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shaping tomorrow with you

KI2NA – Linked Data for the Intelligent Society

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Director, Insight at NUIGalway
19 March 2014

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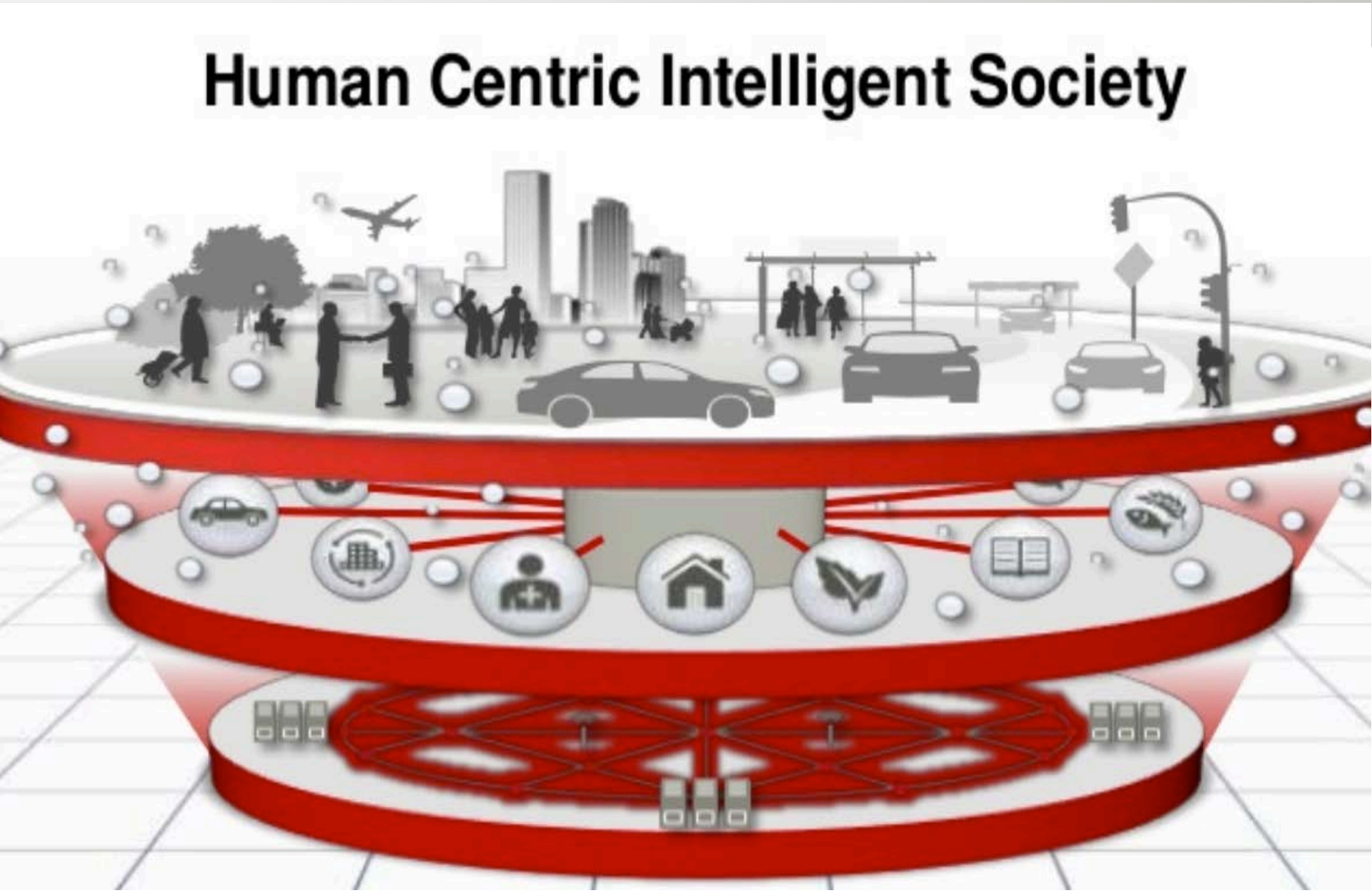
Fujitsu's Philosophy



