KNOWLEDGE DYNAMICS FROM A EUROPEAN PERSPECTIVE

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Knowledge dynamics in regional economic development

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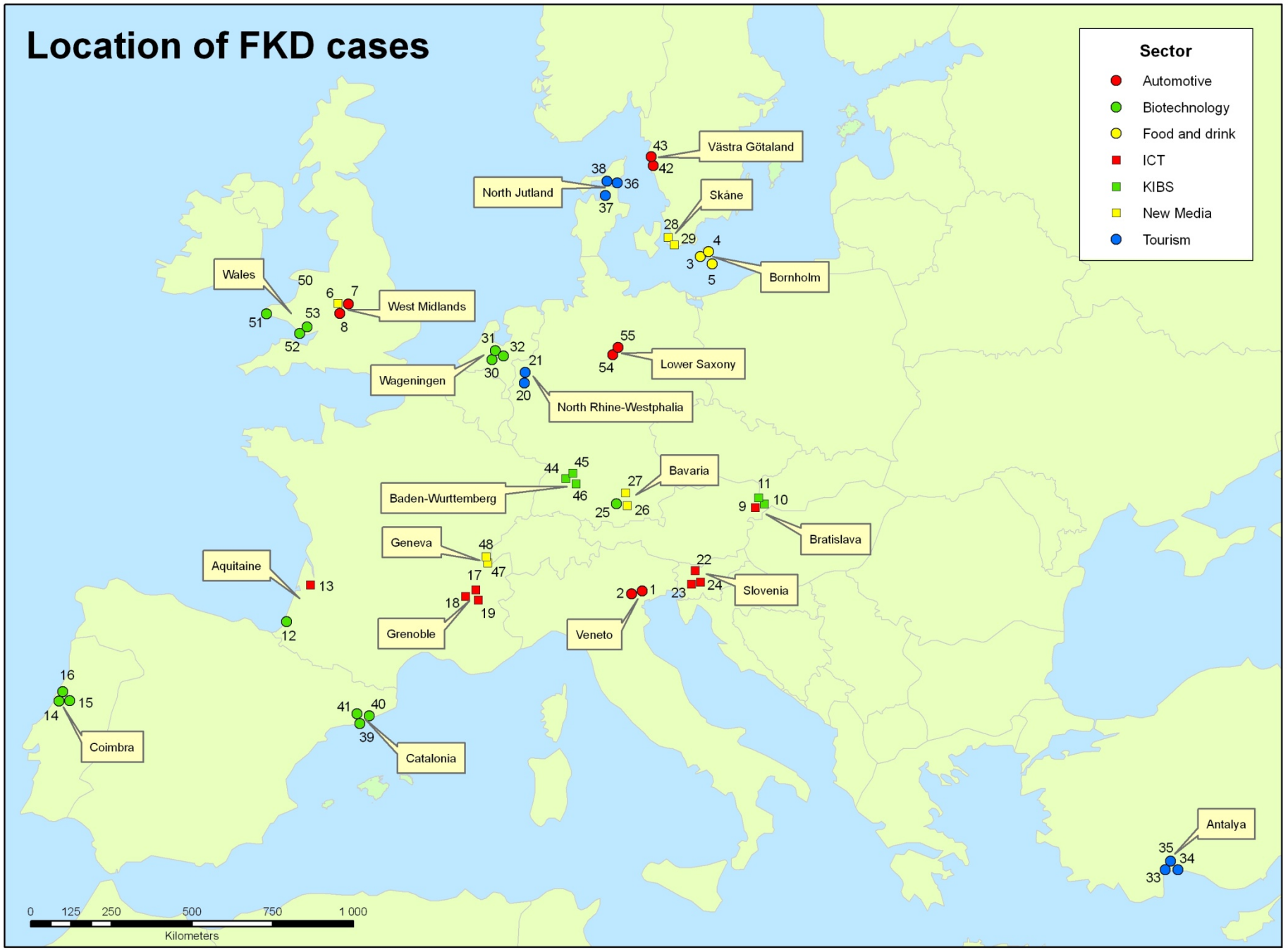
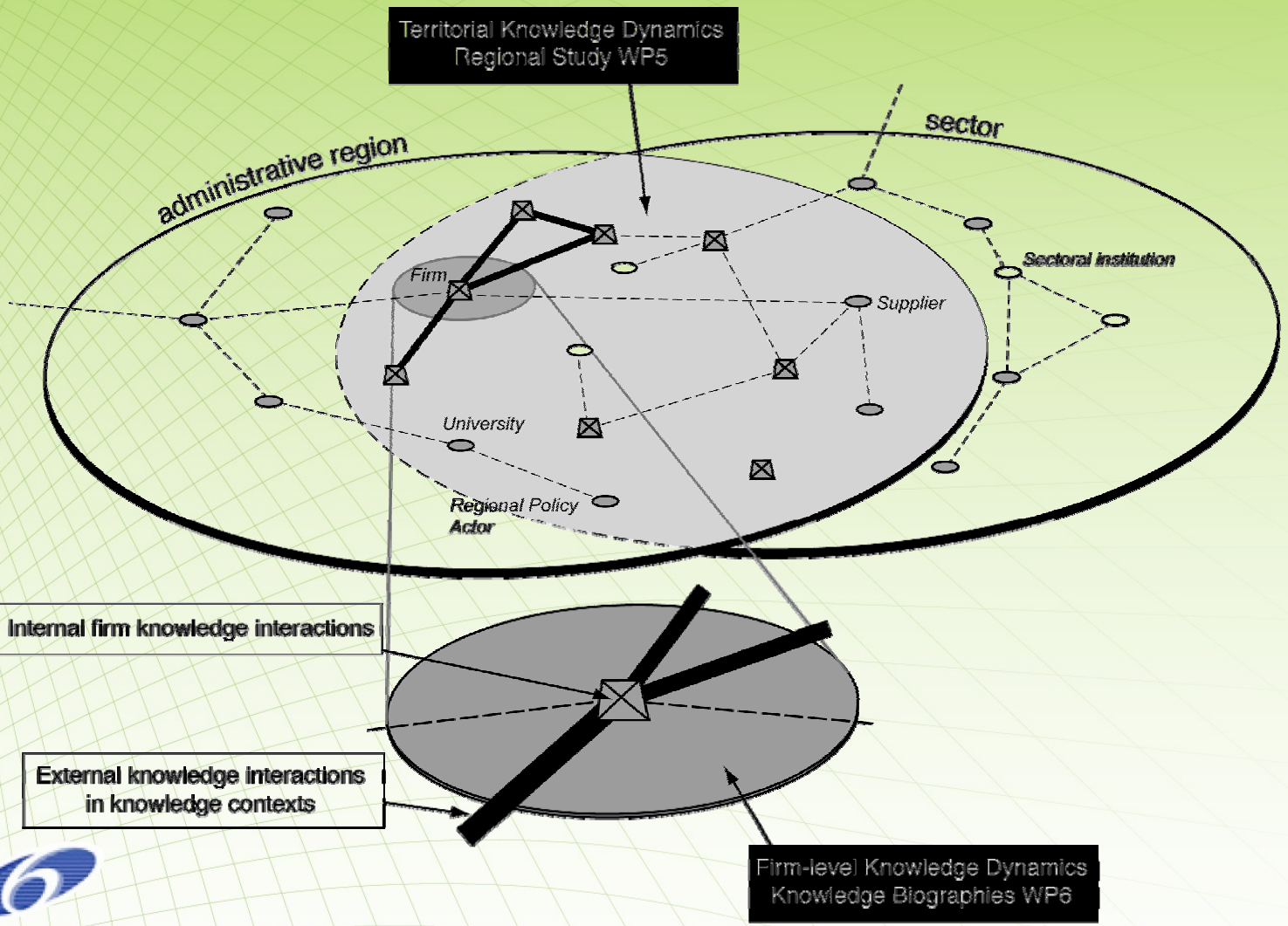
EURODITE RESEARCH PROJECT

