

Bibliometric Analysis of Consortia and Proposals within the 4th EU-Frameworkprogramme for RTD

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S&T 2000, Leiden
24 - 27 May

Introduction

- European RTD in the 4th EU-Framework
Programme: Co-operations, Networks and Clusters
 - Evolvment of a European Innovation System?
 - Knowledge-flows through co-operation in RTD-networks
- Visualization through mapping of institutional co-operations by means of co-occurrence analysis

Database

- CORDIS, Dec. 1998
 - ~10.000 projects
 - ~ 47.000 participations
 - ~ 13.000 partners
- ➔ ~ 2700 partners participating in three or more projects
- ➔ ~ 30.000 participations in > 8.800 projects
- ➔ more than 53.000 collaborative links

Programmes

Programme RP5	programme acronym RP4	projects RP4 (12/98)	participations RP4 (12/98)
<i>Thematic Programmes</i>			
1.1. Quality of Life (QoL)	BIOMED 2	654	2384
	BIOTECH 2	356	1993
	FAIR	351	2258
1.2. User-friendly Information Society (IST)	ESPRIT 4	1335	4924
	TELEMATICS 2C	384	2310
	ACTS	154	1655
	ESSI 2	347	323
1.3. Competitive and Sustainable Growth	BRITE/EURAM 3	1643	9418
	TRANSPORT	233	1480
	SMT	330	1816
1.4A Energy	NNE-JOULE C	472	2511
	NNE-THERMIE C	314	337
1.4B Environment & Sustainable Development	ENV 2C	698	4072
	MAST 3	144	1062
<i>Horizontal Programmes</i>			
2. Internationale Role of Community Research	INCO	641	1505
3. Innovation	INNOVATION	233	1142
4A Improving Human Research Potential	TMR	2209	3265
4B Improving Socio-economic Knowledge Base	TSER	111	770

CORDIS: excerpt of citation

title

Validation of Integrated Telecommunication Architectures for the Long term

project acronym

VITAL

programme acronym: ACTS

Subprogramme Area: High speed networking, Service engineering, security & communications management

Start Date: 1995-09-01 **End Date:** 1998-08-31

objectives

The objective of the VITAL project is to demonstrate and validate the development, deployment, management, and use of complex heterogeneous service features on an Open Distributed Telecommunication Architecture (ODTA) defined in terms ...

general info

Technical Approach The specifications of the TINA-C Distributed Processing Environment (DPE), Service Architecture, and Connection Management Architecture are direct inputs to the VITAL ODTA definition. These specifications will be extended and refined to provide the selected service features, using input from areas such as IN, TMN and previous RACE work ...

prime contr organisation

Alcatel Bell

organisation type: Industry

department: Research Division

address: Francis Wellesplein 1

postcode: 2018

city: Antwerp

region: VLAAMS GEWEST, ANTWERPEN

country: BELGIUM

partner organisation 1

University College London

organisation type: Education

department: Department of Computer Science

address: 5 Gower Street City

postcode: WC1E 6BT

city: London

region: SOUTH EAST (UK), GREATER LONDON

country: UNITED KINGDOM



Informal name of institutions involved

Acronym	Frequ.	Name
csic.ror.es	266	Consejo Superior de Invest. Cientmficas
uni cam.edu.gb	226	University of Cambridge
ntua.edu.gr	207	National Technical University of Athens
vtt.ror.fi	181	VTT Technical Research Center of Finland
cnr.ror.it	179	Consiglio Nazionale delle Ricerche
siemens.ind.de	131	Siemens Aktiengesellschaft
eurocopter.ind.de	10	Eurocopter Deutschland gmbh
british telecom.ind.gb	21	British Telecommunications plc

Questions of interest

- How can we visualize and analyse the co-operational behaviour in EU-RTD Programmes?
- Additional findings through mapping of co-operation by a co-occurrence analysis
 - Which are the significant patterns of cross-organisational co-operation?
 - Are there any other significant co-operation patterns we do not know yet?
 - Which specific developments will be pointed out?

Concept of co-occurrences

- Which keywords are related to each other?
co-occurrence of keywords
→ co-word analysis
- Which partners work together in consortia?
co-occurrence of partners
→ co-partner analysis

Table of co-occurrences

In how many projects do partners co-operate?

