

Knowledge sharing by means of OpenAdap.net

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Motivation, problem area

- The richness circulating in the Cyberspace is poorly exploited because of technical **difficulties to share the know-how**. Public entities as well as business companies usually provide software based on **tailored needs** and platforms **too narrowly designed**.
- A **delay** appears until newly developed methods of information processing become available within a specific field or discipline.
- Even worse, this delay applies for application across fields of competence, i.e. **transdisciplinary applications**: knowledge is not disseminated and remain undiscovered due to the absence of software accessible to **users specialized in fields of competence other than that of the original author**.
- The existence of **barriers** in the flow of information processing **increase the overall cost** of knowledge production and distribution and **restrict its availability to developing countries**.



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Research Objectives (1)

- Our project is aimed at breaking the aforementioned barriers, thus bringing a contribution to **bridge the digital divide** in the Knowledge Society.
- The key is the development of a project that is **independent of a specific data type**: **OpenAdap.net** is an **Open Source software platform** that provides flexible tools for knowledge production and distribution committed to the holistic view proposed by the **Networked European Software and Services Initiative (NESSI)**.
- **Community** members who provide new knowledge become able to **share** their contribution and members who have information to be processed can **access** these services.
- To **avoid the "re-invention"** of existing software and **save time and expenses** by the whole society and prevent incorrect applications.



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Research Objectives (2)

- To provide **Internet Communities** the possibility to **transparently compose meta-resources** based on the resources available in their own Community, as well as in Communities with **semantically related interest**, by means of a **network-centric operating system** driven by the activity of **intelligent adaptable brokers**.

	Data treatment distribution	Hardware resource allocation	Hidden execution hosts	Applications sharing	Published application interfaced	Data sharing	Highly dynamic system	Transparent connections users ↔ resources
Grid	X	X	X					
Web Services			X	X	X	X		
P2P						X	X	X
openAdap.Net	X	X	X	X	X	X	X	X

- To develop a new **OpenAdap.net** protocol (**oan://**) for field instrumentation and wireless communication over Internet **easing ubiquitous knowledge sharing and access**.

COMMUNITIES



People who share a **knowledge representation** (common data format) driven by common interests.

CONTRIBUTOR : people who would like to **share their knowledge** with the Community. They maintain the authorship and keep **control and responsibility** over their contribution.



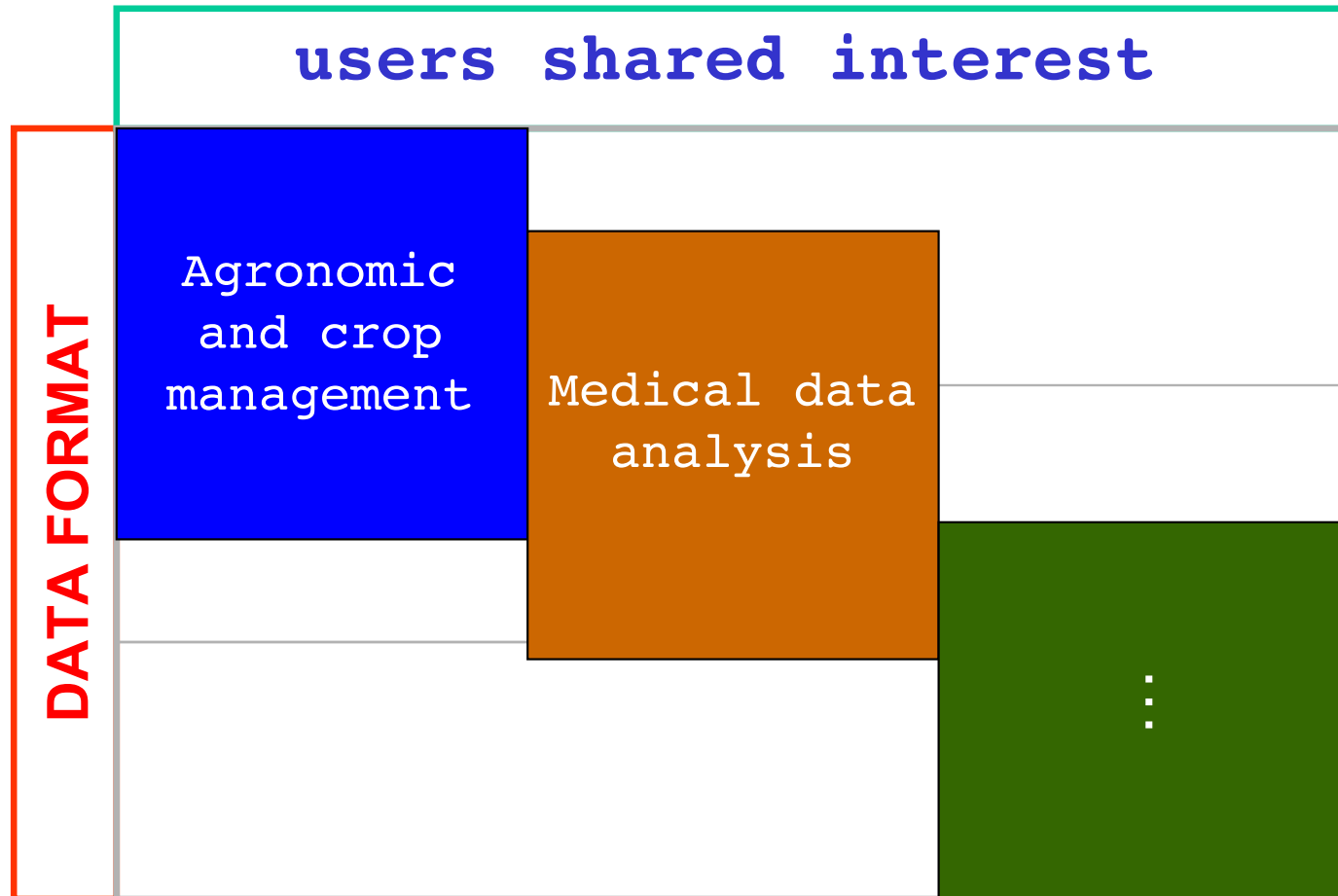
USER : people interested to **process their own information** or **access knowledge stored elsewhere** (e.g., in a public database) and **extract the results of their processing**. They exploit Contributors' applications in a trusted way.