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FUJITSU RESEARCH WORLDWIDE

Fujitsu Group-wide

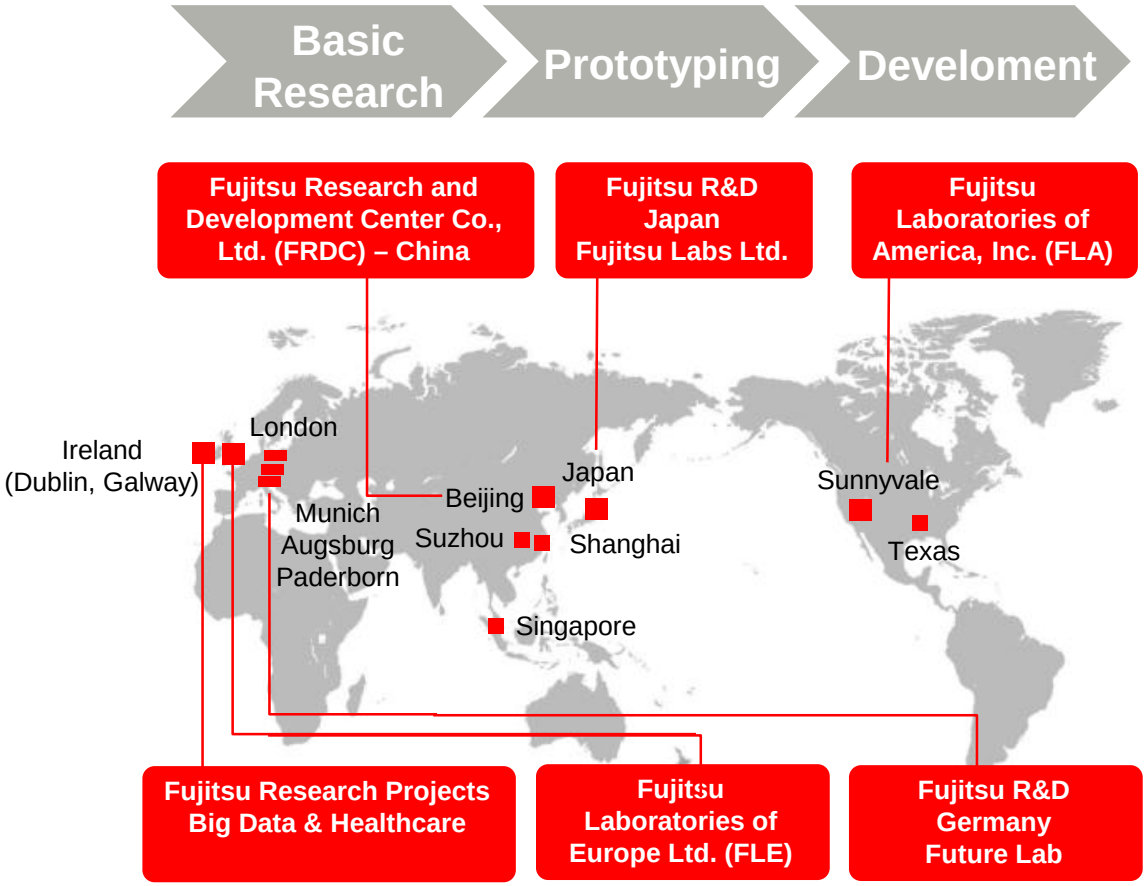
- ~18,500 employees in R&D

Fujitsu Laboratories Group

- ~1,500 employees conducting leading-edge R&D at global R&D sites

Numerous R&D partnerships worldwide

- Major universities
- External research institutes



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Research in Ireland

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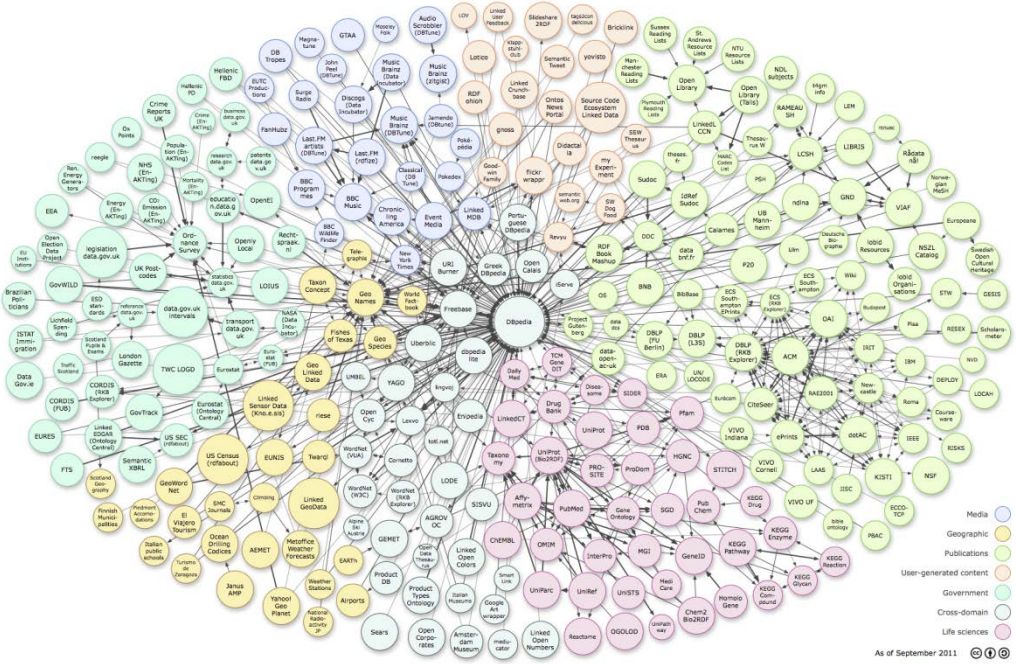

