



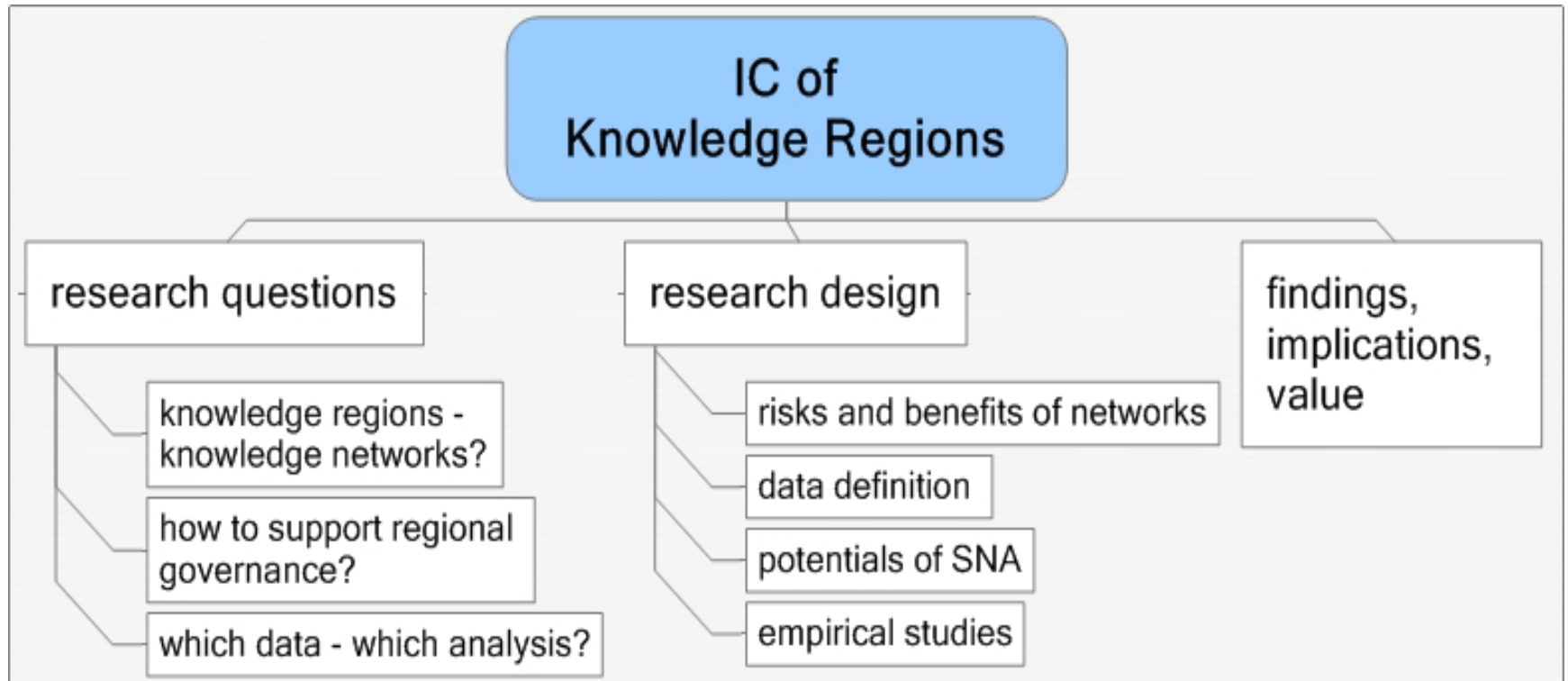
IC of Knowledge Regions

on benefits and challenges of network indicators

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knowledge, space & city design 11.45-13.15