Name of partner	csic.ror.es	uni cam.edu.gb	ntua.edu.gr	icstm.edu.gb	vtt.ror.fi	cnr.ror.it	uni lund.edu.se	max_planck.ror.de	fu brux.edu.be	siemens.ind.de	uni_saloniki.edu.gr	uni_utrecht.edu.nl	tu_delft.edu.nl
csic.ror.es	266	5	5	4	7	19	14	12	8	1	6	9	2
uni cam.edu.gb	5	226	1	2	2	9	2	7	7	1	5	2	4
ntua.edu.gr	5	1	207	14						5	4	0	5
icstm.edu.gb	4	2	14	184						6	3	1	11
vtt.ror.fi	7	2	13	10						2	3	1	5
cnr.ror.it	19	9	5	4						2	10	4	1
uni lund.edu.se	14	2	4	3						3	4	7	9
max_planck.ror.de	12	7	0	8						1	0	5	1
fu brux.edu.be	8	7	5	0						1	3	15	3
siemens.ind.de	1	1	5	6						131	3	1	6
uni_saloniki.edu.gr	6	5	4	3	3	10	4	0	3	3	129	2	6
uni_utrecht.edu.nl	9	2	0	1	1	4	7	5	15	1	2	129	7
tu_delft.edu.nl	2	4	5	11	5	1	9	1	3	6	6	7	128

0,0107

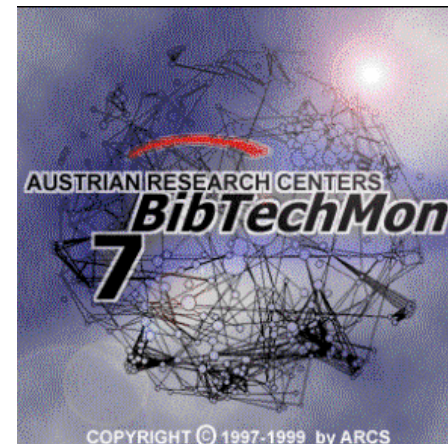
$$J_{ij} = \frac{c_{ij}}{c_{ii} + c_{jj} - c_{ij}}$$