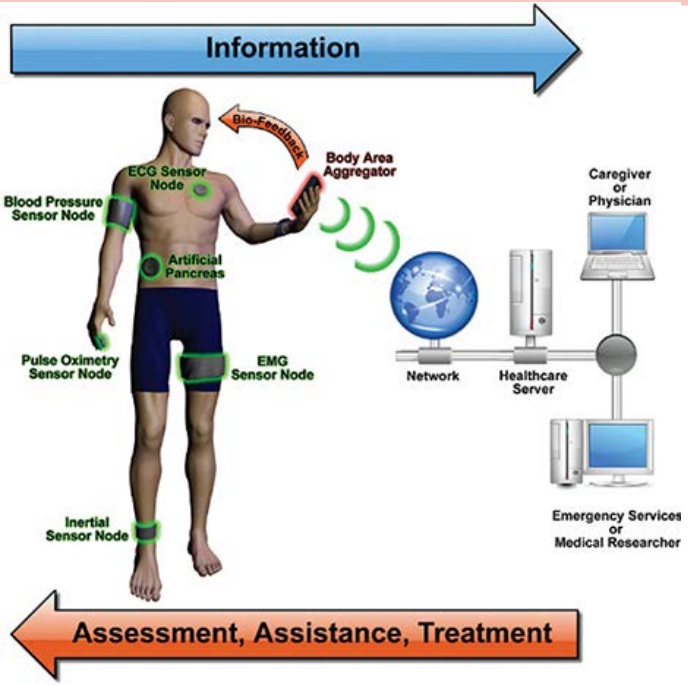

OÉ Gaillimh
NUI Galway

UCD DUBLIN

Dundalk Institute of Technology
Institiúid Teicneolaíochta Dhún Dealgan
DUNDALK INSTITUTE OF TECHNOLOGY

DCU

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Towards the Human Centric Intelligent Society – a Network of Data

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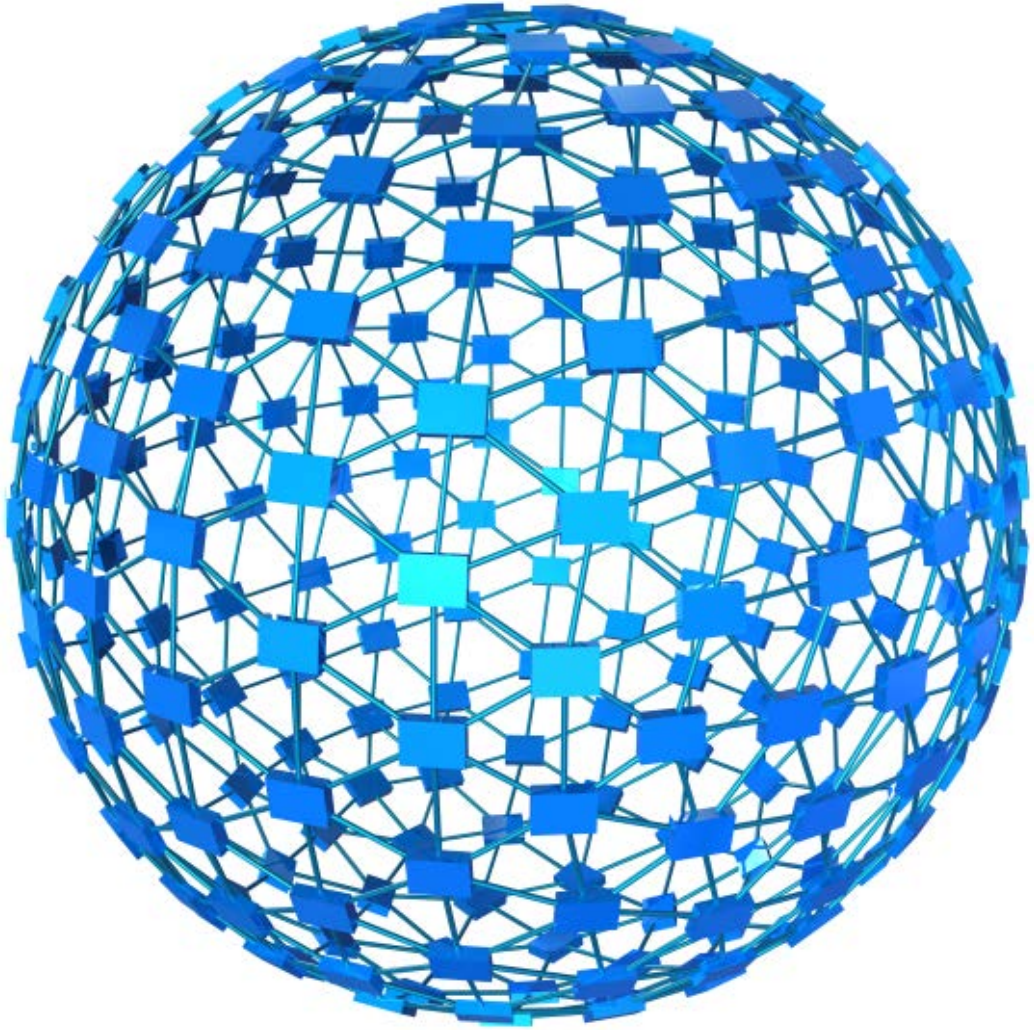
Towards the Human Centric Intelligent Society – a Network of Data



- Interconnected
- Universal
- All encompassing

- assists humans, organisations and systems with problem solving
- enabling innovation and increased productivity

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Linked Data enabling Intelligent Society