Agenda



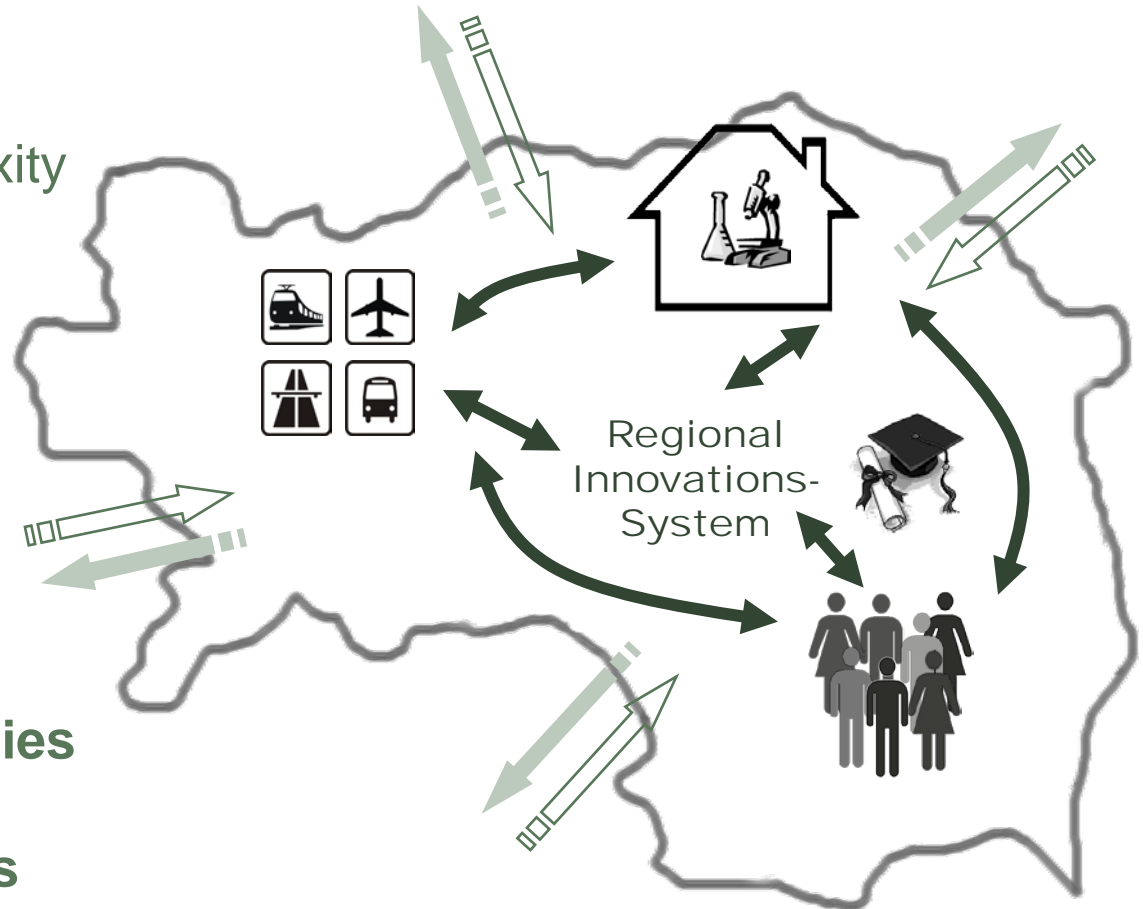
Motivation

growing economic complexity

spanning public and
private sectors,
regional and
national boundaries

→ leads to

**New Governance Strategies
have been implemented,
combining various actors
for knowledge regions**



Motivation

Knowledge Regions

- **are based on Networks**, shaping structures and collaborations
- **involve** Multi Actors Multi Measures Programmes (MA) as bundles of concerted measures for strategic governance

request

- **new forms of governance** and additional strategic intelligence for decision makers

are expected to

- **strengthening the innovation-capacity**, dynamically & efficiently shaping the innovation system
- raising **value creation and competitiveness**, guaranteeing and increasing employment at regional level

Expected Positive Outcomes of Networks

Networks are designed as a coordinated approach for multi-dimensional challenges in knowledge regions

- + to create a better **intrinsic coordination** between heterogenous parties
- + to achieve **potential synergies** between parties that have not cooperated in the past
- + to improve **communication speeding up processes**
- + To increase **effectiveness and efficiency**

Network benefits success may not be achieved automatically

- + in a dynamic environment networks can form an essential basis for boosting efficiency and regional innovation, since they are more flexible and open than organisations
- Equally, however, networks can develop a formalism of their own and 'petrify'. Their effects then become dysfunctional, especially in relation to learning capability and innovation capacity crucial to Knowledge Regions



Sources of Network Breakdown

- **Network Size**
leads to risk of blockades difficulties in managing conflicts and common activities
- **Long-term vs. Short-term Benefits**
Interest in short-term benefits may result in inflexible thinking patterns, hence overlooking long-term trends
- **Improved Efficiency vs. Flexibility:**
well established but informal structures make it more difficult to redistribute resources and power
- **Co-operation vs. Conflict Capability:**
risk of high internal pressure to adapt, 'group think'
integration of new members might be blocked

