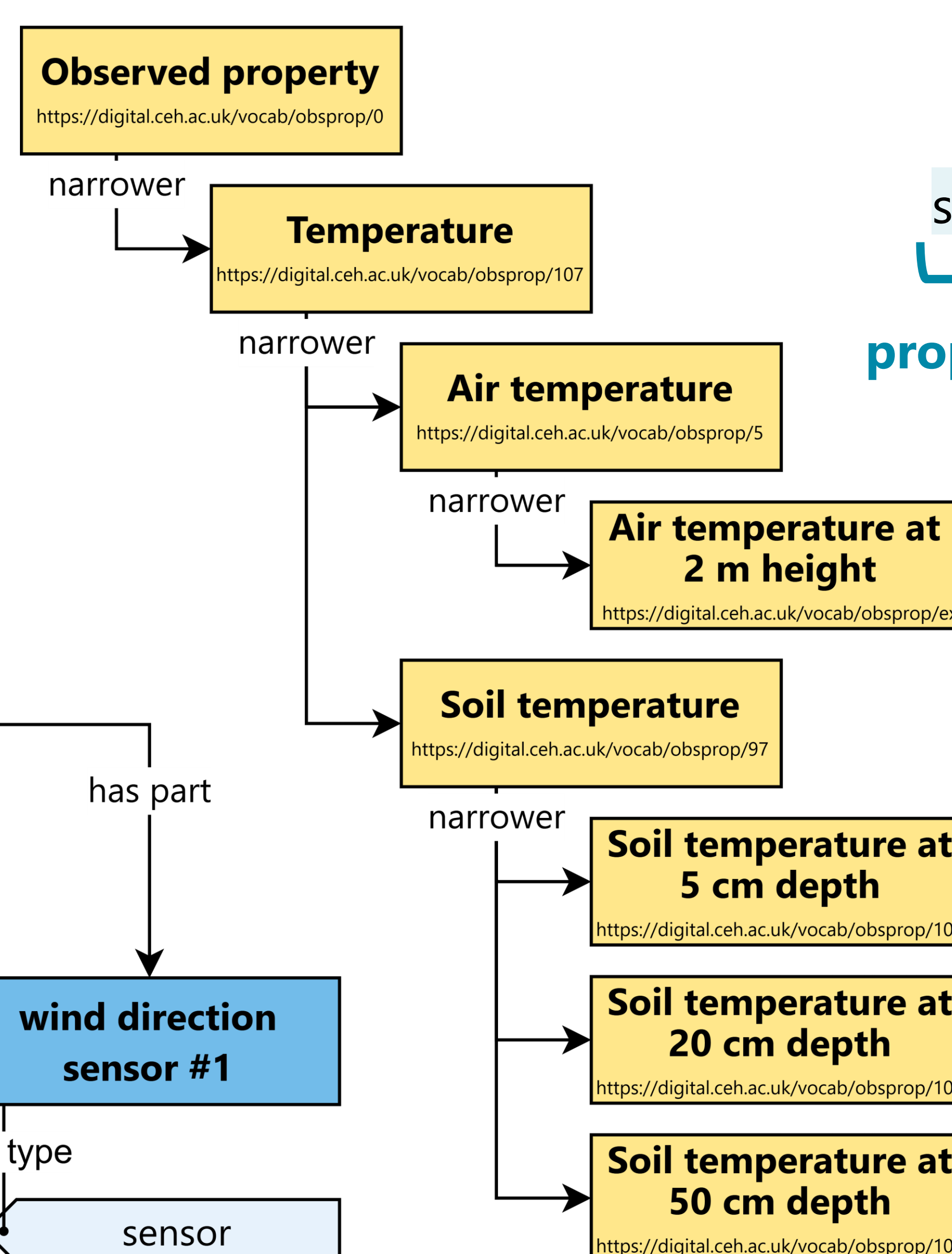
1. Site Infrastructure model

- Models environmental monitoring **networks** and site infrastructure
- Every piece of infrastructure is a **facility**
- Facilities have a **type** from a controlled vocabulary of types
- Flexible approach makes it easy to add new types
- Standardises description of facilities across sites and networks
- Supports consistent documentation across networks
- Facilitates data integration across systems