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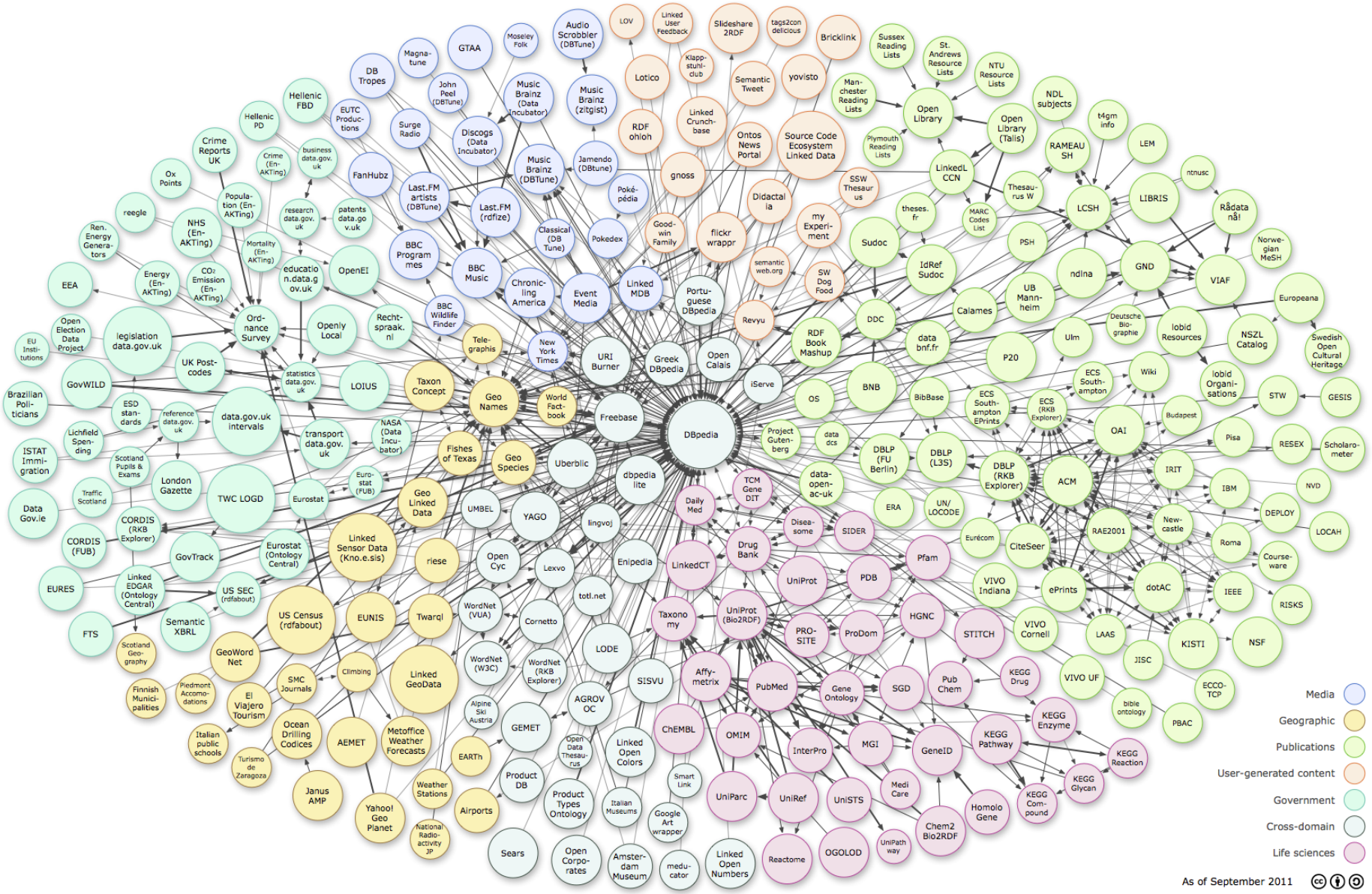

Knowledge Pipeline

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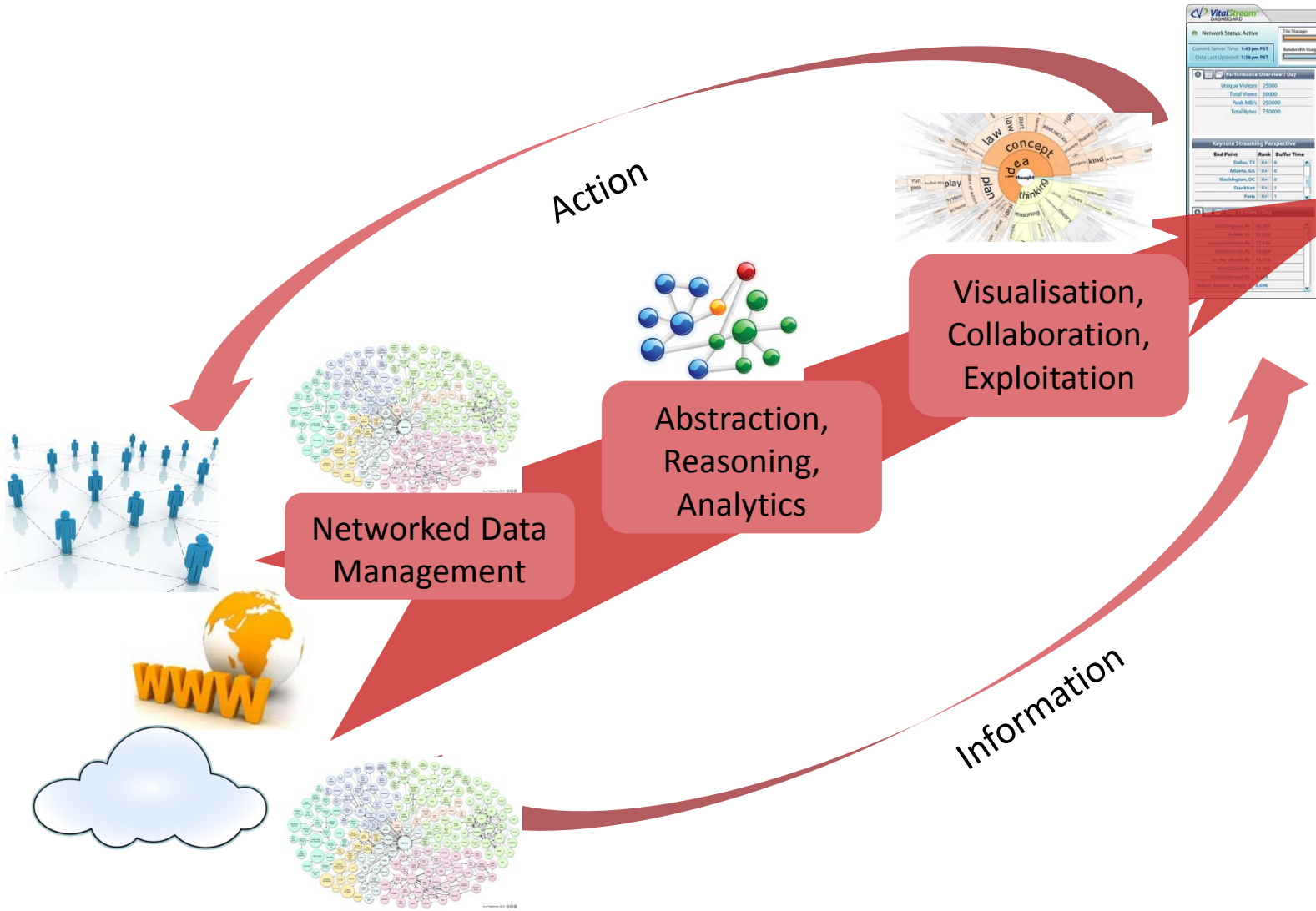

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KI2NA – Knowledge Integration 2 enable Network Application

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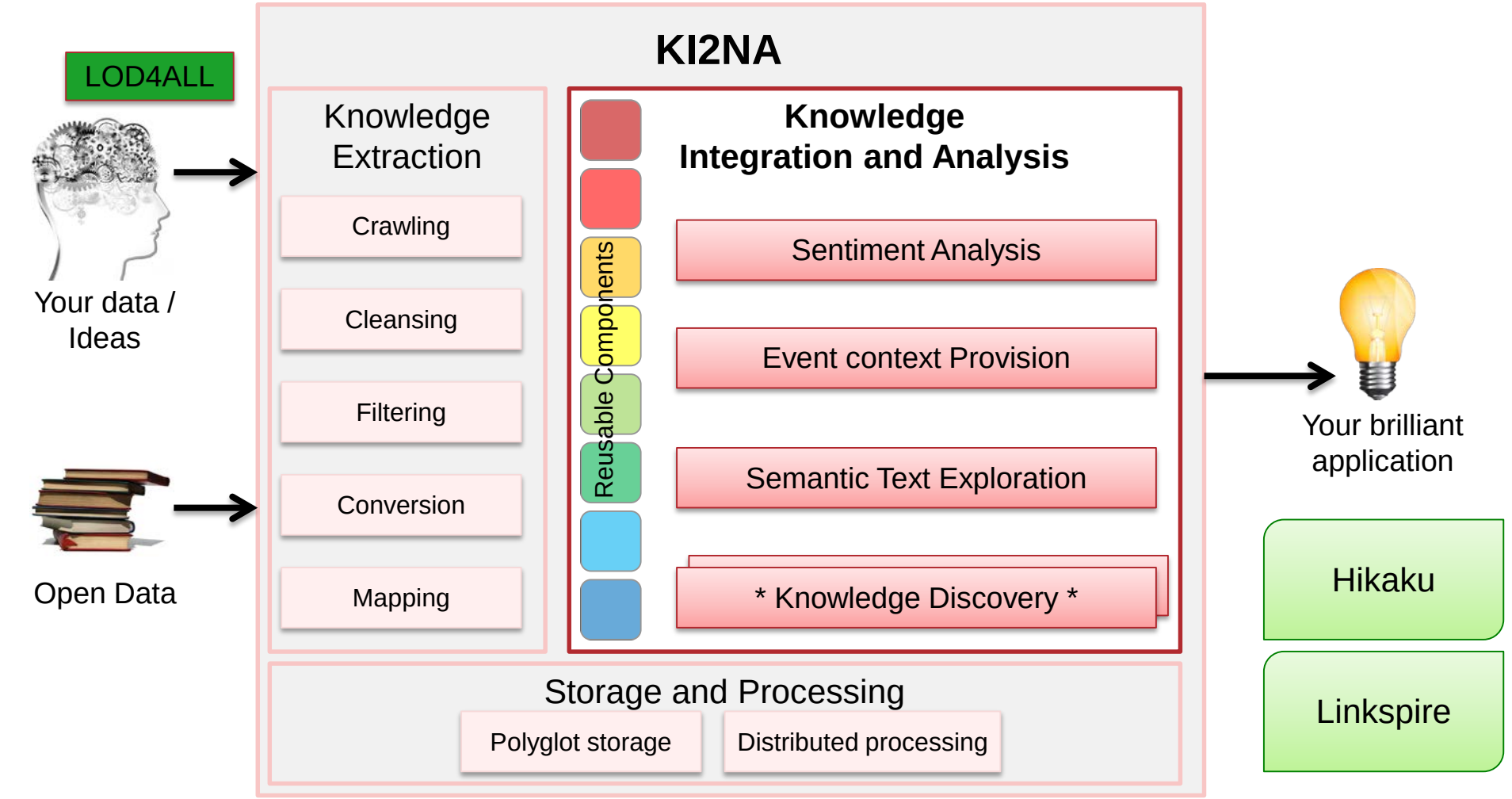

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LOD4All.net

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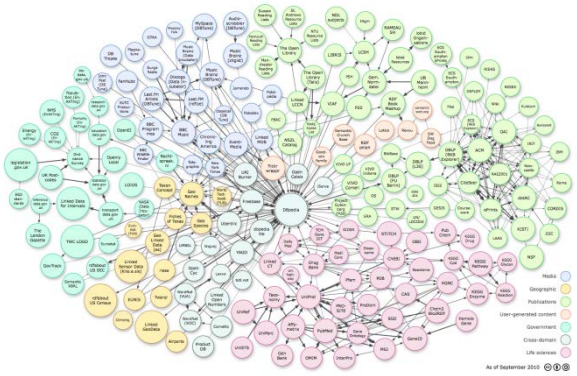
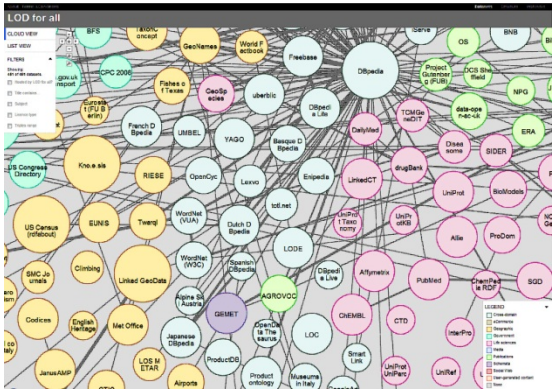


low to search/browse the Linked Open Data?

How to ease Data aqcuisition?

LOD4All.net Service



Key features:

- Dynamic and interactable LOD cloud diagram
  - Metadata about 461 datasets
  - Instance data from 96 datasets
- Holistic approach for searching structure and instance data across LOD datasets
  - ~1.5 billion triples available for instance search
- RESTful APIs for applications and developers