0,0152

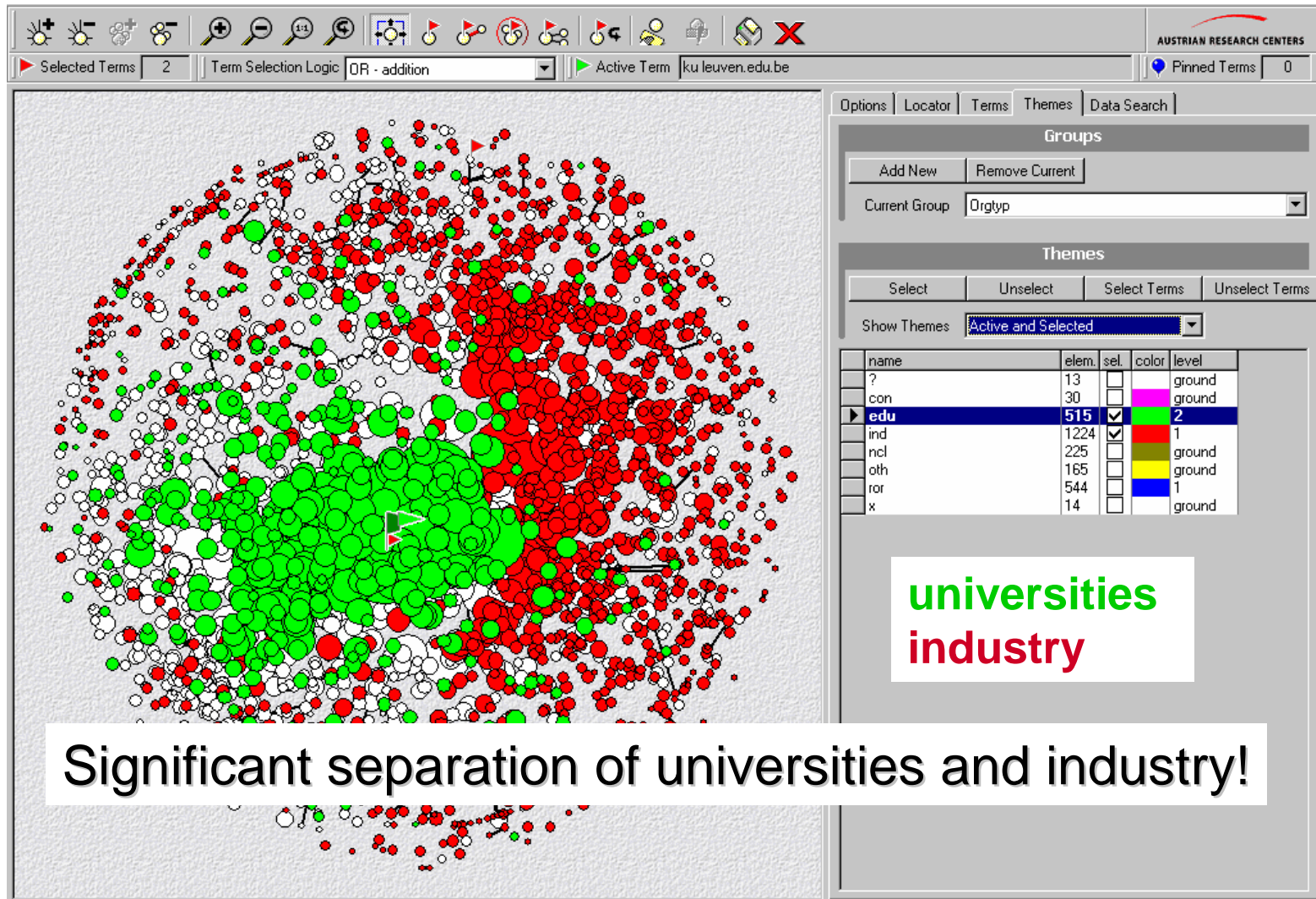
Jaccard

How can we visualize this matrix?

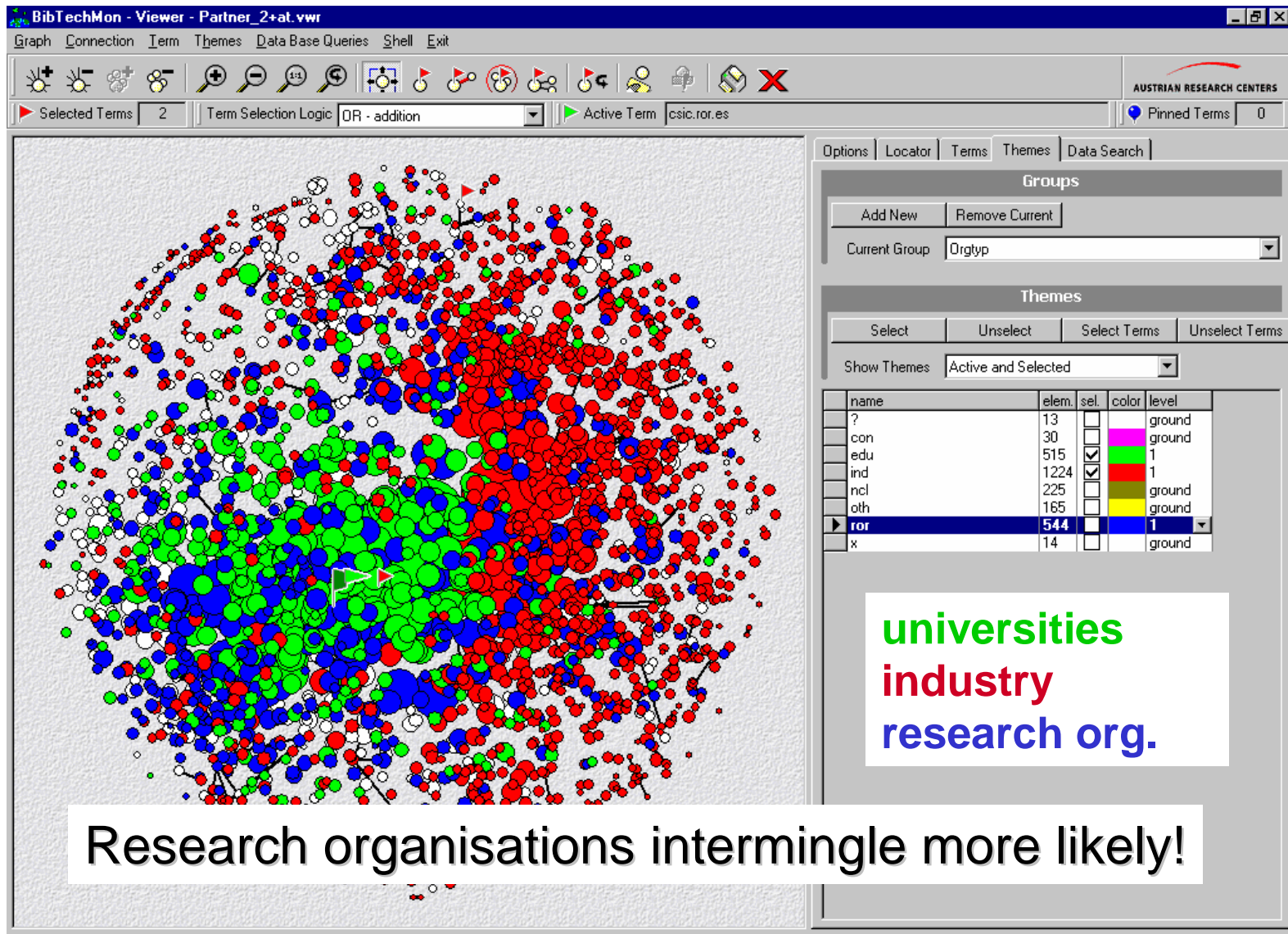
- Mapping based on co-operation of institutions as partners in RTD-projects.
- Intensively co-operating partners are positioned closely together on the map.
- Tool applied : *BibTechMon™*