- 5 years, 2005-2010
- 25 partners
- 22 regions
- 55 firm-level cases in…
- …seven sectors


Location of FKD cases
Sector
Automotive
Biotechnology
Food and drink
ICT
KIBS
New Media
Tourism
Västra Götaland
North Jutland
Skåne
Bornholm
Wales
West Midlands
Wageningen
Lower Saxony
North Rhine-Westphalia
Baden-Wurttemberg
Bavaria
Bratislava
Geneva
Aquitaine
Slovenia
Grenoble
Veneto
Coimbra
Catalonia
Antalya
0 125 250 500 750 1 000
Kilometers

Focus of this presentation is on interaction between actors and territory

- Does firms interact at all?
- What types of interactions and where?
- Contious or gradual?
- Is the ”home-region” an important interaction territory?
- Policy implications


Territorial Knowledge Dynamics
Regional Study WP5
administrative region
sector
Sectoral institution
Firm
Supplier
University
Regional Policy
Actor
Internal firm knowledge interactions
External knowledge interactions
in knowledge contexts
Firm-level Knowledge Dynamics
Knowledge Biographies WP6

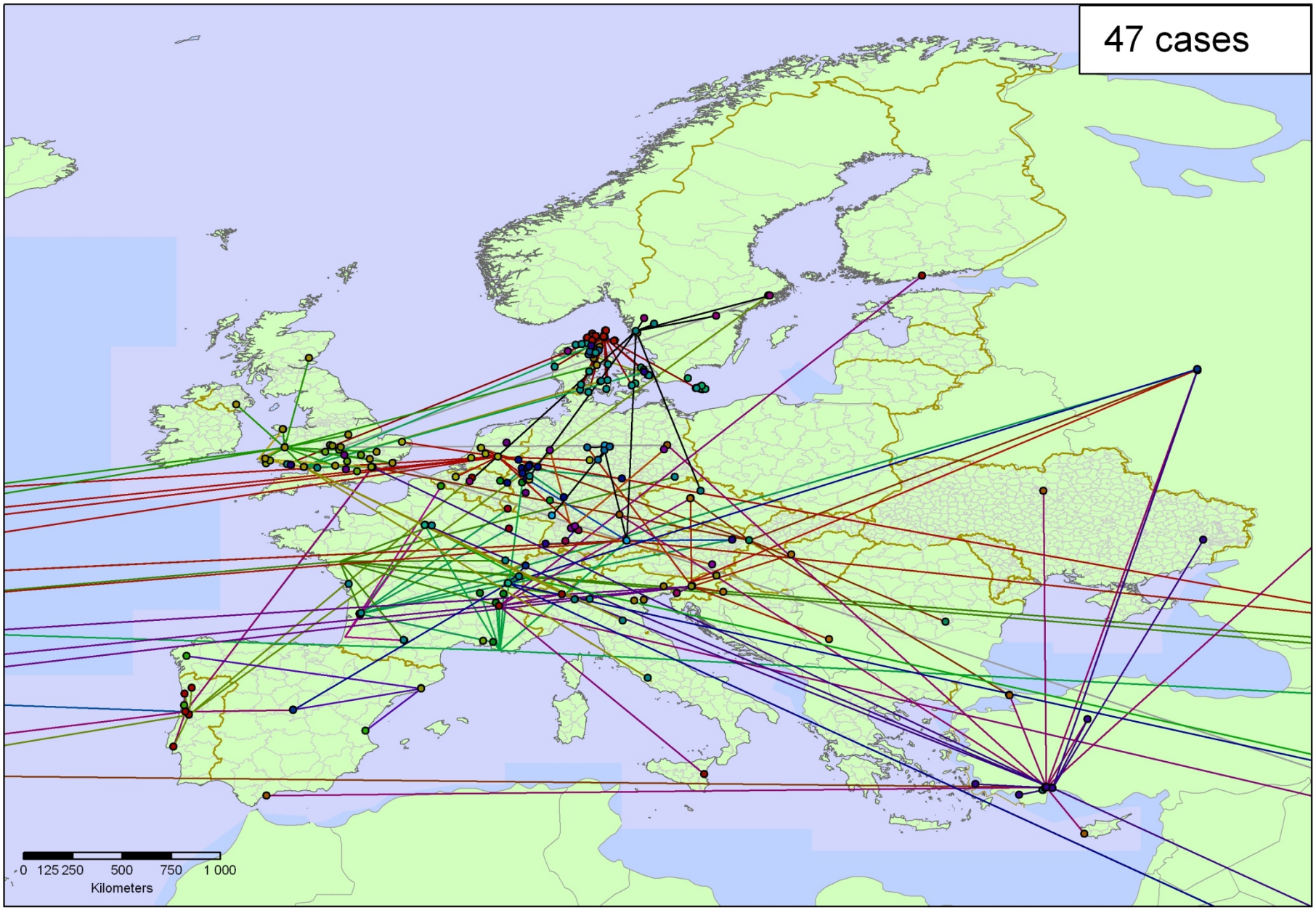
CHANGING TERRITORIAL KNOWLEDGE DYNAMIC

From	Towards
Innovation processes	Knowledge dynamics
Mono-sectoral trajectories	Multi-sectoral dynamics
Specialised production systems	Complex production-consumption systems
Spatial division (fixes) of activities	Multi-location dynamics
Temporal discontinuity (project)	Continous knowledge mobilisation

Based on: Jeannerat H. and O. Crevoiser (2008): From proximity to multi-location Territorial Knowledge Dynamics: The case of the Swiss watch industry. GRET Working Paper 3/2008-E. Groupe de recherge en économie territoriale: Université de Neuchâtel.

Innovation biographies

- Eurodite methodological approach to understand micro-level dynamics
- Knowledge based change processes are constructed as biographies
- Time is a central component
- Geography is understood from an ego-network point of view


47 cases
0 125 250 500 750 1 000
Kilometers

Interactions

- It takes at least two to innovate. Interactions between different actors in different contexts is the rule, with no exception…

Institutional nature of partner in interorganizational linkages, per sector (row percentages).

	Context (institutional nature of collaboration partner)					
	firm-internal	Market (suppl/cust)	education/ science	governance/ policy	society/ culture	Total (N=364)
Automotive	22.4	39.4	27.7	10.6	0	94
Biotech	10.7	30.5	39.7	16.0	3.0	131
Tourism	20.8	35.8	11.3	18.9	13.2	53
ICT	25.6	46.5	15	17.4	4.6	86

Source: Vissers Geert (2010): *Proximity and Collaboration in Firm Knowledge Dynamics.* Eurodite WP7 Report, Yellow Cloud internal report.

What type of knowledge?

- The ASA-typology
  - Analytic: Science based ”theoretical” knowledge creation process
  - Synthetic: Engineering based cumulative knowledge creation process
  - Symbolic: Knowledge creation process involved with arts, marketing, brands, experiences
- Sector specific knowledge bases are clearly visible.
- Combinations are rare.

Types of knowledge in interorganizational collaboration, per sector (numbers).

	Knowledge type(s)						
	analytical	synthetic	symbolic	analytical & synthetic	analytical & symbolic	synthetic & symbolic	Total (N=357)
Automotive	12	58	13	4	0	6	93
Biotech	35	31	32	14	2	17	131
Tourism	0	15	37	0	0	1	53
ICT	8	41	4	27	0	0	80

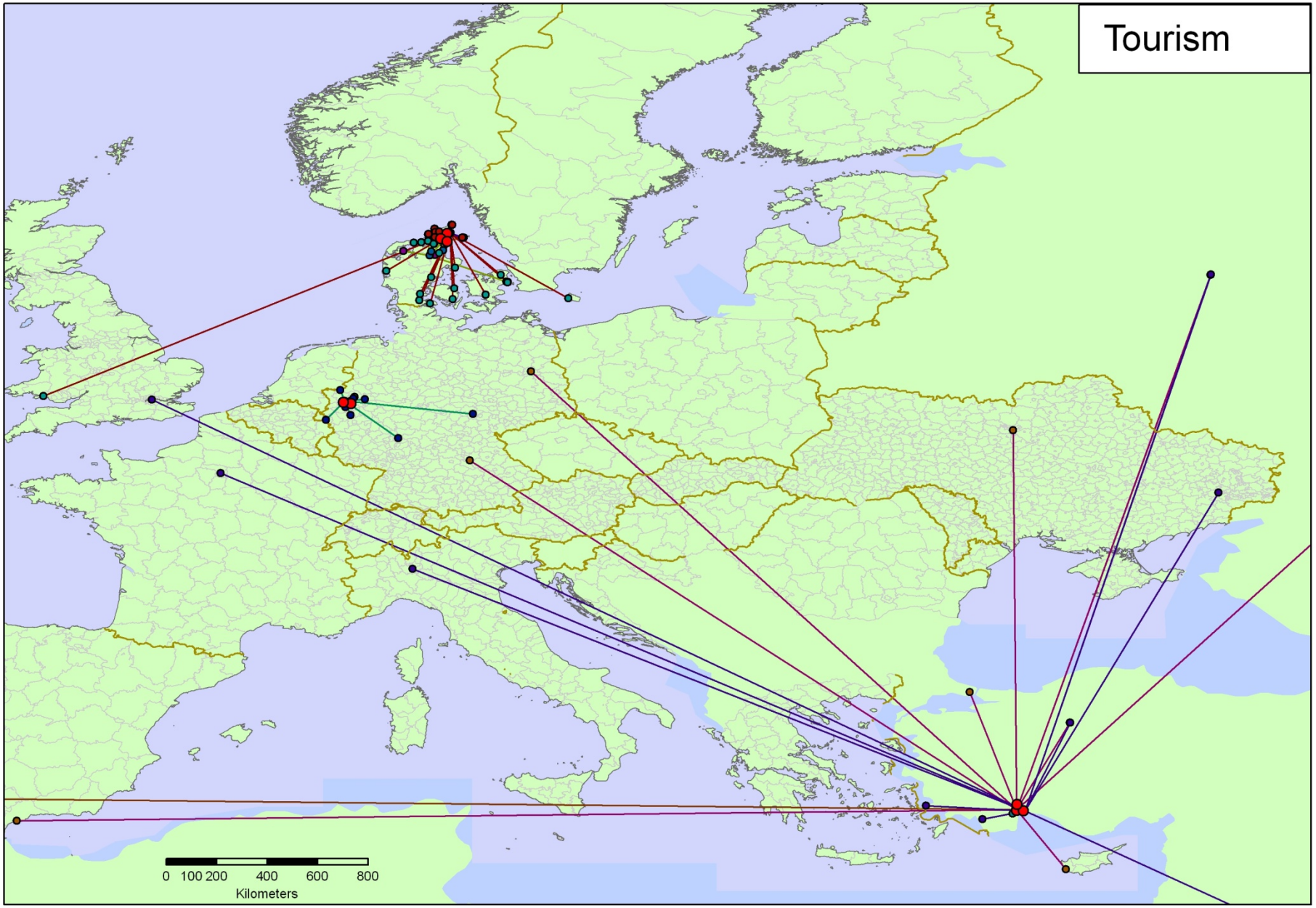
Source: Vissers Geert (2010): *Proximity and Collaboration in Firm Knowledge Dynamics.* Eurodite WP7 Report, Yellow Cloud internal report.