Opportunities and Risks

Networks as Social Capital

- + Effectiveness
- + Establishment of network resources
- + Use of sectoral resources, capabilities and skill advantages
- + Learning effects
- + Changed social practices based on shared learning

Network Breakdown

- Decision blockades
- Structurally conservative tendencies dictate action
- Disintegration or excessively close connections
- Blocked negotiations
- Externalisation of costs
- High communication costs



Guiding Questions for Network Analysis

1. What information is needed and relevant for understanding?
2. What materials are the most important ones for analysis?
(documents, questionnaires, survey results etc.)
3. What potentials and what limitations,
follow from the materials used?
4. How and in what form is the information accessible?
5. How can reproducibility be ensured?
6. What strategic implications for governance can be derived?

Types of Co-operation, their Characteristics and Information Sources

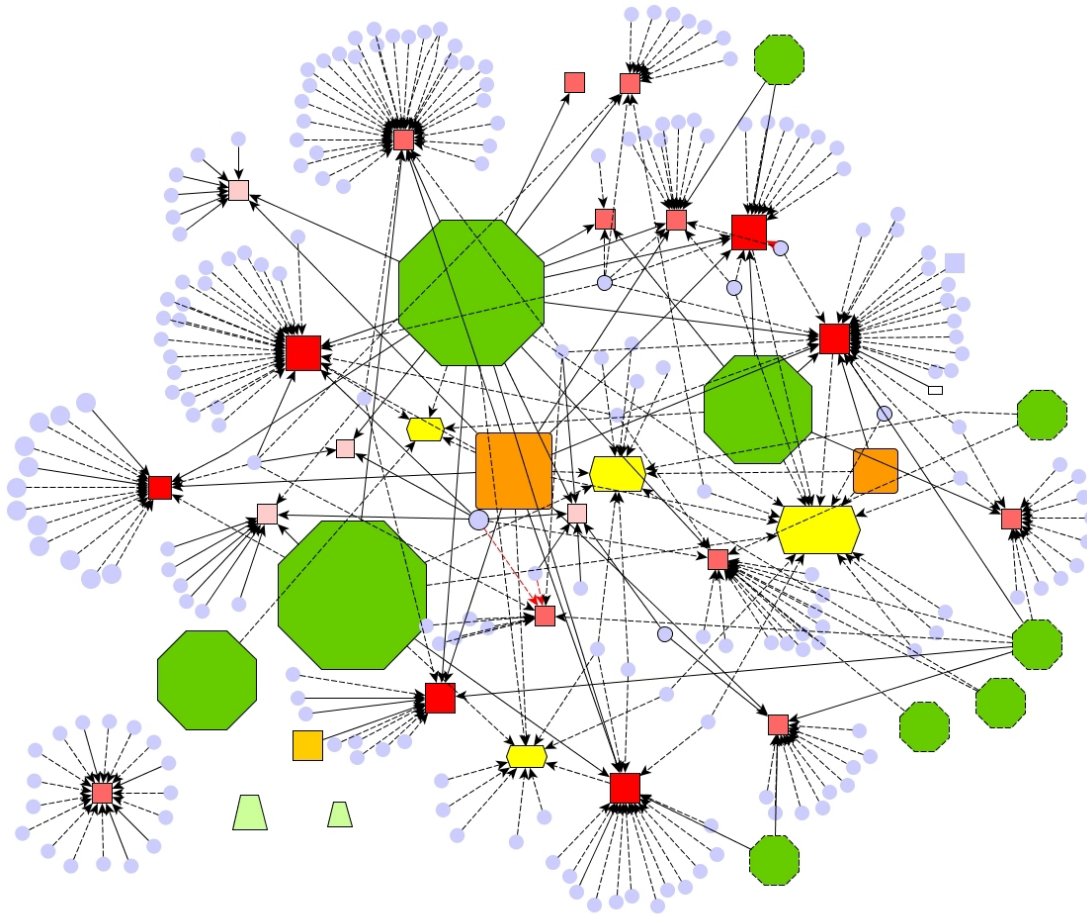
Type of Co-operation	Specific Documents Available
conferences and events	Invitations, speakers, participants, sponsorships, press information
Formal and informal networks	protocols, resolutions, statements, interviews
committees, boards	contracts, board decisions, protocols
competence centres, clusters	partnership agreements, projects, publications, evaluations, annual reports
development partnership	partnership agreements
projects: regional, (inter)national basic and applied research	proposals, project reports, publications, evaluation reports
governmental structures	guidelines, decisions, funding database