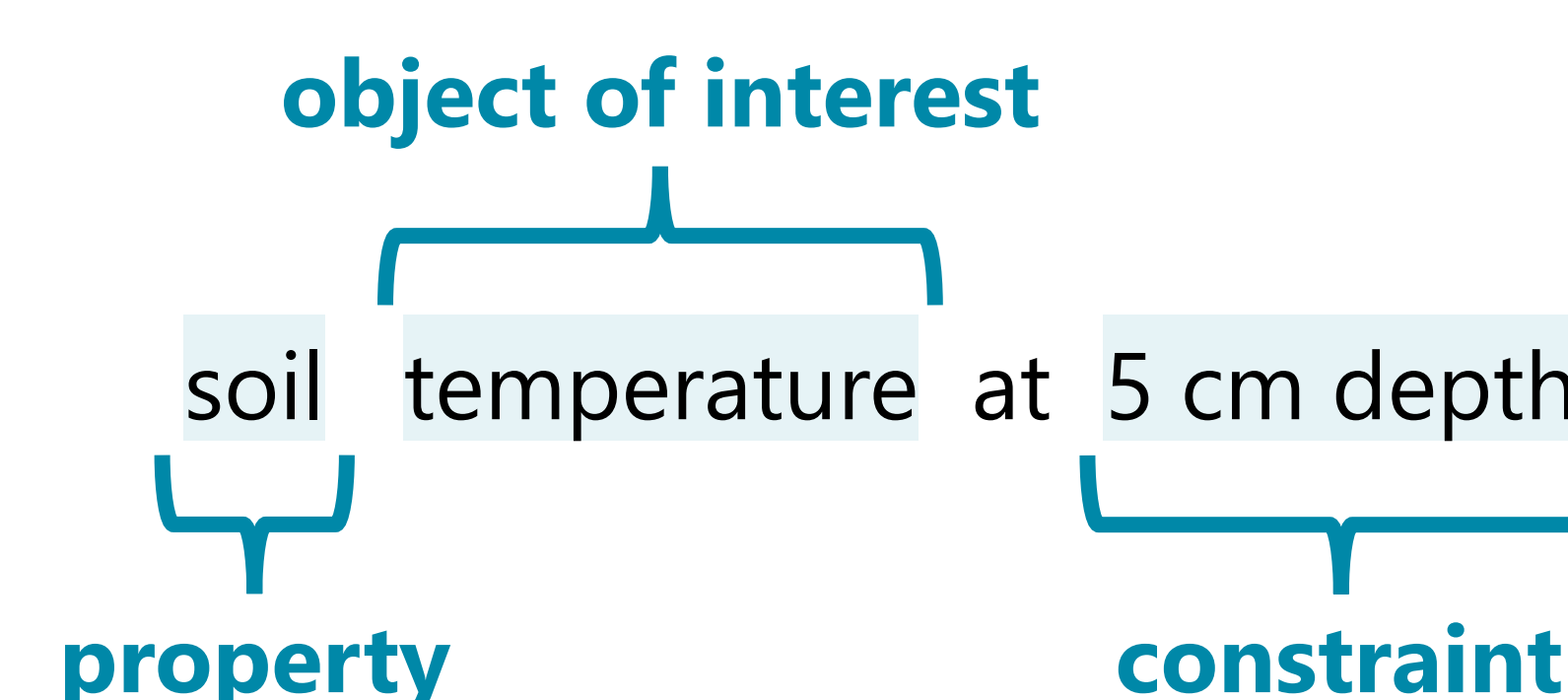
2. Observed Property vocabulary

- Hierarchical **vocabulary** of environmental observed properties
- Standardises representation of observed properties across networks and facilities
- Enables improved data discovery and alignment across systems
- Supports FAIR data principles
- Facilitates interoperability with external standards



3. Automated I-ADOPT observed property decomposition

- MSc internship project to develop methods for **observed property decomposition** using I-ADOPT Framework Ontology
- Five methods developed and tested on corpus of real observed properties from environmental datasets
- See dedicated poster



Check out **UKCEH's** wider Digital Gathering 2026 contributions here:

