



Digital Business Ecosystem

The Digital Business Ecosystem the vision, the strategy and its results

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Economic Participation in the Age of Networking: Digital
Ecosystems of Knowledge, Business and Services

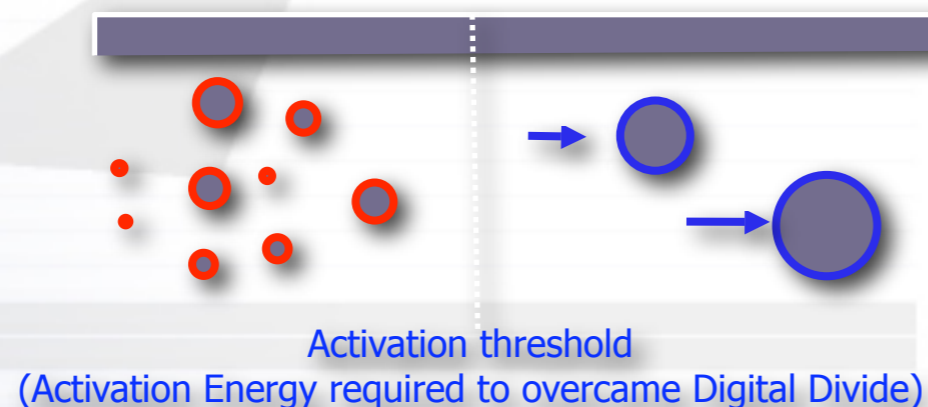
Brussels 7th November 2007



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Why DBE for SMEs?

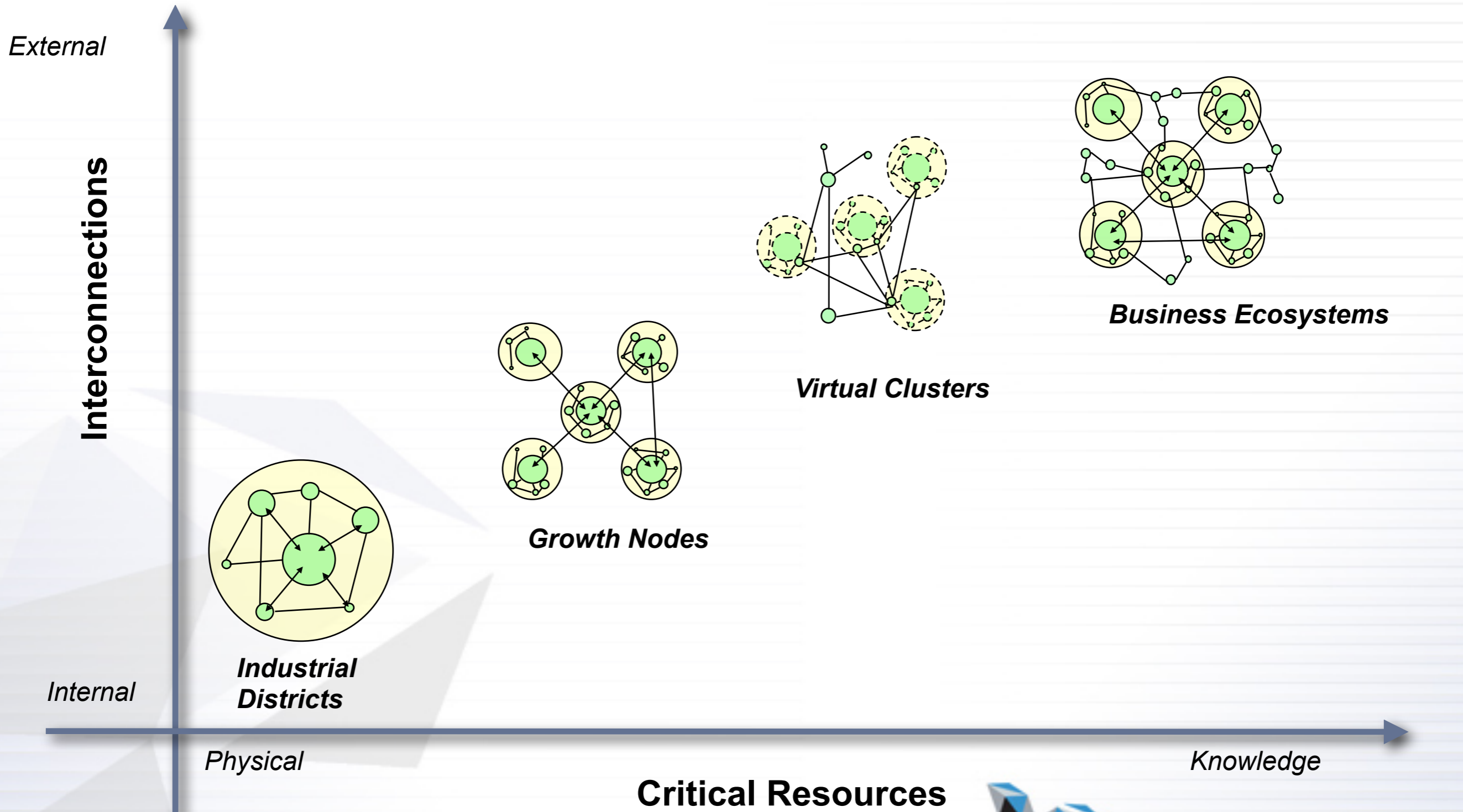
- Almost every business entity in Europe, no mattering the size of the enterprise and the sector of activity
- There are more than 17 Million SMEs in EU-25
- 99.7% of total enterprises in EU-25 are SMEs (2005).
 - 91.2% of micro enterprises: 1 to 9 employees
 - 7.4% of small enterprises: 10 to 49 employees
 - 1.1% of medium enterprises: 50 to 249 employees
 - 0.2% of large enterprises: more than 250 employees
- Small companies have limited capability (cash, time, resources) to grow and adopt ICT for supporting their business
- This suggests the existence of a threshold and of the Digital Divide



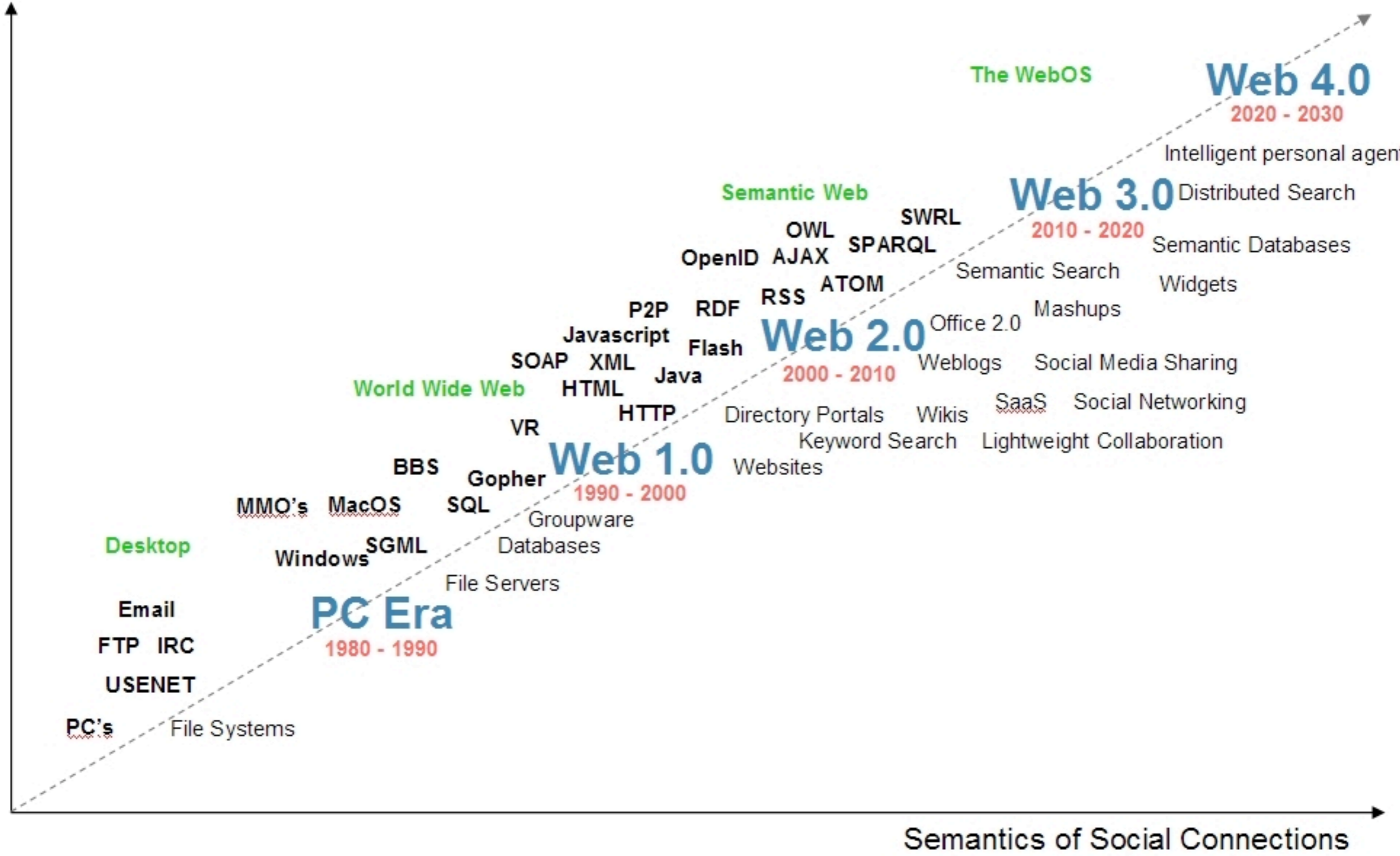
	Closed Enterprise	Digital Ecoystems
View	National, Protectionist	Global with local view
Boundaries	Vertical Integration, Content	Focused on Core, Business Ecosystems
Innovation	Close, Do It Yourself	Open Innovation Shared, Crowdsourcing
IPR	Proprietary, Protected	Open, Shared
Business Process	Internal, hard-wired	External, reconfigurable, modular
Information Management	Opaque, Asynchronous processing, Traditional BI	Transparent, Realtime, Collective intelligence
Direction	Management Commands	Self-management
Relationships	Transactions, Product and Services, Competitive	Relationship Capital, Experience, Cooperative
Technology	Proprietary, Monolithic, Enterprise centered	Standard based, SOA, Interoperable, OSS, Modular



Enterprise Networks



Semantics of Information Connections



Source: Radar Networks & Nova Spivack, 2007 - www.radarnetworks.com

How did the Digital Ecosystem Concept Originate?

Working group in 2002 observed that in some SME communities:

- The current slowly changing network of organizations could be replaced by more fluid, amorphous and often transitory structures based on alliances, partnerships and collaborations...
- ...*building a community of enterprises that share business, knowledge and infrastructure.....*

Thus, we wanted to develop an environment that would reinforce:

- Dynamic and complex business interrelations
- Need of continuous innovation and knowledge
- Need of specialised resources

Local Knowledge and SME Networks

- **Tacit and explicit knowledge** was embedded in the firms and in the business and **social networks**, leading to self-reinforcing network effects
- **ICTs** promise to provide a similar **repository of knowledge**, but it must be captured and formalised so that it can remain a public good at the sectoral and regional level
- In the Digital Ecosystem approach we believe that **open-source digital infrastructure** provides such a **public good** in the form of an adaptive environment that retains and distributes locally the knowledge and services created by its users
- Because digital ecosystems are owned by their users they **cannot be moved or shut down** as easily as a manufacturing plant can



Decomposition of DBE

- **Digital (ecosystem):** the **technical infrastructure**, based on a **P2P distributed software technology** that transports, finds, and **connects services and information** over Internet links enabling networked transactions, and the distribution of all the digital ‘objects’ present within the infrastructure.
- **Business (ecosystem):** “An **economic community** supported by a foundation of interacting organizations and individuals—the ‘organisms of the business world’. This economic community produces goods and services of value to customers, who themselves are members of the ecosystem”. (Moore, 1996) A **wealthy ecosystem sees a balance between cooperation and competition in a dynamic free market.**
- **Ecosystem:** a **biological metaphor that highlights the interdependence of all actors in the business environment**, who “co-evolve their capabilities and roles” (Moore, 1996). In the case of Digital Business Ecosystem, an **isomorphic model between biological behaviour and the behaviour of the software**, based on theoretical computer science implications and leading to an evolutionary, self-organising, and self-optimising environment (EvE)