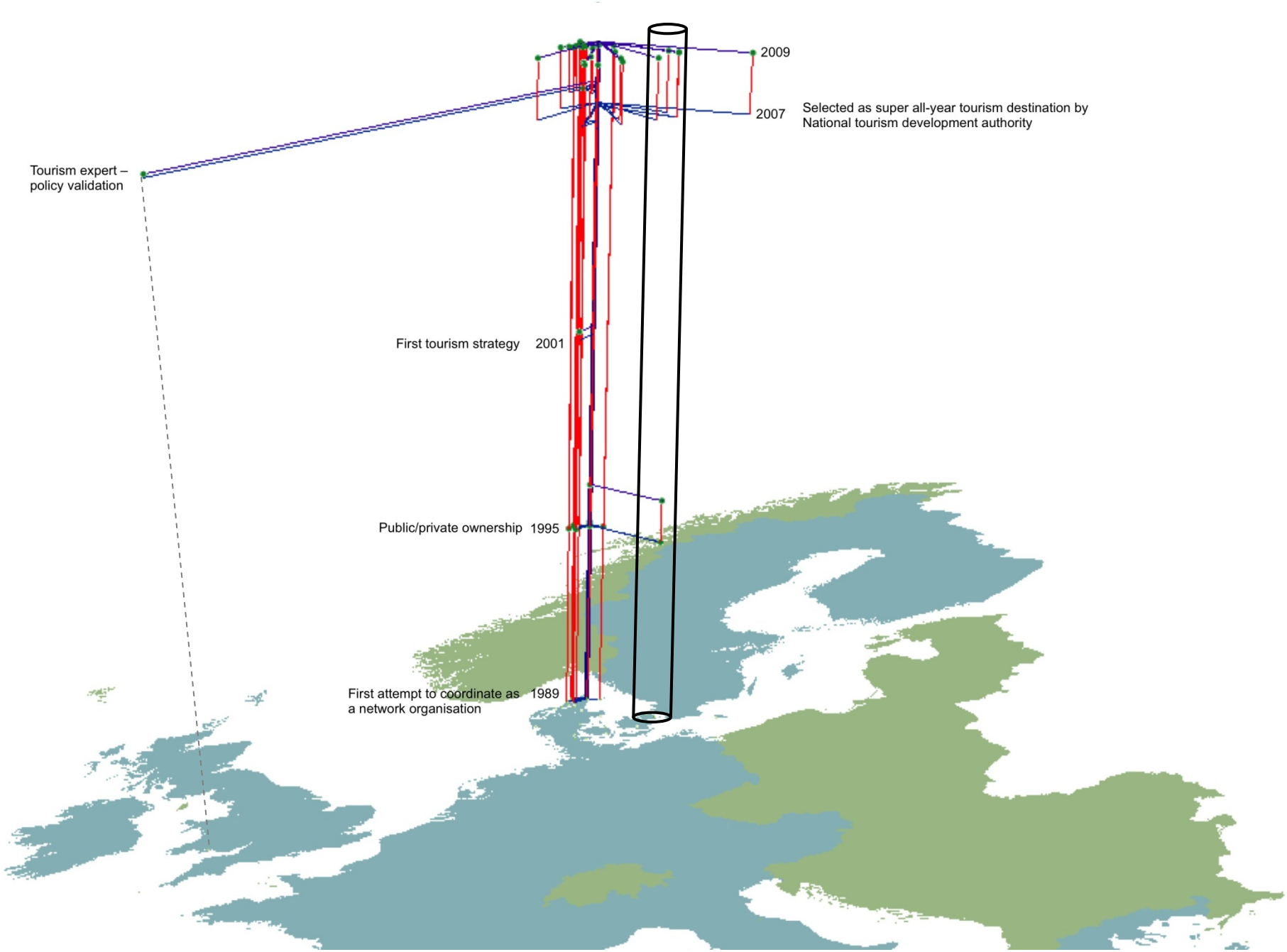
Examples of cross-sector interactions

- Active attempts in the automotive industry to increase competitiveness through triple-helix model research centres dedicated to finding new knowledge through interaction. Not to be confused with open innovation!
- Tourism cases are often small scale and depending on outside complemetary knowledge in order to overcome ”bottlenecks” and to be able to have an outsiders view
- If new media is used as a business tool there is cross-sector knowledge interaction by definition. This influences all three sectors.

Innovation as a process

- A process always involves time
- Is innovation a continous process where knowledge is supplied when needed?
- Or is innovation process an unruly and punctual?
- EVOLUTION or REVOLUTION?


Tourism
0 100 200 400 600 800
Kilometers


2009
2007
Selected as super all-year tourism destination by National tourism development authority
Tourism expert – policy validation