Realising the Knowledge Pipeline: A Uniform Data Processing Layer

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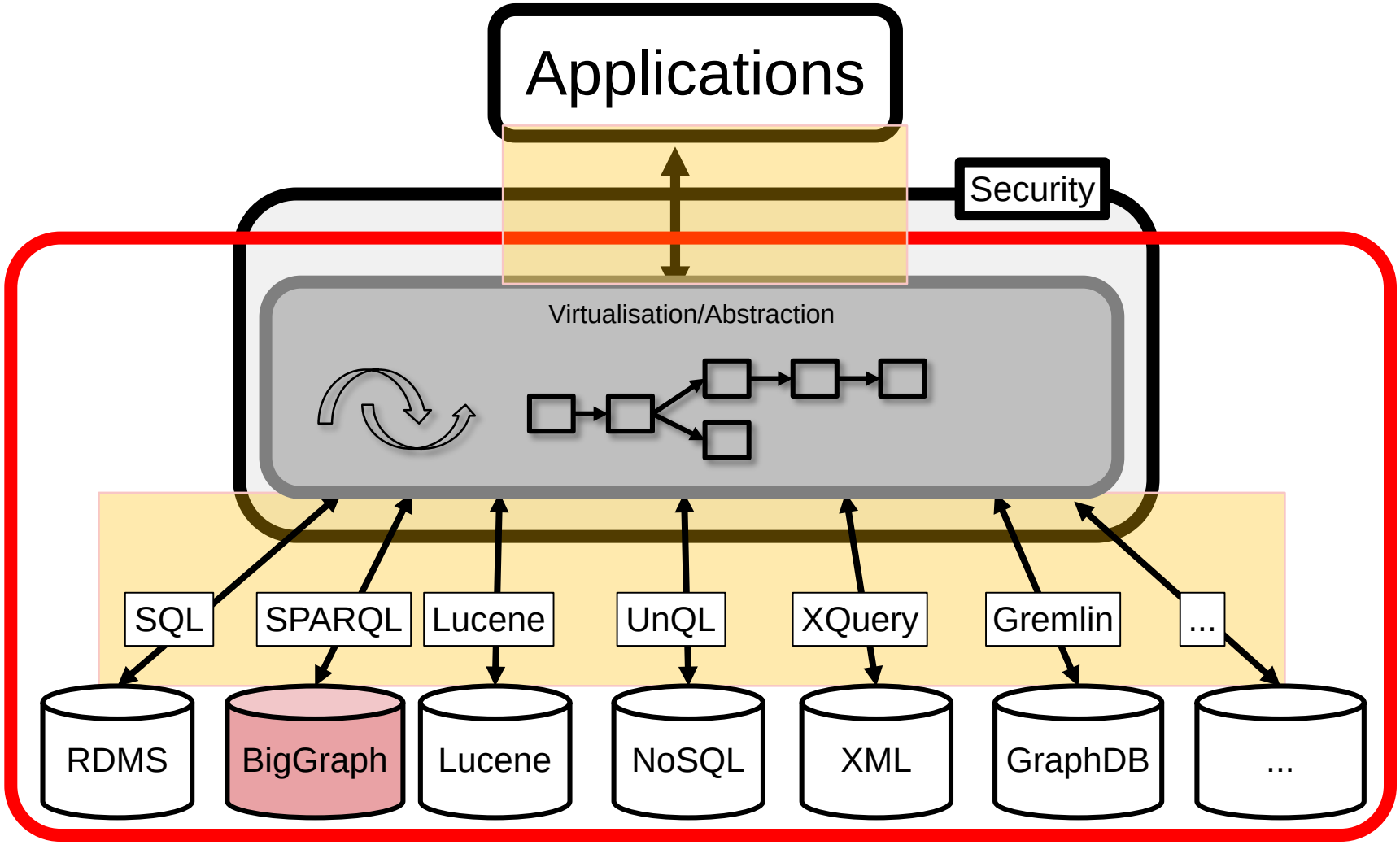
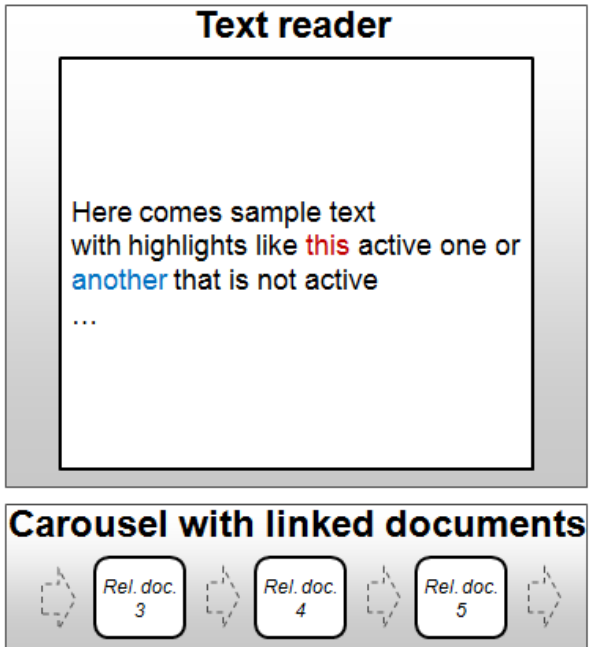
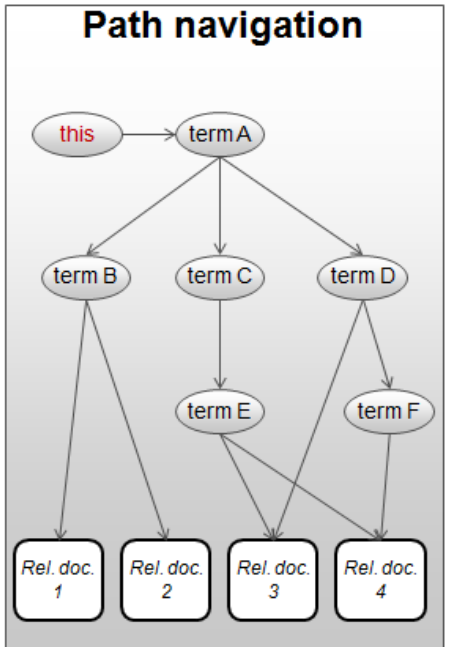


Semantic Text Exploration

- Navigation through textual documents based on semantic relationships
  - Fully Automated computation of the relationships
- Could be applied to many types of open web content (NYT, Wikipedia, PubMed, etc.)
- Also applicable to enterprise document management