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CONTRIBUTORS



USERS



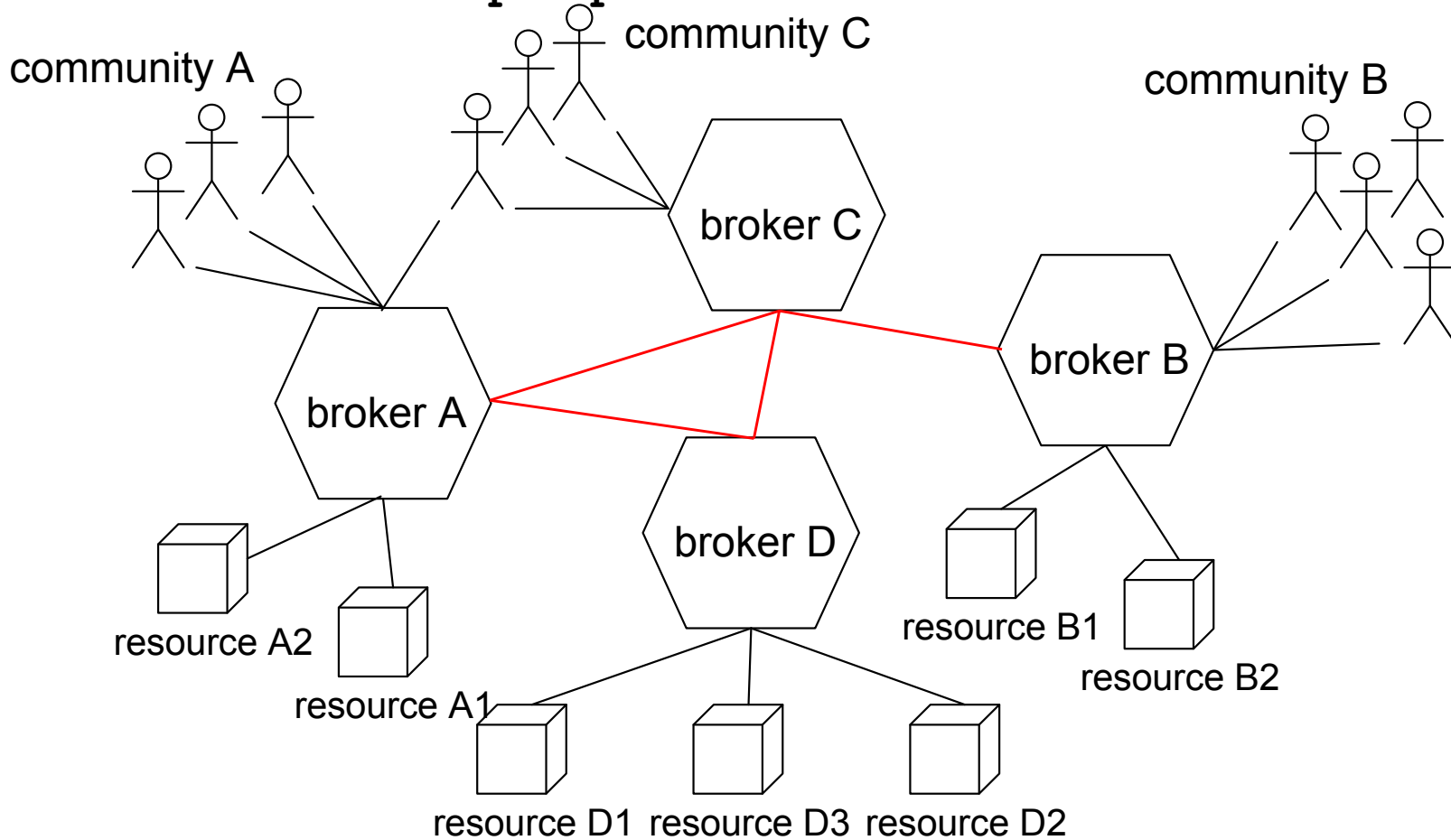
Third Parties from all over the world, **SMEs** in particular, can develop
added value services (*educational, commercial, governmental, ...*)



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Research approach, Methodology (1)

Resources are semantically organized and appear as a single entity able to orchestrate unlimited, heterogeneous and dynamic resources distributed across multiple platforms.



- contributor's traceability
- user's privacy
- security