Typology of Information Sources

1. „**First order sources** of information“
official information produced directly by the organisation
contracts, IC reports, publications, patents etc.
2. “**Second order sources** of information”
protocols, curricula vitae, member lists etc.
3. “**Third order sources** of information”
press reports, content of web sites,
links on websites (e.g. to other organisations)

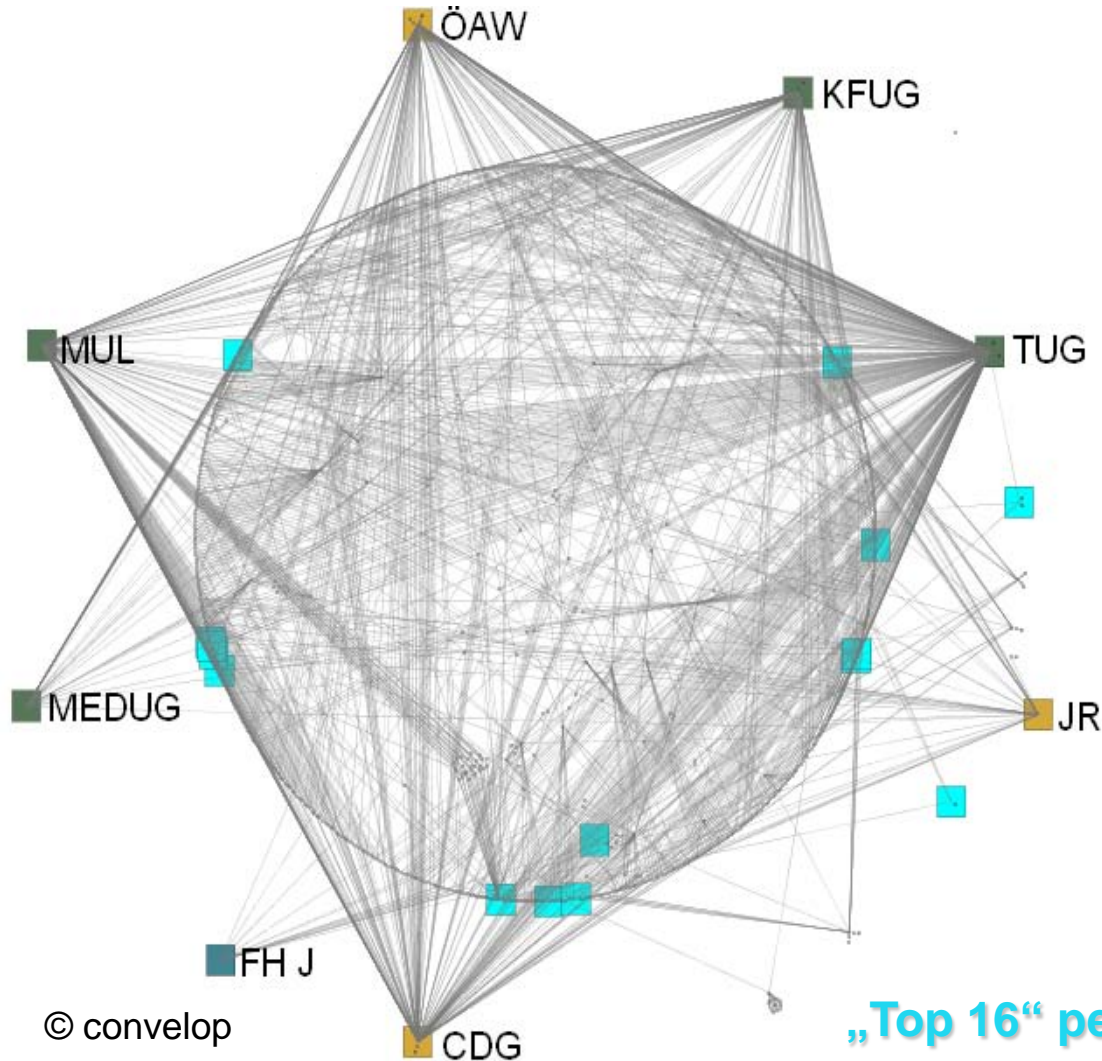
A Comprehensive Look at Styria

– a System of Knowledge Intensive Networks



- 5 universities
- 2 univ. applied sciences
- 4 regional networks
- 1 regional research institution
- 18 competence centres and cooperative research entities of industry

