

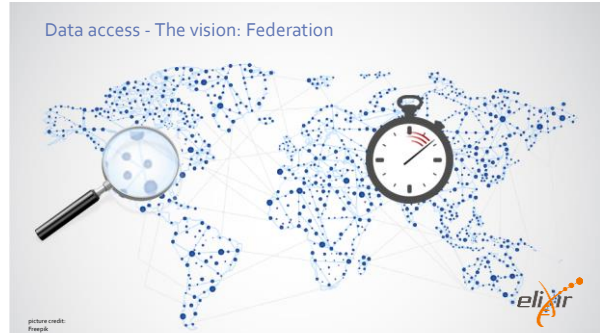


Adapting the ELIXIR Beacon Protocol to the Sharing of Plant Data



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Outline of presentation

1. ELIXIR, and the Data Discovery Use Case
1. The ELIXIR Beacon protocol
1. Extensions to the protocol
1. The ELIXIR Beacon Network
1. The ELIXIR Plant Community and the ELIXIR Beacon
1. Summary



GA4GH - Developing standards and tools



ELIXIR: European infrastructure for biological information

Data infrastructure for Europe's life-science research:

- | | |
|------------------|------------------------|
| Data | Marine metagenomics |
| Interoperability | Crop and forest plants |
| Tools | Human data |
| Compute | Rare diseases |
| Training | |



[@ELIXIREurope](https://twitter.com/ELIXIREurope)

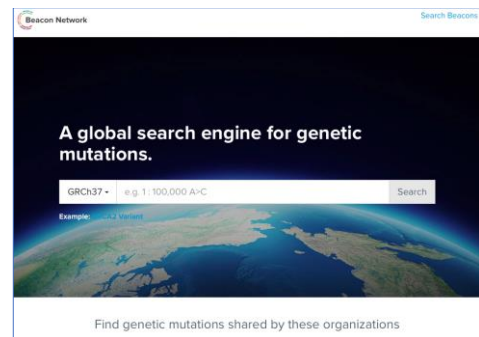
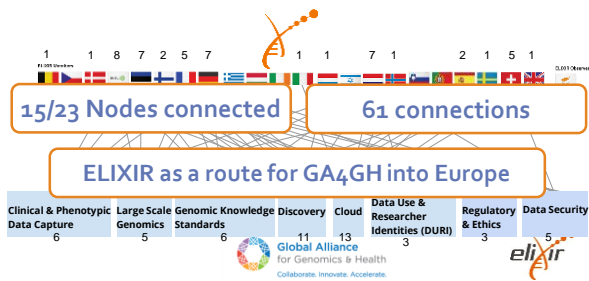
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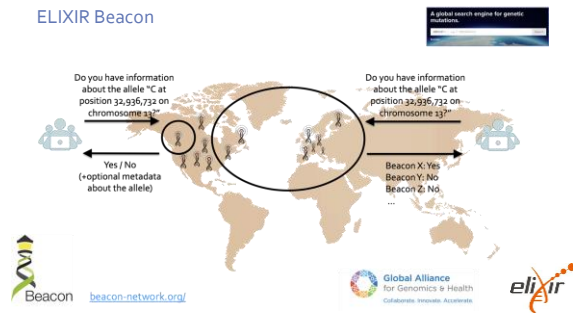
GA4GH - Developing standards and tools



Mapping ELIXIR::GA4GH Interactions



ELIXIR Beacon



Beacon+ Extending the protocol ...

Beacon Implementations

- implementing existing resources with Beacon protocol
- e.g. TCGA cancer variants (structural and SNV)

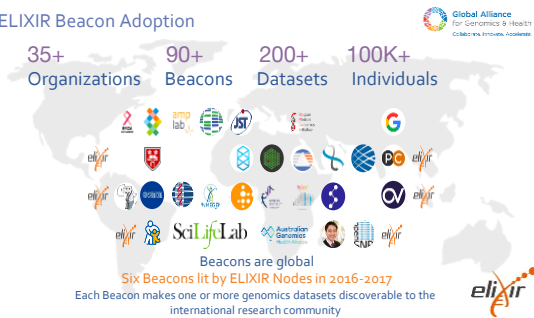
Beacon Response

- quantitative (counts for variants, callsets and samples)
- Handover to authentication system for data retrieval
- no exposure of data beyond standard Beacon response and additional pointer to matched data

Prototyping Query Extensions

- testing e.g. bio-metadata queries using ontology terms

ELIXIR Beacon Adoption



Beacon query => Handover Handle => Authentication => Data Retrieval

Beacon+ example implementation using public somatic variation data

Beacon+ Beacon Handover Demonstrator

- only exposure of access handle to data stored in secure system
- have one-step authentication and selection of handover action; other scenarios possible / likely
- handover responses not managed by Beacon protocol / system => "Discovery" protocols?