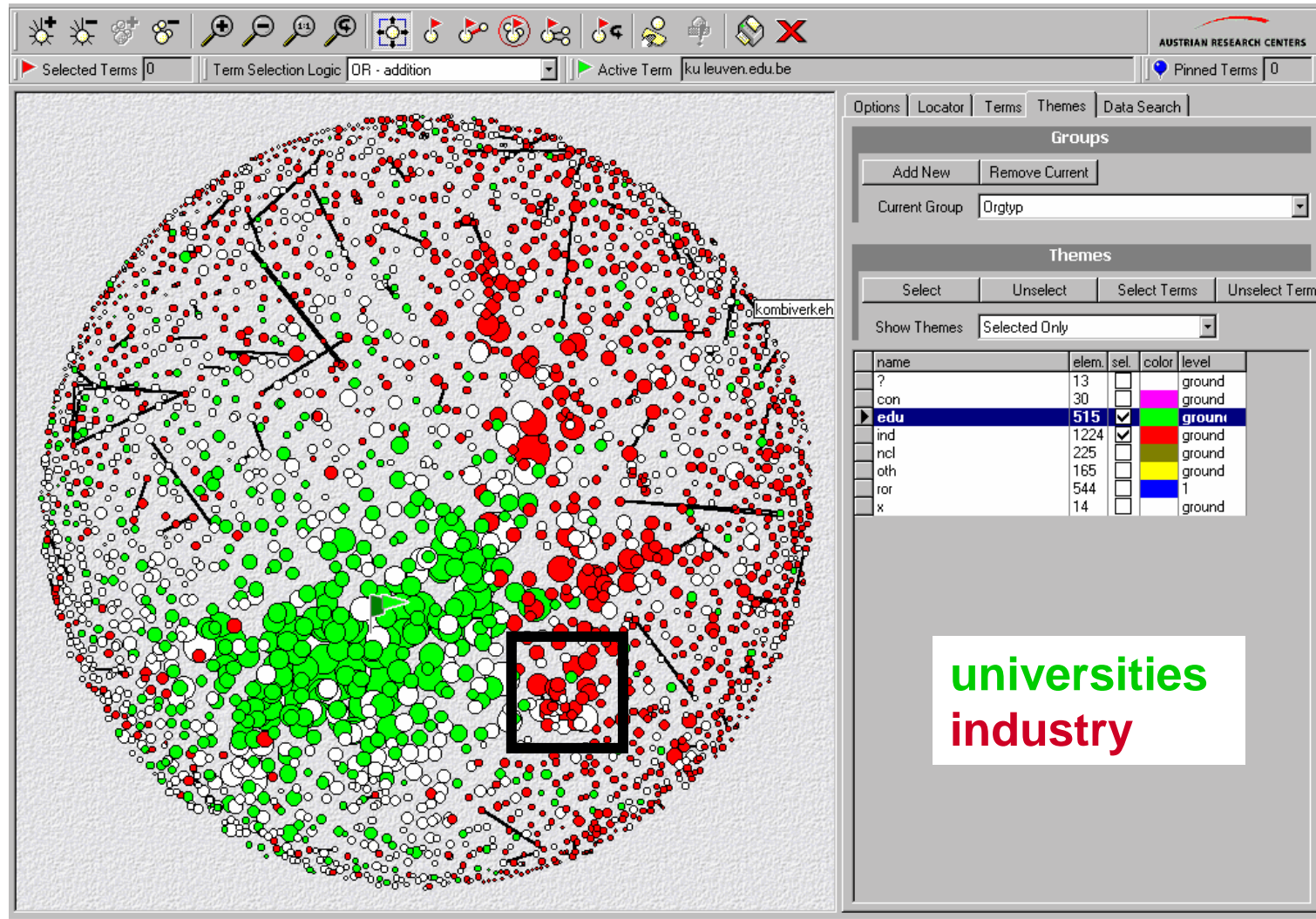
Network of partners - by organisational type



