



**COST Action E51**

**Integrating Innovation and Development Policies for the Forest Sector**



**FINAL CONFERENCE  
Brussels 1.6.2010**

**Innovation in wood based vertical value chains**

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## Phase I Linear Innovation Process Approach

### ***Institutional bases***

OECD. 1984. Science and Technology Indicators: Resources Devoted to R&D. Paris

OECD. 1989. The Measurement of Scientific and Technical Activities: R&D Statistics and Output Measurement in the Higher Education Sector (Frascati Manual Supplement). Paris:

OECD 1992. Proposed Guidelines for Collecting and Interpreting Technological Innovation Data .Paris

Oslo Manual II 1997: The Measurement of Scientific and Technological Activities - Proposed guidelines for collecting and interpreting technological innovation data 2nd edition. Paris

### ***Innovation Policy***

Radical Product and Process Innovations

### ***Policy support***

Technology programs

- Technology frontier push for product & process innovations
- R&D project finance support to high tech enterprise

Sector policy support

- National high tech cluster formation
- Strengthening regional clusters





## Phase II Systemic Innovation Approach

**Challenges** Deteriorating competitive advantages in Traditional Industries in general but especially in Low and Medium Technologies (LMEs) and Small and Medium Sized Enterprises (SMEs)

### **Identification** The European Observatory for SMEs

- survey reports on markets for products and services, labor market issues, access to both finance and Community programmes as well as studies on vocational training for SMEs and new services during 1992-1999 and 2002-2003
- invited by European Commission on behalf of the Enterprise Directorate
- <http://europa.eu.int/comm/enterprise>

### **Institutional basis**

Oslo Manual III 2005 : Guidelines for Collecting and Interpreting Innovation Data, 3rd Edition. Paris

**Innovation Policy**      Systemic Innovation Process Support

### **Policy support**

Innovation policy

- Incremental & radical innovations as equal targets
- Organizational & marketing

Sector & rural policy support

- knowledge and learning infrastructures
- innovative network creation





# Innovation Taxonomy & Policy – Systemic Approach



## Strategic Choices through innovations -

OECD view (Oslo Manual 3rd Edition)

Customer Interface                    **market** performance through customer orientation

Use of Input Factors                    **process** productivity, input quality & uniqueness

Products and Services                    superior **product** design, quality...

Managerial Arena                    **organisational** arrangements

Applying specifications and configuration in Oslo Manual (3rd Edition) (OECD 2005)

COST E51 Joint MC and WG Meeting 12-14 October 2006, Grosspetersdorf, Austria



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# Policy and Innovation in LOw-Tech (PILOT)



## The innovative capacity to SMEs: Regional or Sectoral View?

**Integrated business network** positive externalities from reductions in transaction costs & information & knowledge exchange

**Information and knowledge** strategic advantage, from both distributive and production organization perspectives

**Drivers** exploiting economies of scale from local agglomeration focusing on social, embedded (physical and non-physical) features

**Value networks** transactional upstream and downstream relationships covering input supply chain to consumer interface  
suppliers and clients constitute important source for knowledge generation and innovation

**Source of CAs** low and medium tech (LMT) companies push a high-tech suppliers to innovate through requests to improve existing product or develop a new one

Bender, G. 2006. Policy and Innovation in Low-Tech – Knowledge Formation, Employment & Growth Contributions of the 'Old Economy' Industries in Europe – PILOT. Final Report of the Project





# Innovations & Knowledge Transfer



## Unorganised Innovation System or Traded Transactions ?

		knowledge creation & transfer	
		<i>static (ex post transfer)</i>	<i>dynamic (joint ex ante development)</i>
<i>trade based contracts</i>	3. KIBS & Science Parks & Technopoles	4. KISA (Organised knowledge development)	
<i>informal solutions</i>	1. Local knowledge spillovers & available externalities	2. Innovative milieu and related cooperation networks (local chambers..)	