DBE Concept

*Some knowledge
is protected*

**Licence-Based and
Open Source Services**

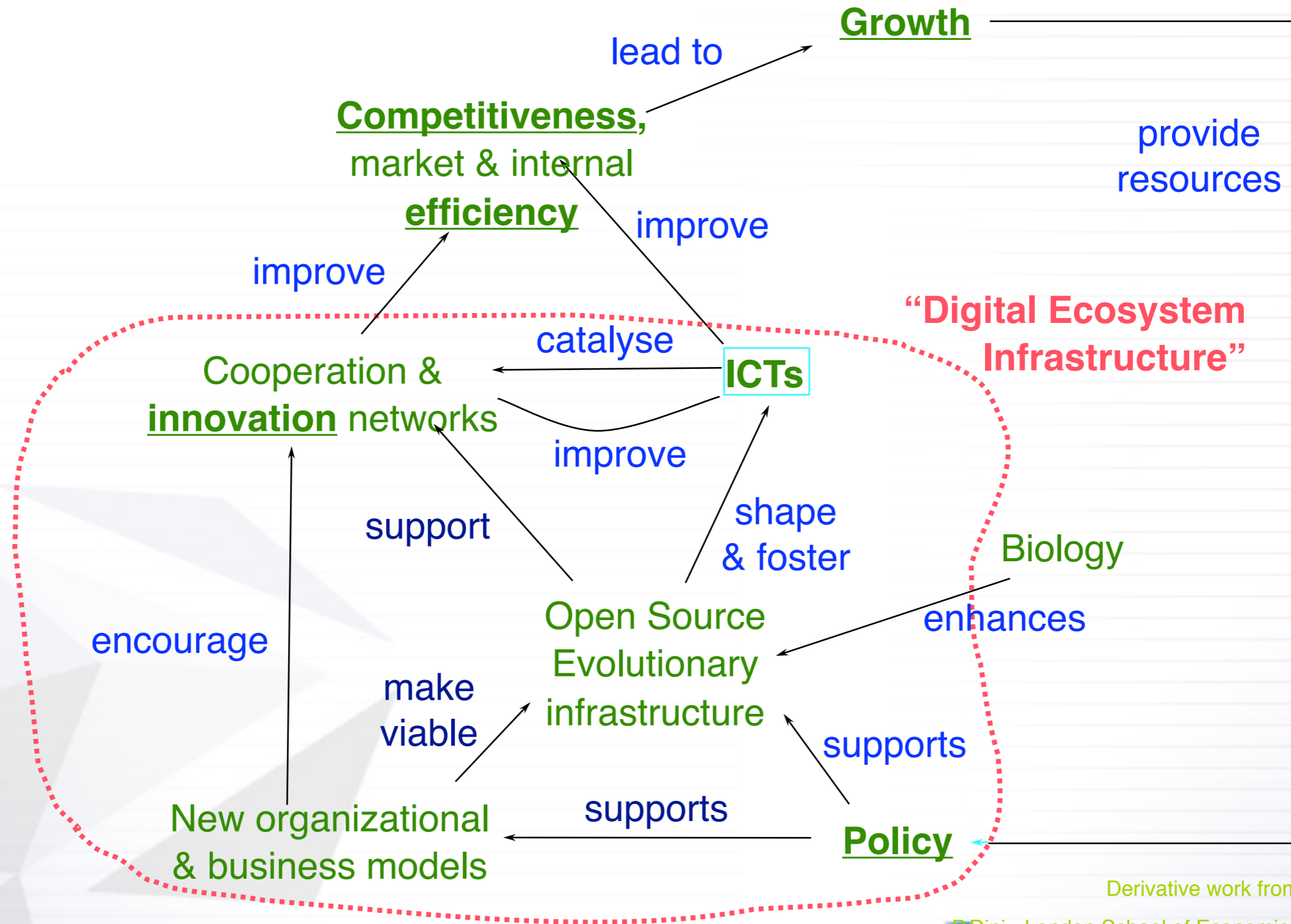
*Some knowledge
is shared*

OPEN SOURCE INFRASTRUCTURE

- DBE concept is an architecture + an economic model + a shared enterprise
- Every stakeholder needs to contribute to the maintenance, governance, and sustainability of the infrastructure
- The strength of a shared medium of communication and business interaction is the catalysis of democratic processes for its sustainability.
- Accountability, transparency and trust are *necessary* to achieve the DBE vision

The Innovation Ecosystems:

An integrated approach for development



Derivative work from

P.Dini - London School of Economics



Digital Business Ecosystem

Early community

- Formation of a DBE SME community of 240 user companies and a core group of 44 software developing companies up to know
- 3 Regions initially, 5 joined later
- Multiple business relevant application cases constructed by SMEs – mostly built on existing business networks
- Regional Catalysts agreed to launch an European Network supporting the Digital Ecosystem deployment REDEN, starting with 30 Regions
- MOU to be signed within 2007
- Share vision and links with the Living Labs community



The DBE infrastructure from applications point of view

Based on the first application cases we can conclude that:



- 1) Most early DBE cases build on either application-to-application interaction or the provision of application-like services.
- 2) A central domain is collaboration and data synchronization apart from transactions.
- 3) The use of semantics holds great potential but is a gradual process. (This falls into three categories: firstly for service discovery and composition, secondly for model-based code generation, thirdly for rule-based execution of more complex transactions.)
- 4) Evolutionary components are among the most important investments into the DBE future at this stage.