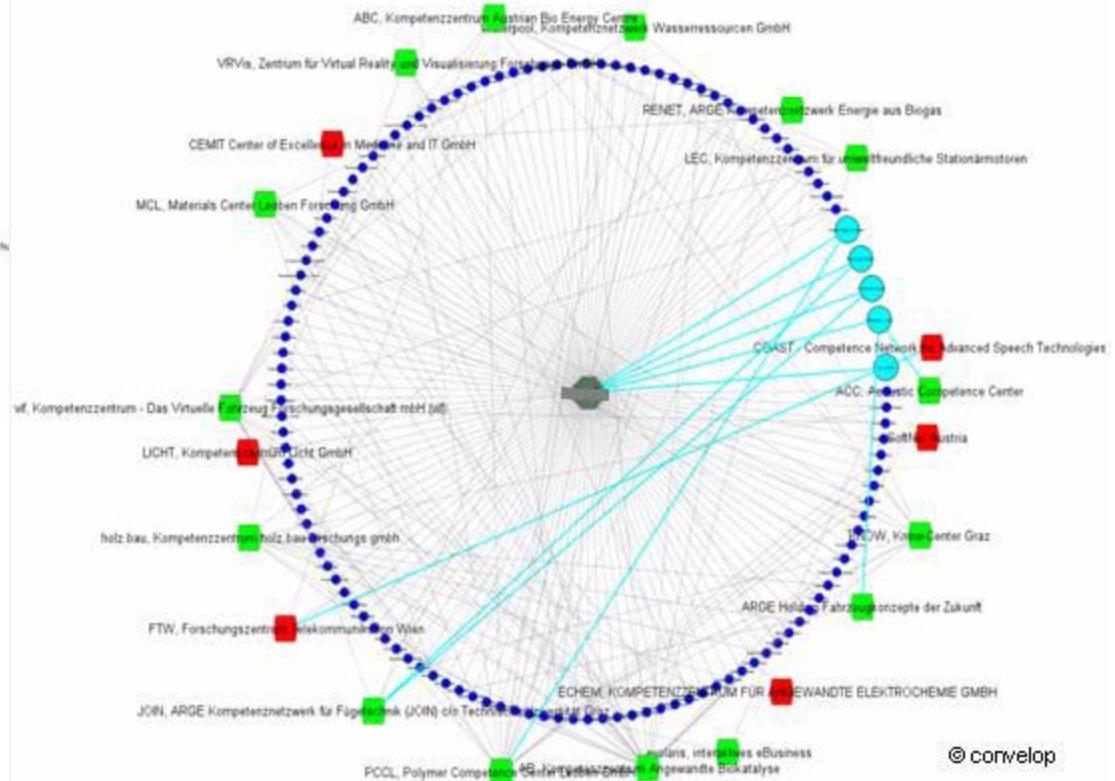
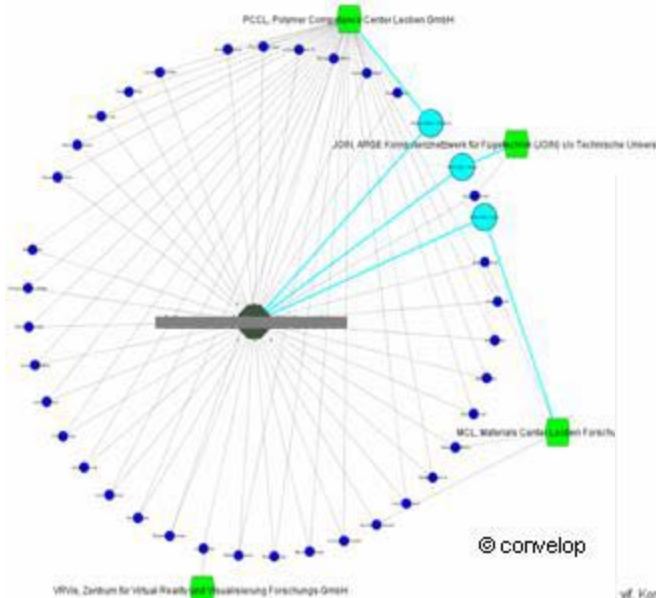
Key Actors Linking Knowledge Intensive Networks in Styria



derived from
third order information
(personal connections)