**1. Atomized traditional local cluster:** informal (intended and unintended) transfer of competencies & knowledge

Atomized spillovers and positive externalities traditional clusters typically imply strict proximity

**2. Organized traditional local cluster:** organized competence & knowledge cumulation

Spillovers and positive externalities in networks can be regional or sectoral (low proximity requirement)

**3. Traded competence & knowledge flows in organized sectoral innovation system**

KIBS on regional or sectoral basis (low proximity requirements)

**4. Public Private Partnerships for knowledge-intensive service activities in sectoral innovation system**

KISA networks provide risk share benefits towards radical innovation base development uncertainties

Approach: Tödling & Lehner & Kaufmann 2009, Storper & Scott 1995

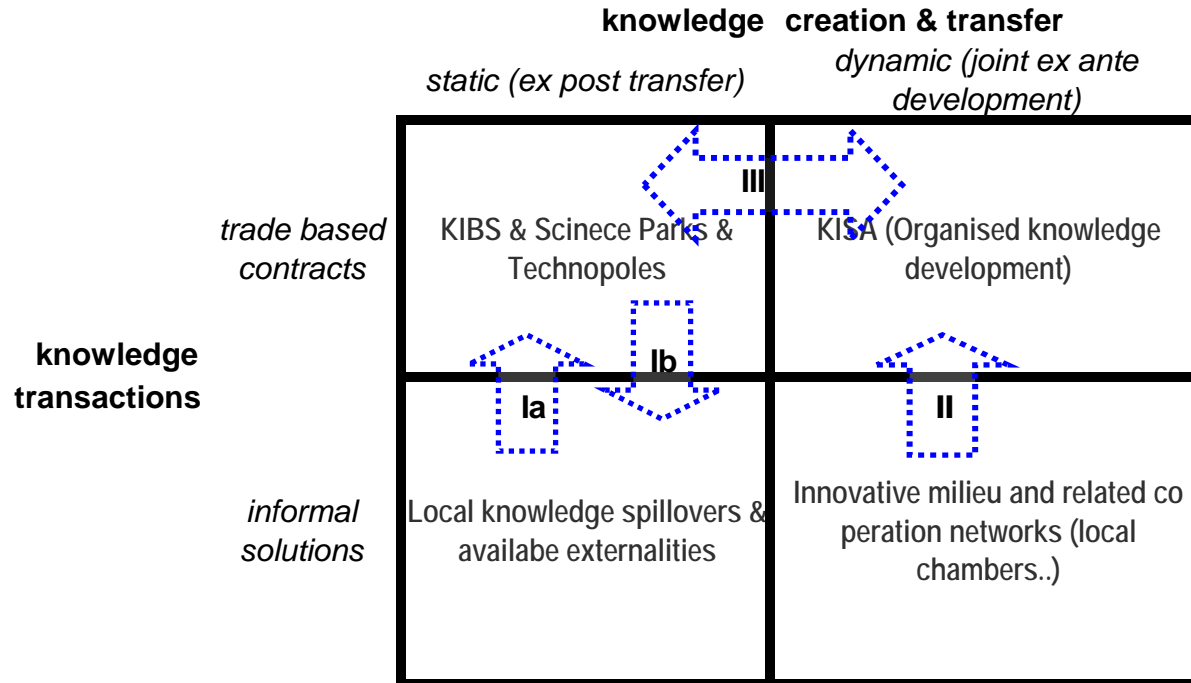




# Innovations & Knowledge Transfer



## Unorganised Innovation System or Traded Transactions ?



**Ia** Towards formalized and commercialized knowledge transfer

**Ib** Tacit knowledge complementarities

**II** Emergence of institutions managing knowledge transfer (private & public)

**III** Mixed structures for individual and collective knowledge processes





# COST E 51 Work Group II Wood Based Value Chains & Networks

## Traditional industries

*technical maturity and innovative activities*

low entry barriers & intellectual property rights & appropriability difficulties

## Innovative entrepreneurship

*Frame conditions:*

- a) few SMEs & similar technologies: Tacit knowledge transfer
- b) a few large corporations: specific technology lock ins