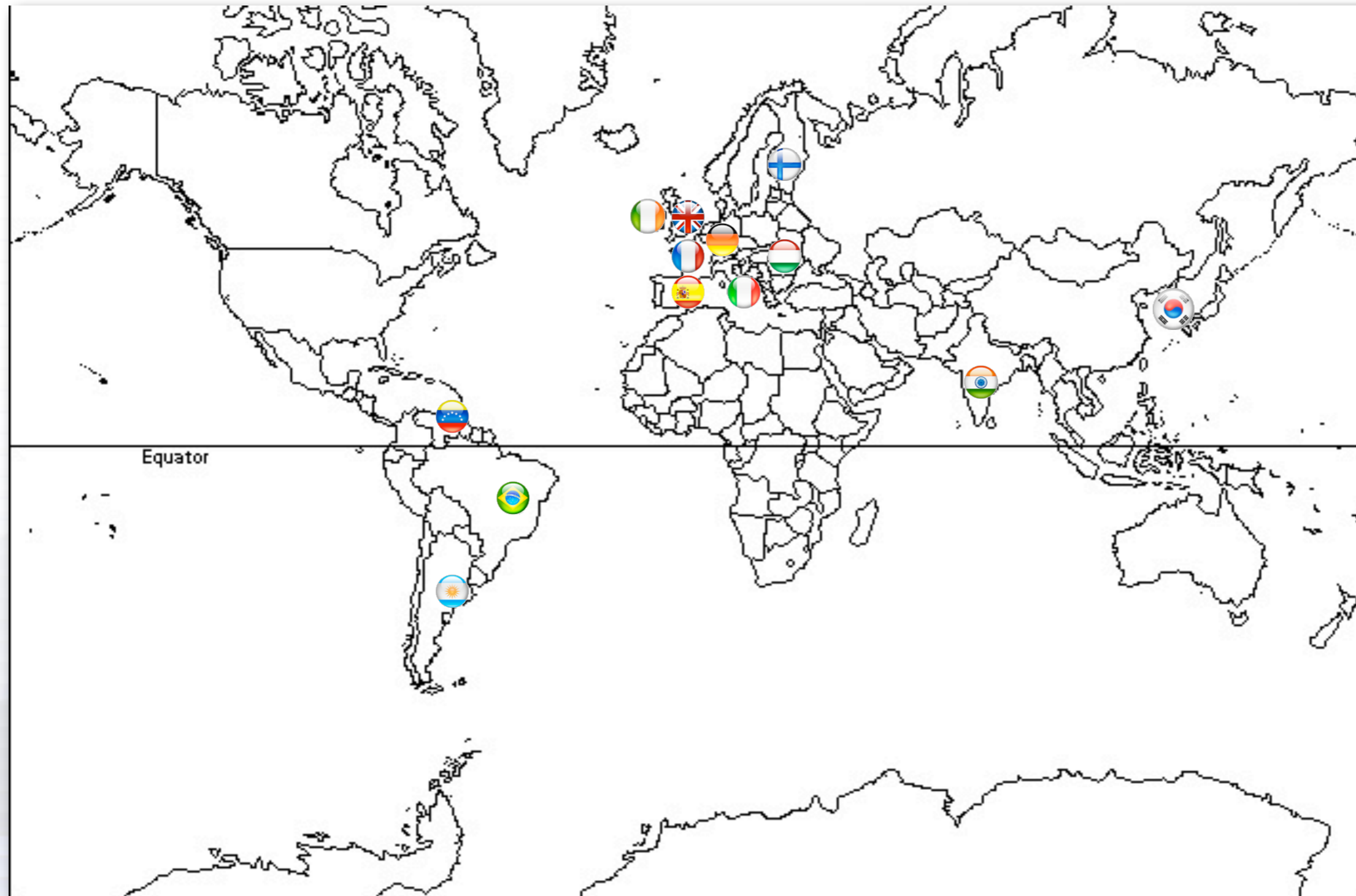
Digital Ecosystem pilot regions (October 2007)

over 30 M€ projects funded by EC in FP6



-  Pilots Regions
-  Future Pilots

The International Network



Main Results and Impacts

- Framework Programme 7 establish Digital Ecosystem as one of the Application research domain under ICT supporting business and industry
- Uk BERR (former DTI) launched in 2007 a call for proposal for research in DE with 8M £ funding
- Several regions choose DE has one of the strategy for development under the new structural funds program 2007-2013 (Aragon, Lazio)
- Further use in the agri-food sector (in India DEAL project has been selected by World Bank as a best practice for knowledge sharing in agriculture in developing countries)
- Future trials with P&G on connect and develop network





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हाजिर <<<

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DEAL Architecture

Our Partners

Our Team

Contact Us

Objective: In the proposed ontology driven digital info mediation architecture different user groups and expert groups will co-create content through knowledge exchange and dynamic aggregation will be enabled for delivery over multiple media. This will allow different e service in this domain to exchange knowledge objects according to a commonly agreed ontology.

Deliverables from the DEAL project:

- Ecology like self managed growth model of the digital knowledge base.
- An ontology & metadata system that supports the knowledge archiving & retrieval reuse in Indian Agriculture and rural livelihood domain.
- Web services for digital content aggregation and delivery to agriculture and rural livelihood related portals.
- Search tools for automated assistance to Digital Content Management in Hindi and other local languages for the backend operation of Kissan Response and Village Knowledge Centers.