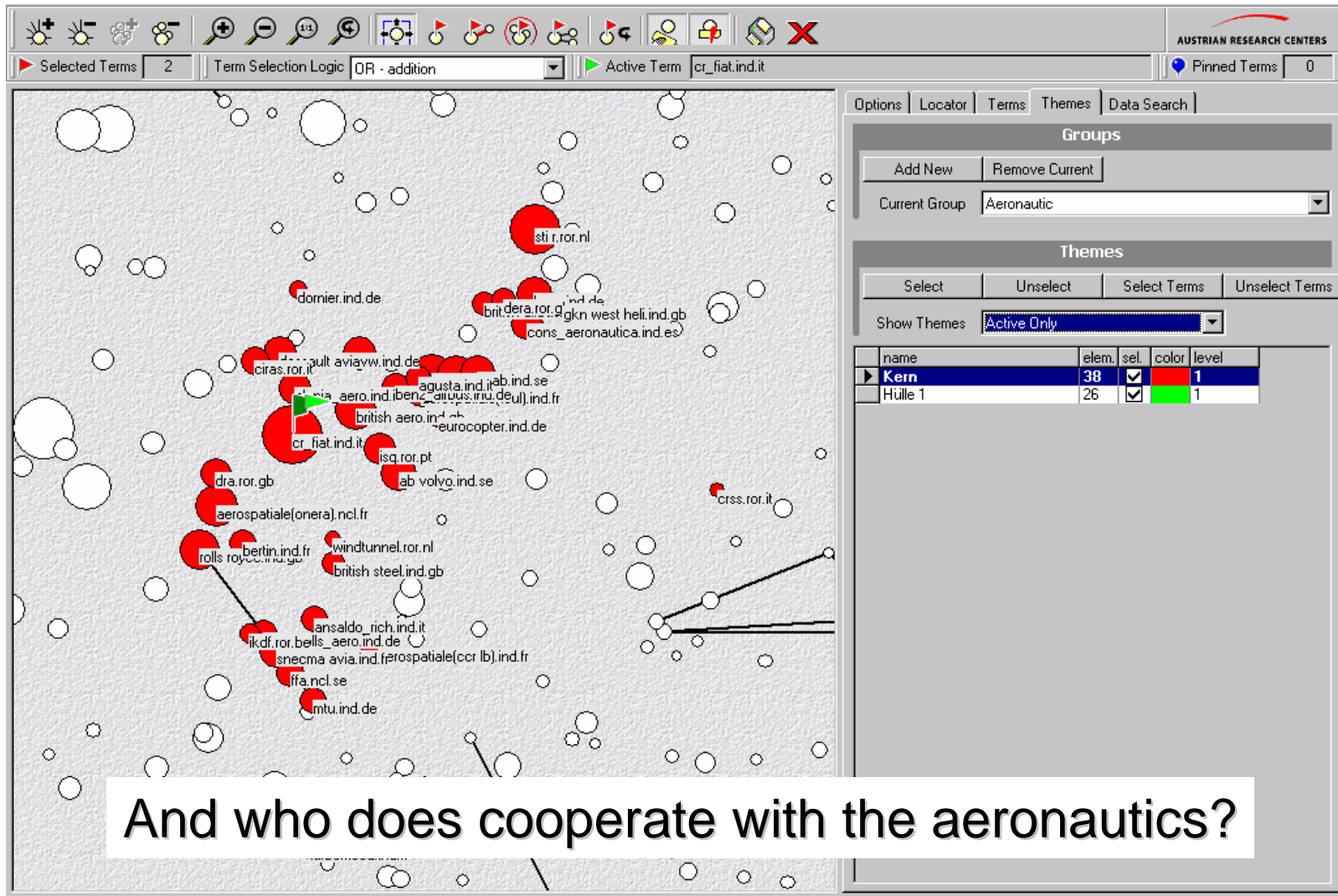
Network of partners - by organisational type - cont.