First tourism strategy 2001
Public/private ownership 1995
First attempt to coordinate as a network organisation 1989

Time-use and process

Automotive

Tourism

New Media

Does knowledge appear when and where it is needed?

- Innovation processes takes time
- Knowledge is not available ”just-in-time”
- Significant differences between sectors
  - Large scale manufacturing cases takes time, although being top-down well planned projects.
  - Small scale and high-tech seems to be faster
  - Organisational innovation involving Public authorities and policy are often long-term processes. While private market-based products are focused and takes less time, although being geographically more outreaching.

The geographical dimension

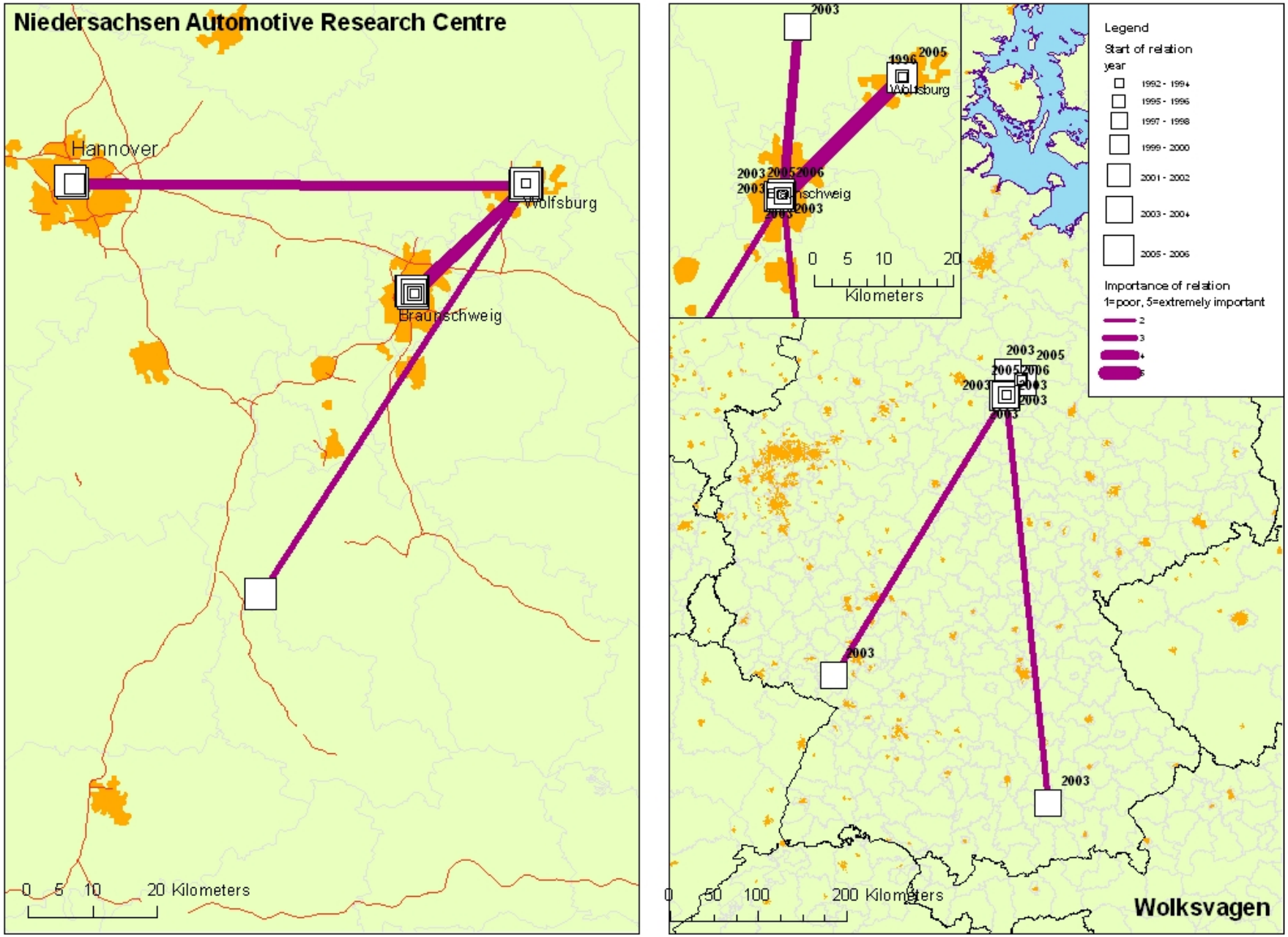
- Is proximity important?
- What is the role of other scales?
- Does different sectors and knowledge bases have different patterns?
- Is there such a thing as a regional knowledge dynamic?