Other Websites	Blog & RSS
▶ Digital Mandi	▶ Kisan Blog
▶ Kheti Browsing Interface	▶ News Posting
▶ Shramik Bharti	▶ DEAL RSS Feeder
▶ Zonal Coordination Unit-IV ICAR	▶ DEAL RSS Reader

▶ Weather Derivative in India

▶ News Archive

▶ Commodity News and Views by Dr. Sudhir Agrawal

Weather

Video Clips of Livelihood

Video Clips of Agricultural Machines

WHITE PAPER

POWER POINT PRESENTATION

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Crops

Plantation crop

Vegetables

Medicinal plant

Fruits

Animal husbandry & Fisheries

Flowers

Livelihood

Other Information

- ▶ warehouse
- ▶ Futures
- ▶ WTO
- ▶ Agriculture Related Links
- ▶ Directories
- ▶ Government Links

Agriculture Knowledge Center

- Pulses
- Cereals
- Oilseeds
- ▶ Annual Programme for Crops
- ▶ Question Answer
- ▶ Agricultural Budget 2006 - 07

http://emandi.mla.iitk.ac.in/deal/

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Fruits >>

Mango

Guava

Aonla

Pomegranate

Grape

Jackfruit

Banana

Pear

Papaya

Bael

Lemon

Custard apple

Orange

Litchi

Mangoes

Mangoes 12367

BT1 Fruits

BT2 Plant products

rt. Mangifera indica

rt. Tropical fruits

Climate:

Mango is a tropical fruit, but it can be grown up to 1,100m above mean sea-level. There should not be high humidity, rain or frost during flowering. The temperature between 24 and 27°C is ideal for its cultivation. Higher temperature during fruit development and maturity gives better-quality fruits. The areas experiencing frequent showers and high humidity are prone to many pests and diseases. Thus it can be grown best in regions with a rainfall between 25cm and 250cm. Regions having bright sunny days and moderate humidity during flowering are ideal for mango growing

Soil:

Mango can be grown on a wide variety of soils under varied climatic conditions. It can be grown from alluvial to lateritic soils except in black cotton soil having poor drainage. It grows well in soils with slightly acidic pH. It does not perform well in soils having pH beyond 7.5. soils having good drainage are ideal for mango.

Varieties:

India is the home of about 1,000 varieties. Most of them are the result of open pollination arisen as chance seedlings. However, only a few varieties are commercially cultivated throughout India.

Alphonso One of the most popular variety of India, it is mainly grown in Ratnagiri area of Maharashtra and to a small extent in parts of south Gujarat and Karnataka. Its fruits are medium-sized (250g), with attractive blush towards the basal end. Pulp is firm, fibreless with excellent orange colour. It has good sugar : acid blend. Keeping quality is good. It is susceptible to spongy tissue.

Banganapalli A widely cultivated, early-maturing mango of south India. It is the main commercial variety of Andhra Pradesh. Its fruits are large-sized, weighing on an average 350–400g. The pulp is fibreless, firm and yellow with sweet taste. Fruits have good keeping quality.

Bombay Green It is one of the earliest varieties of north India. Its fruits are medium-sized, weighing about 250g each. Fruits have strong and pleasant flavour. Pulp is soft and sweet.

Chausa Late-maturing variety of north India, it matures during July or beginning of August. Fruits are large, weighing about 350g each. Fruits are bright yellow with soft and sweet pulp. It is shy bearing.

Dashehari One of the most popular variety of north India, it is a mid-season mango. Fruits are medium-sized, with pleasant flavour, sweet, firm, and fibreless pulp. Stone is thin and keeping quality good.

Langra An important commercial mango variety of north India, it is biennial-bearer and a mid-season variety, with good quality fruits. Flesh is firm, lemon-yellow in colour and scarcely fibrous. It has characteristic turpentine flavour. Keeping quality is medium.

The Future

- An international community of Digital Ecosystems
 - Research programs and projects
 - International agreements
 - Policy interventions
- Research topics
 - Technology
 - Basic Science of DE
 - Organisation and Governance
- The new perspective is to deploy the DE as the new technological common => policy and regulatory issues



Digital Business Ecosystem

More on Digital Ecosystem

www.digital-ecosystems.org

www.opaals.org

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Blog

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