



# Agrisemantics

vision for an infrastructure for semantic-based  
interoperability of agricultural data

# The vision

Seamless use and creation of semantic resources  
supporting agricultural and food data interoperability

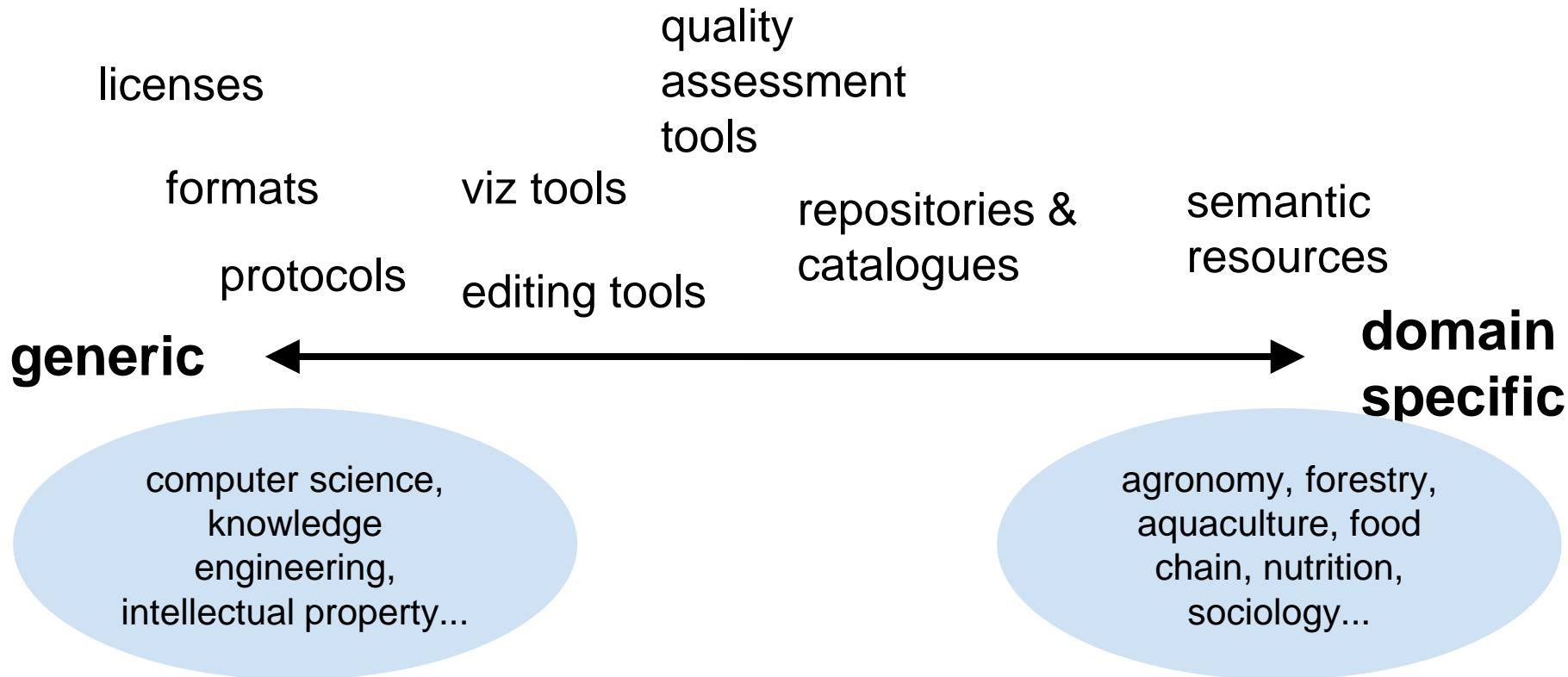
# The bright side of the situation

- Evolving use of semantic approaches from information to data with many applications : Search, Information extraction, Data organization, Integrating third party data, Reasoning on data
- An active, diverse, global research community at the crossroads of ag/food and computer sciences
- Initiatives and projects: the RDA Agrisemantics Working group, GODAN, the eROSA project...
- Standards & principles to rely on: W3C standards, FAIR, open licenses

# The dark side of the situation

- Little reuse of semantic resources
  - only a few accessible, machine readable
  - few licenses stated
  - poor documentation
- Uneven coverage of sub-domains of agriculture and food
- Fit-for-purpose assessment difficulties
- Tools difficult to choose/ by non experts

# Competency issues



# Agrisemantics values



A collection of autonomous semantic resources reflecting the richness of viewpoints and the variety of data in the domain(s)



A set of stable URIs that can be reused and linked to other resources



Links creating interoperability of data from different sources, scale...



Shared experience, common practices

# An idea of an Agrisemantics infrastructure

**AgriSemantics  
Workbench**



**Content**



vocabularies



links



concepts



guidelines



**Services**

- storage
- discovery
- access

- mapping
- persistent URIs
- valorisation
- training



**Facilities**

- Map of Standards
- AgroPortal
- VocBench
- Storage
- APIs
- ...

FAIR, Linked Open Data, distributed maintenance, etc.

**Governance**

consortium model / crowdfunding / certification, etc.

**Business models**

**DOMAIN  
APPLICATIONS & E-  
INFRA**



# GACS, Global Agricultural Concept Scheme

GACS provides a common controlled set of URIs used to map across expert terminology, vocabularies and ontologies.

1. URI stability is crucial
2. Rich APIs are key to providing desired sets of concepts
3. Hierarchies are only one way to look at things; facets are a way of offering multiple access to content
4. GACS should not commit to only one hierarchy
5. GACS will defer to authoritative resources

Discover GACS beta: <http://browser.agrisemantics.org/gacs/en>



# Semantic resources and GACS --- **to be reworked**

Agrisemantics as a place where semantic resources are published and made accessible - both vocabularies and ontologies stating relations between the entities in the vocabularies

1. links will be made available

# Pending questions

Should Agrisemantics be part of a greater infrastructure?

Should Agrisemantics recommend/provide tools to handle semantic resources?

How to decide what is and what is not in GACS?

What should be the business model to make it sustainable?

# Call for use cases

Tell us your story on applying semantics to agricultural and food data

Help us define the requirements for a future infrastructure around semantics for agricultural and food data: what would make life easier with using, designing, maintaining and sharing semantic resources?

We will launch a survey in the coming weeks.

Contact us if you are interested in receiving it:

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This work is done by:



- The Agrisemantics RDA working group: <http://bit.ly/2fLGfZU>
- The GODAN/GACS Working Group.

Visit <http://agrisemantics.org/>

Join us!