## Operational Efficiency, Customer Responsiveness and Quality Generation

Knowledge base for innovation activities

Innovative capabilities among enterprises and complementary knowledge supply

Functional innovation support

Local Cluster and Innovation Support







## COST E 51 Work Group II Subgroups

### Forest Operations

Country cases: Estonia, Finland, Germany, Lithuania, Poland, Romania, Slovakia

corresponding member [edgar.kastenholz@enfe.net](mailto:edgar.kastenholz@enfe.net)

### Wood Bioenergy

Country cases: Estonia, France, Finland, Lithuania, Norway, Poland, Romania, Scotland

corresponding member [erlend.nybakk@skogoglandskap.no](mailto:erlend.nybakk@skogoglandskap.no)

### Wood Furniture

Country cases: Croatia, Estonia, Finland, Poland, Sweden

corresponding [member a.pirc@sumfak.cr](mailto:member_a.pirc@sumfak.cr)

### Timber Construction

Country cases: Austria, Estonia, Finland, France, Norway, Scotland, Sweden, Romania

corresponding member [tomas.nord@liu.se](mailto:tomas.nord@liu.se)

### Innovation Related Knowledge Flows

Country cases: Estonia, Finland

corresponding member [kadri.ukraiski@mtk.ut.ee](mailto:kadri.ukraiski@mtk.ut.ee)

### Regional Wood and Forest Cluster

Country cases: Austria, Croatia, Estonia, Finland, Poland, UK

corresponding member [thomas.rimmler@metla.fi](mailto:thomas.rimmler@metla.fi)

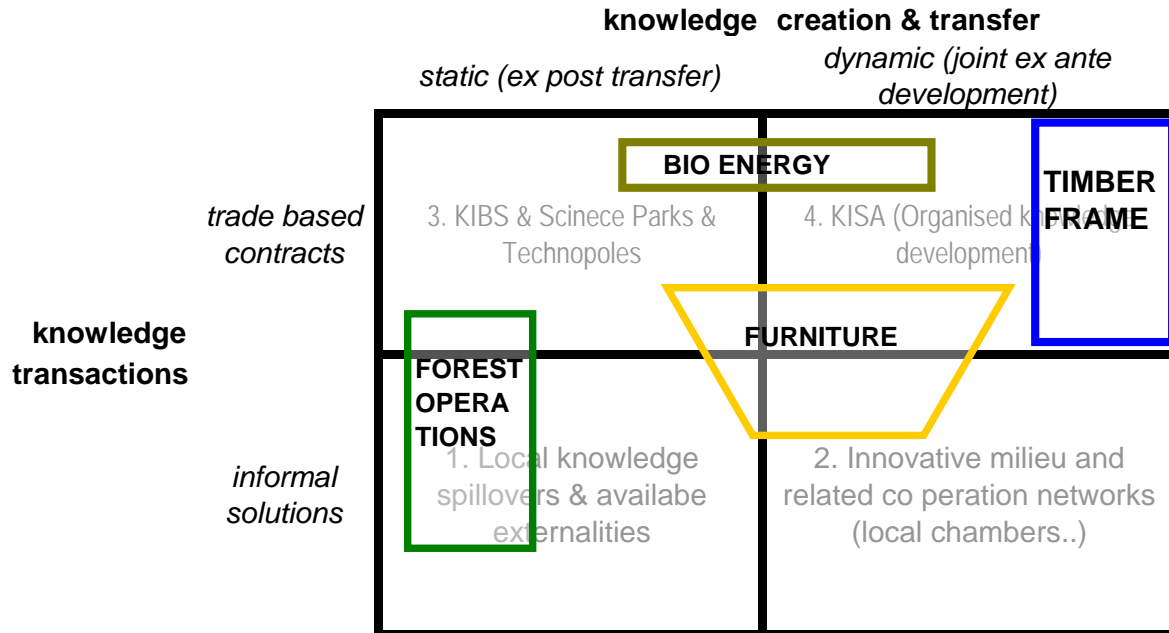




# CONCLUSIONS I



## Systemic Innovation Process Support – Forest Related SMEs



### Forest Cluster enterprises Innovation support

Forest operations:

3. KIBS supporting machinery & ITC knowledge use

Bio energy

3. KIBS supporting process technology adaptation & use

Furniture

2. Milieu & industrial structures with joint interest knowledge intake & use

Timber frame construction

4. KISA to adapt real estate & construction cluster demand & business culture



Approach: Tödling & Lehner & Kaufmann 2009, Storper & Scott 1995



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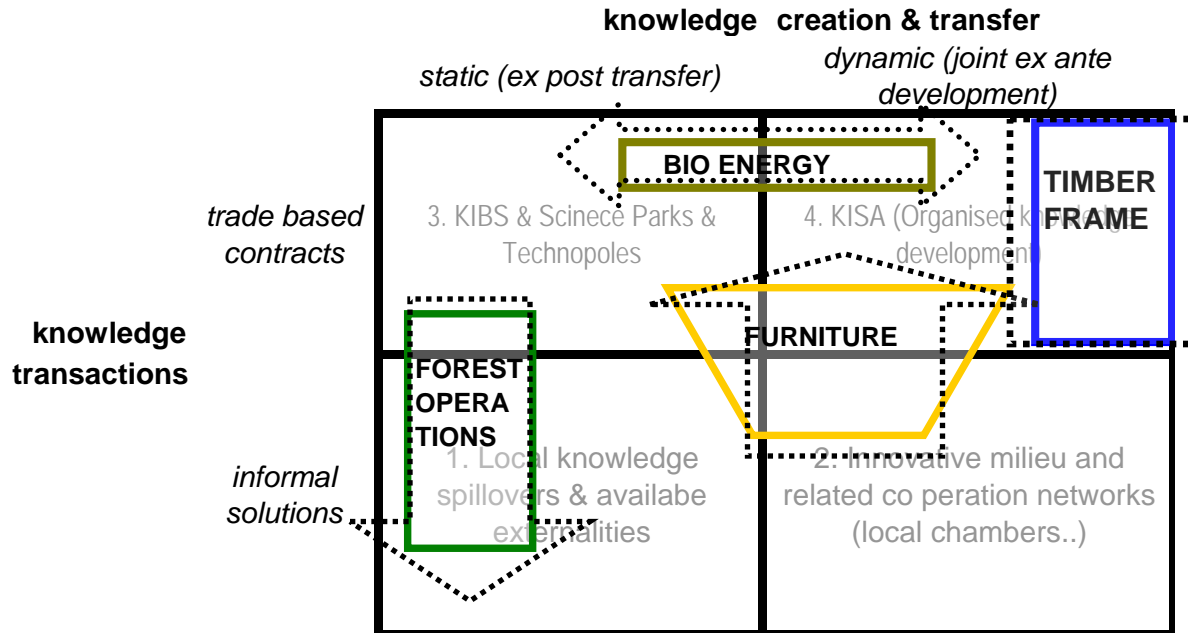




# CONCLUSIONS II



## Policy Support Challenges – Forest Related SMEs



### Forest Cluster enterprises Innovation support challenges

Forest operations:

2. KIBS supporting tacit knowledge communication & transfer

Bio energy

4. KISA supporting innovation champion tacit knowledge transfer

Furniture

4. KISA to jointly build up international competitiveness (design, ITC& e-Business marketing & international networks)

Timber frame construction

4. System integration (KISA) to adapt lean construction

Approach: Tödling & Lehner & Kaufmann 2009, Storper & Scott 1995



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# CHALLENGES & ADDRESSES TO POLICY COORDINATION & INTEGRATION



## Policy coordination & integration to support innovation activities among SMEs

### *Future of traditional industries in EU and in Europe in general*

- **Sustainable development policy:** full & transparent utilization of wood properties (sustainability certification)

### *Participation to global business value chains & networks*

- **Forest industry policy:** Enhanced innovation competence among CEOs of SMEs

### *Rural business infrastructures*

- **Rural & Regional Development Policy:** Integration to empower KISA for joint interest & KIBS for individual development

### *Strategic sensitivity & operational elasticity among SMEs*

- **Scenario modelling:** proactive future foresight
- **Innovation Policy:** options to demand & user oriented innovation processes
- **Regional & Rural Development Policy:** active evaluation concerning partnering and network solutions in implementation