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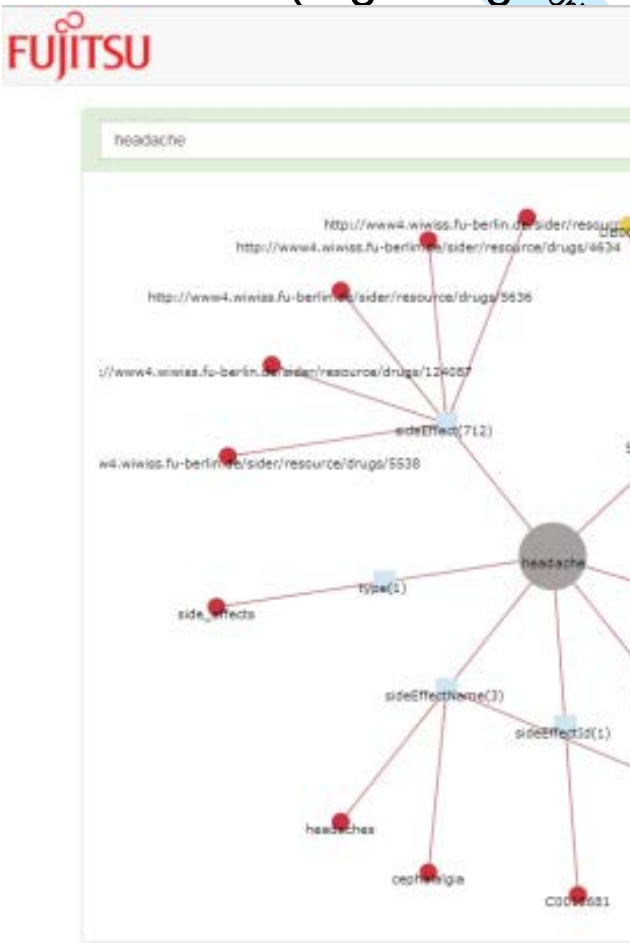
Knowledge Discovery

- Relation learning
  - Using machine learning and pattern matching methods to discover new instances (implicit in the data) of a domain specific relations (e.g. drug-side effect)
- Hypothesis verification
  - generation of research hypothesis from the data
  - verification of the hypothesis using the data



Application Area: Financial - Hikaku

The New York Times

US GAAP

2010
2011
2012

How to use all these heterogeneous data Together?

How to extract new knowledge?

Hikaku Prototype

Key features:

- Integration of heterogeneous data
  - Semi-automatic mapping of resources
- Innovative Data Analysis
  - Company **sentiment analysis** from New York Times articles
  - User defined Key Performance Indicators
- Security and Provenance
  - User access right to each dataset
  - Provenance flow for all data

From Research to Business

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Market Intelligence

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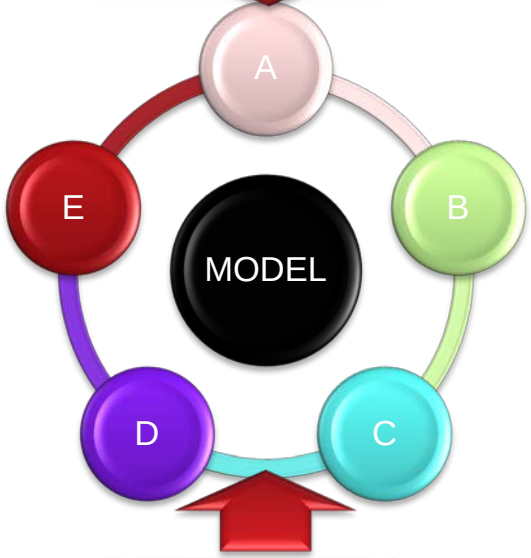
Business Driven



Research Excellence

COMMERCIAL IN CONFIDENCE

From Research to Business

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TARGET SOCIETAL CHALLENGES

Market Intelligence

ACHIEVE MARKET DIFFERENTIATION

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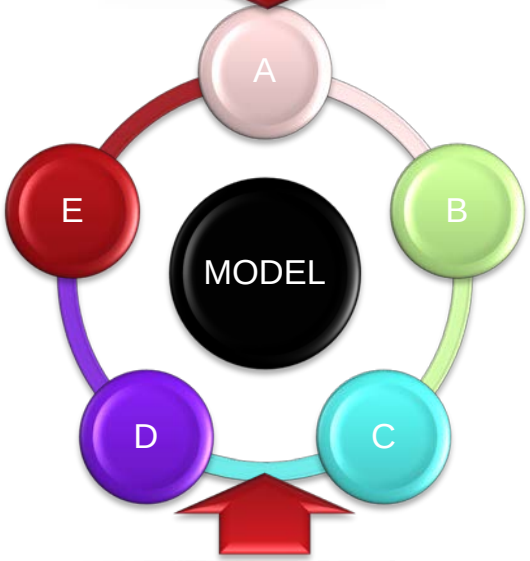
Business Driven



DELIVER NEW INSIGHT

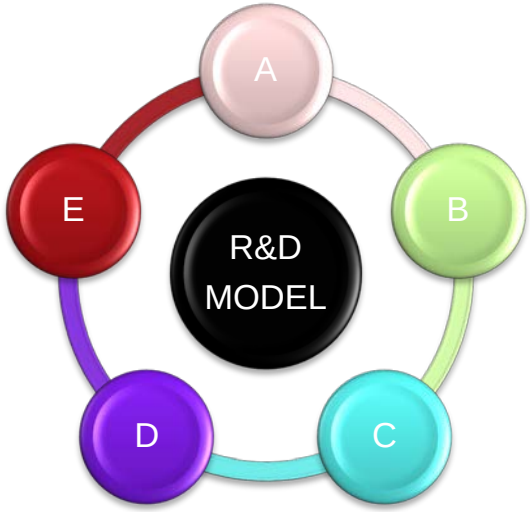
Research Excellence

ENABLE BUSINESS TRANSFORMATION

COMMERCIAL IN CONFIDENCE

THE FUTURE

Collaboration Expansion



Business Model Development

Early Adoption

New Analytics Tools

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