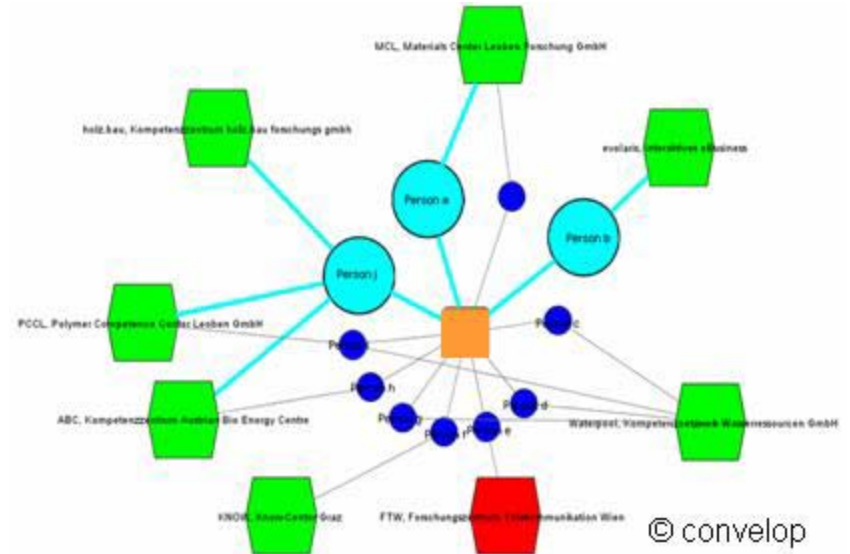
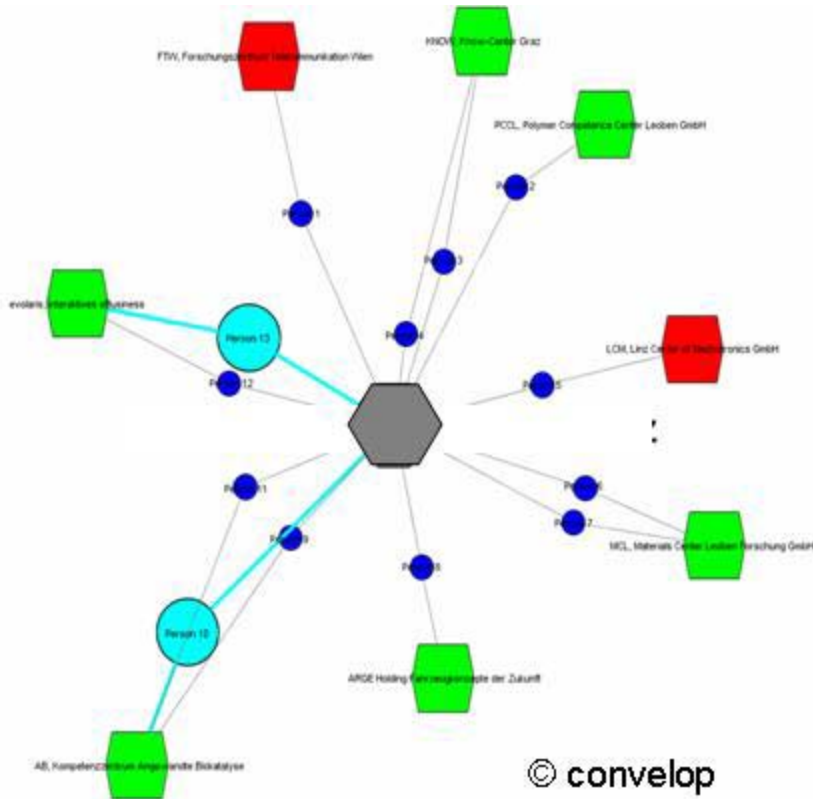
Cooperation Strategies of Universities