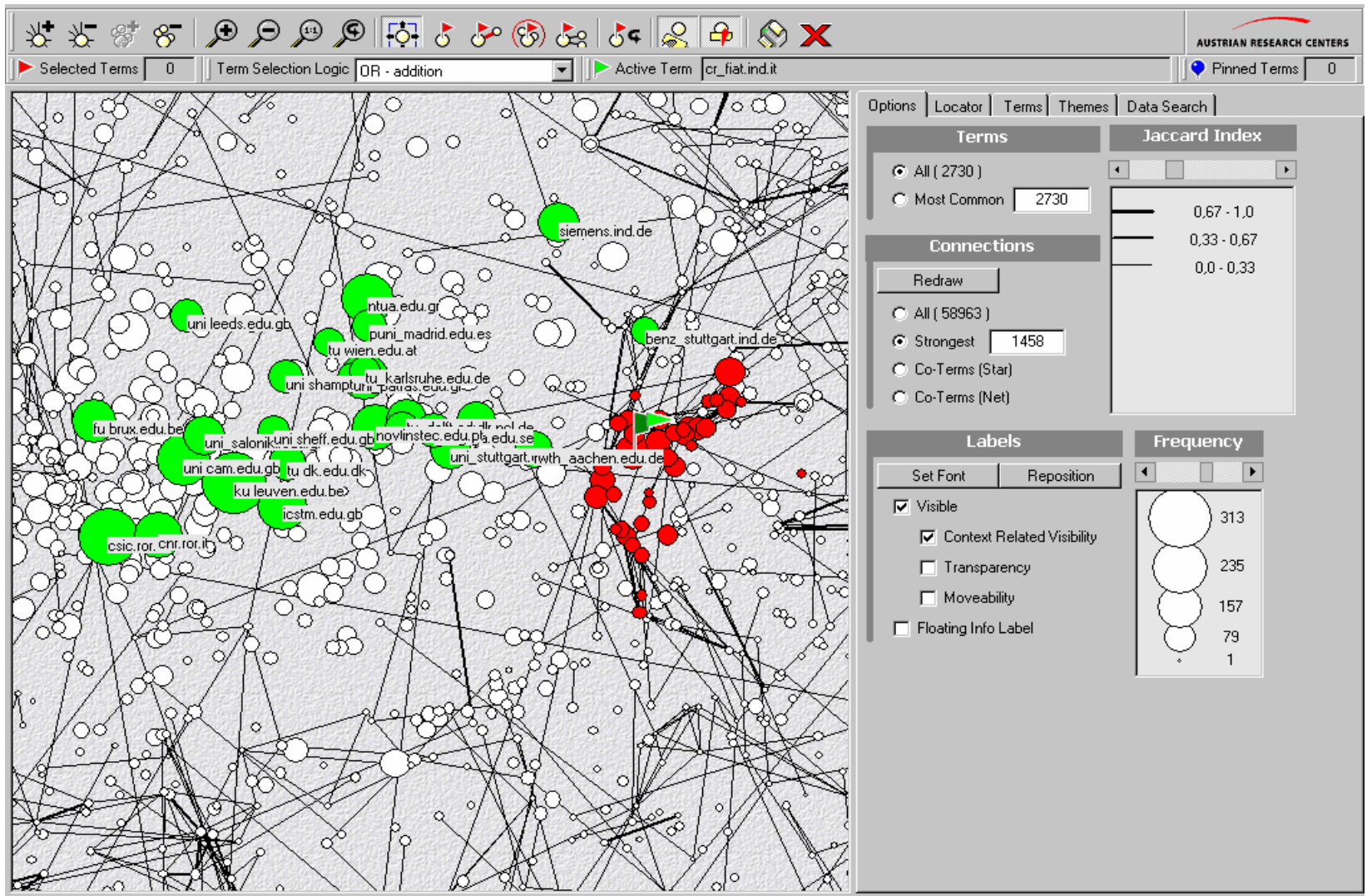
Network of partners - local pattern



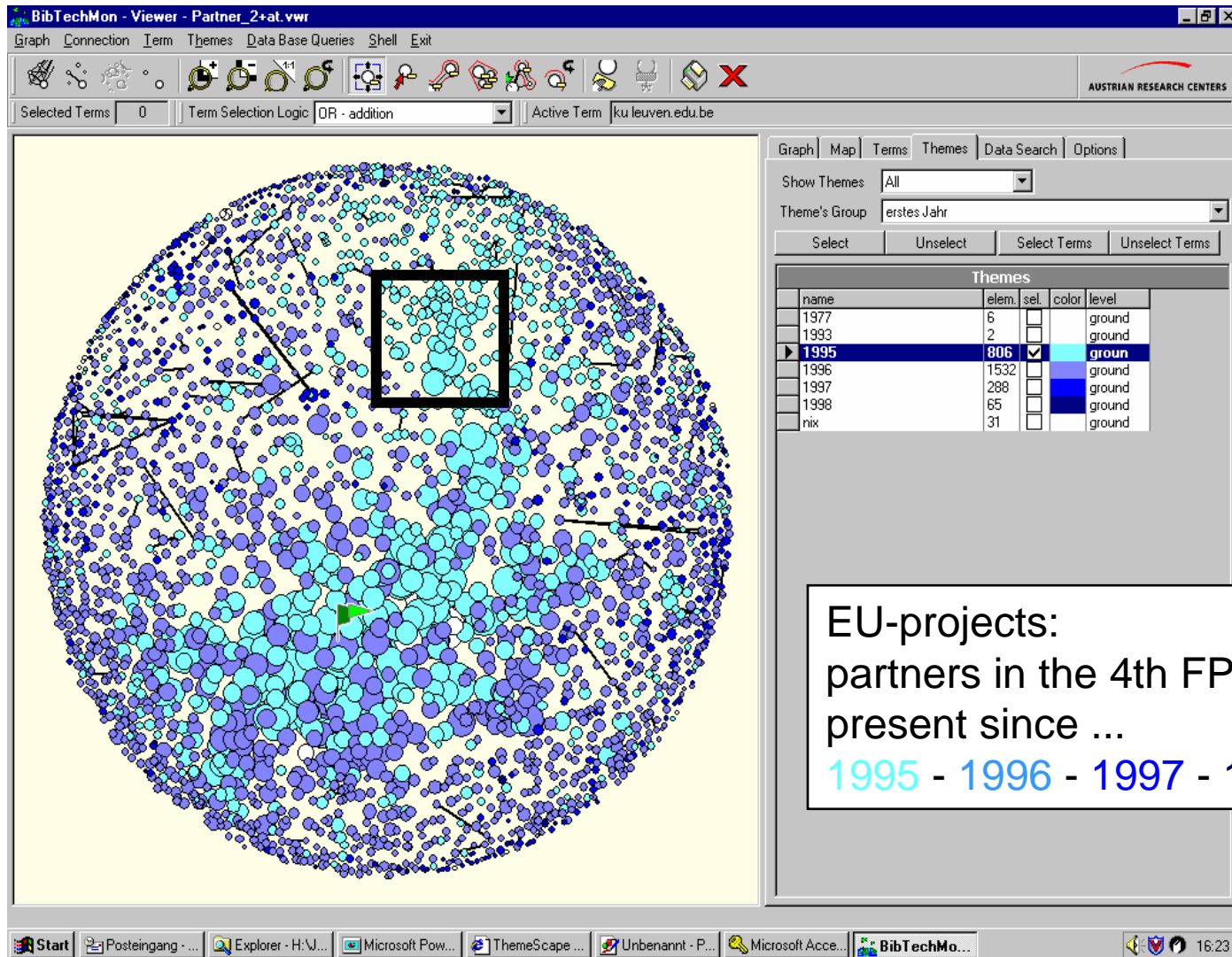
Local pattern - Aeronautic cluster



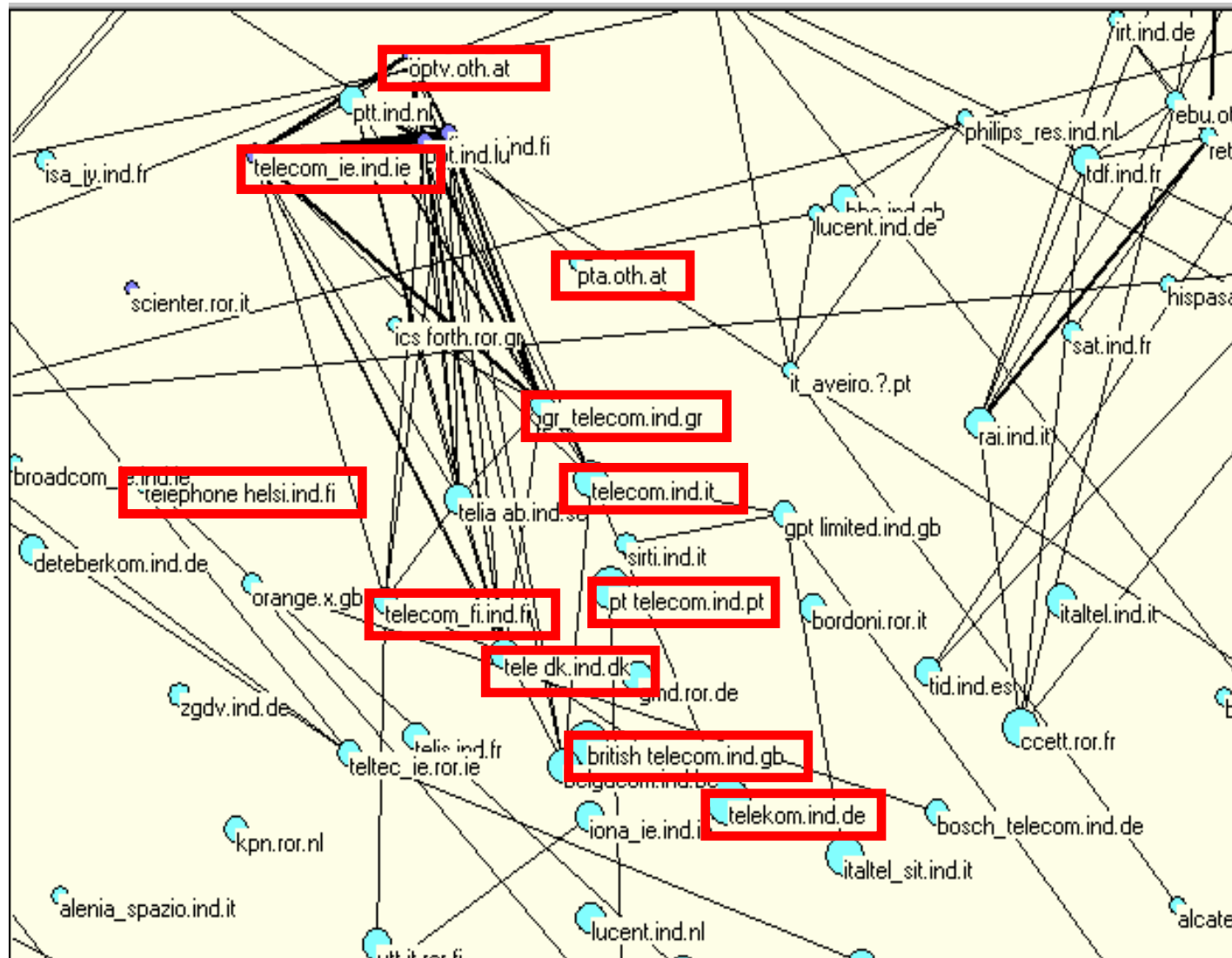
Aeronautic cluster + partners



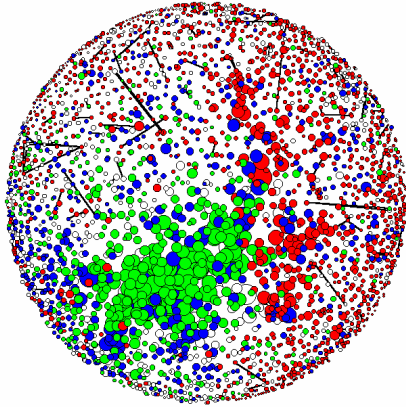
Temporal development



Telecom cluster

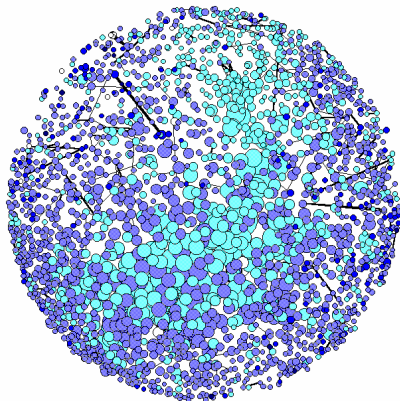
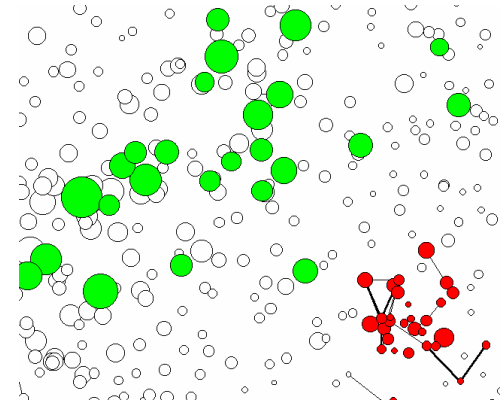


What did we learn up to now?



Cross-organisational networks are less frequent. Partners prefer to cooperate with partners of their own kind.

Some industrial-clusters are primarily involved in intra-sectoral networks, yet gain additional know-how from (technical) universities.



To some clusters no new partners are joining sustainably. („Closed clubs‘ or no new potential partner available? Topic exhausted?)

Outlook - questions of interest

- Update of data for 4th FP
- More partner attributes: coordination roll, participation in certain programmes, size, industrial sector, region.
- Co-operation patterns in the 5th FP
- Comparison of co-operational behaviour of partners in 4th and 5th FP.

Conclusions

- BibTechMon™ illustrates co-operation behaviour of participants in Framework Programmes based on collaboration in RTD projects.
- Variety of perspectives possible through setting of focus on different partner attributes.
- Visualization of networks indicates specific co-operation patterns beyond quantitative analysis.

Contact

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