exemplified with
 third order information



Comparing Co-operation Strategies of an University and a Research Institution

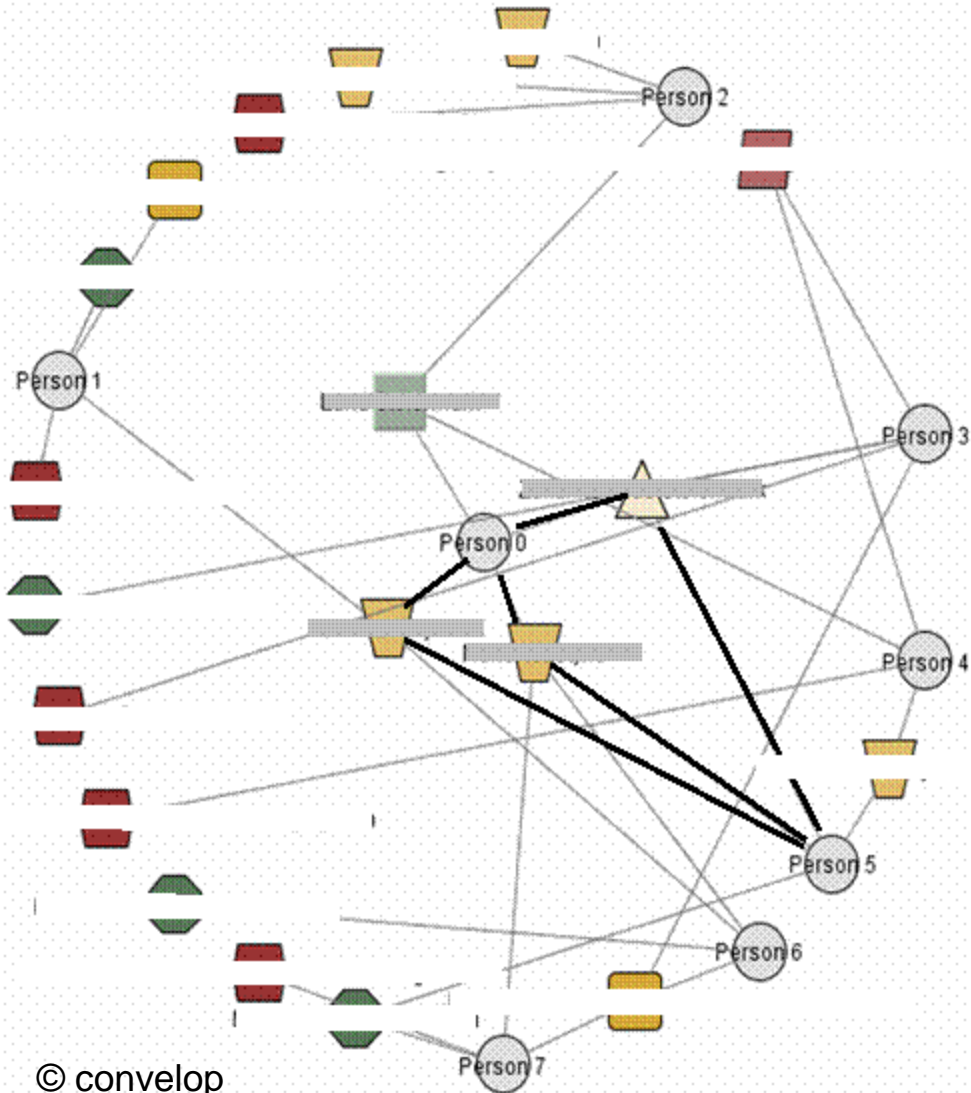
exemplified with
 third order information



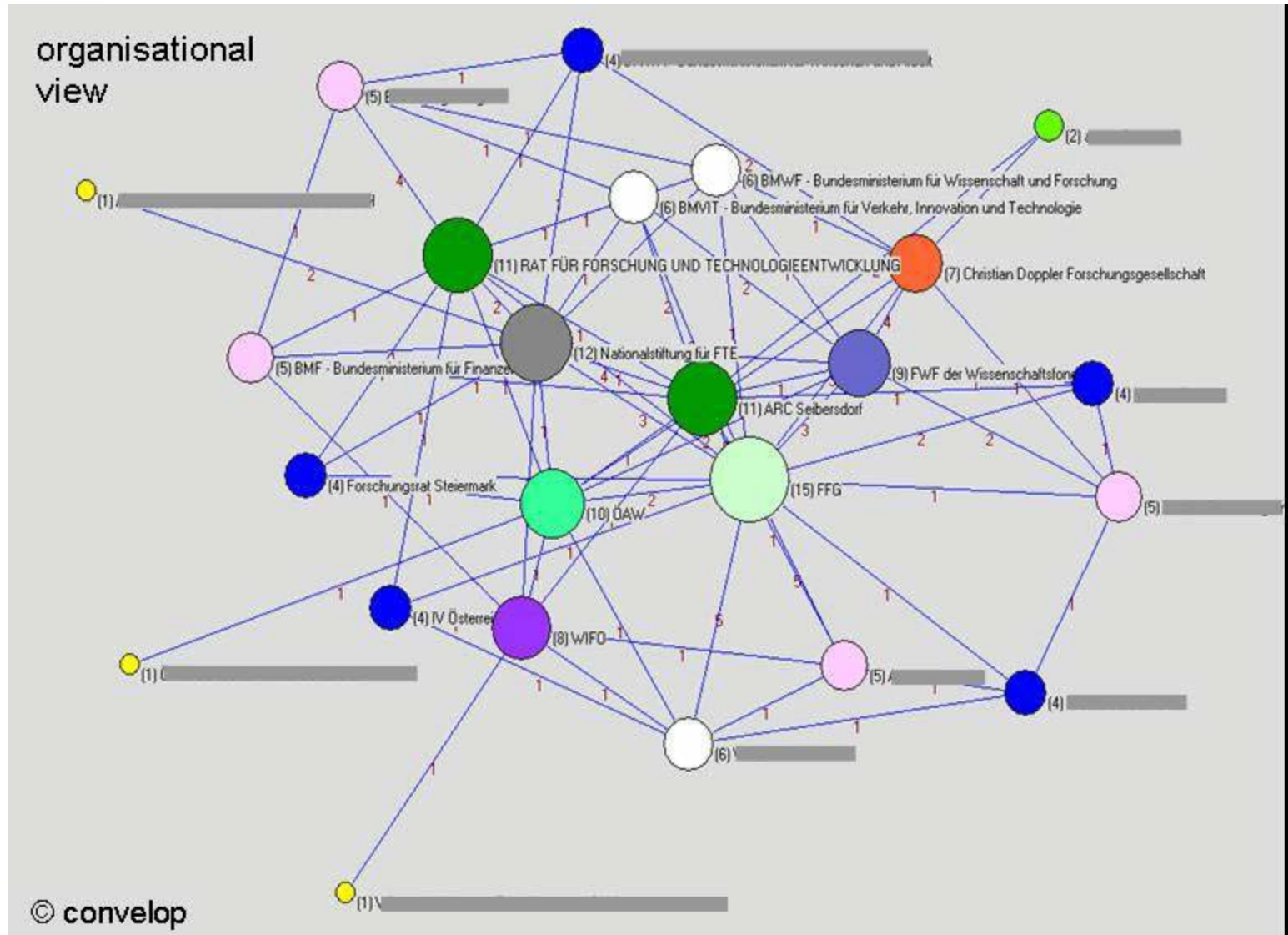
Personal Networks and Institutional Background

Styria „Top 16“	... keep number of official contacts within „Top 16“	in %
company	8	53,30%
University 1	11	73,30%
University 1	8	53,30%
University 1	8	53,30%
University 1	7	46,70%
University 3	7	46,70%
University 3	6	40,00%
University 4	6	40,00%
University 4	9	60,00%
Governmental Inst. 1	7	46,70%
Governmental Inst. 2	7	46,70%
Research Network 1	2	13,30%
Research Network 2	2	13,30%
Research Inst. 1	10	66,70%
Research Inst. 1	6	40,00%
Research Inst. 1	6	40,00%

Personal View on Network Bonds



Members of Boards and Councils Relevant for Austrian Research



Guiding Questions for Strategic Management of Regional Networks

Attribute	Guiding Questions
<i>Network Partners</i>	<p>Absolute number of partners? Which subgroups, in which proportions? Actors? Who is missing? Any bottlenecks? Redundancies?</p>
<i>Balance of Power</i>	<p>Multilateral Relationships? Decision finding dominated by specific partners? Which subgroups / institutions /actors are dominating? Does the set of partners change over time?</p>
<i>Openness</i>	<p>Are network partners enlarged and broadened? Variation or limited number of well known partners? New interactive paths?</p>
<i>Embeddness</i>	<p>Interregional as well as international embeddedness?</p>

Findings, Implications and Value

- Network benefits success may not be achieved automatically.
Strategic management is crucial for success.
- **Visualisation of regional co-operations** based on Social Network Analysis (SNA) provides a comprehensive view at the interdependencies and the embeddedness of different institutions as well as actors of the region.
- **Discussing visualisation outcomes** supports further development of intangible network resources
- Key elements of interest can be discussed without detailed analysis of **specific indicators (difficult to understand by regional actors)**