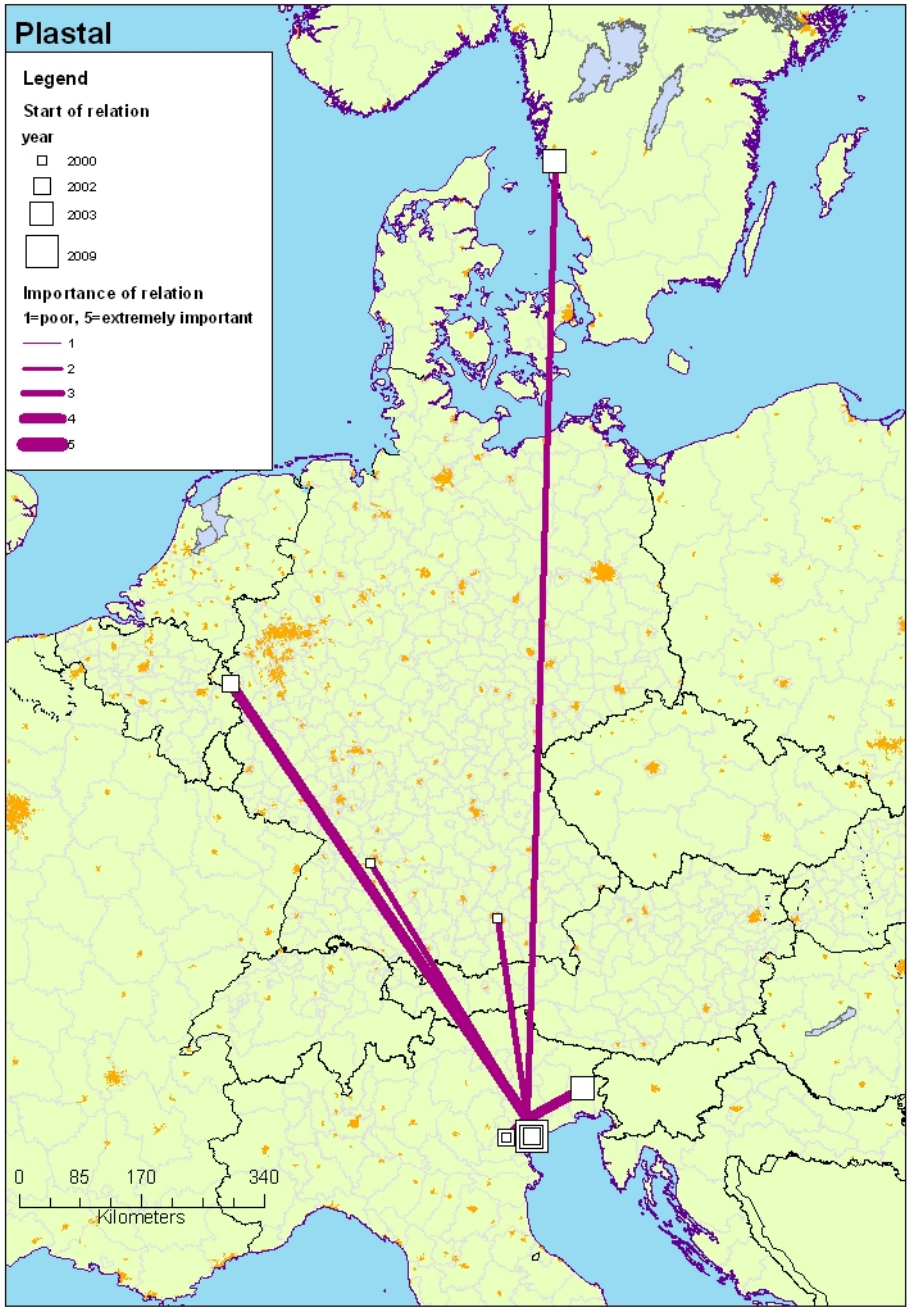
Geographical reach

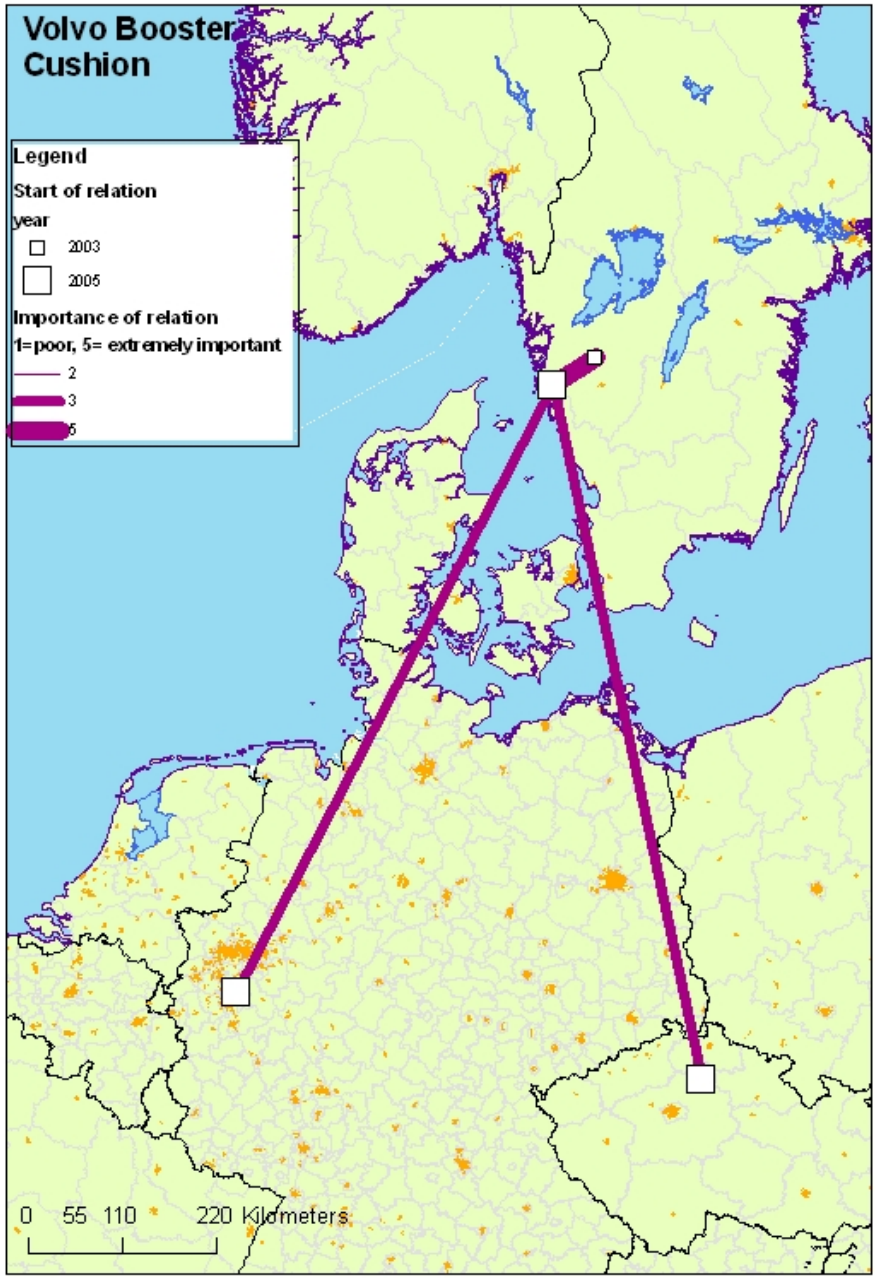
Distribution of FKD phase linkages per category of spatial proximity (row percentages).

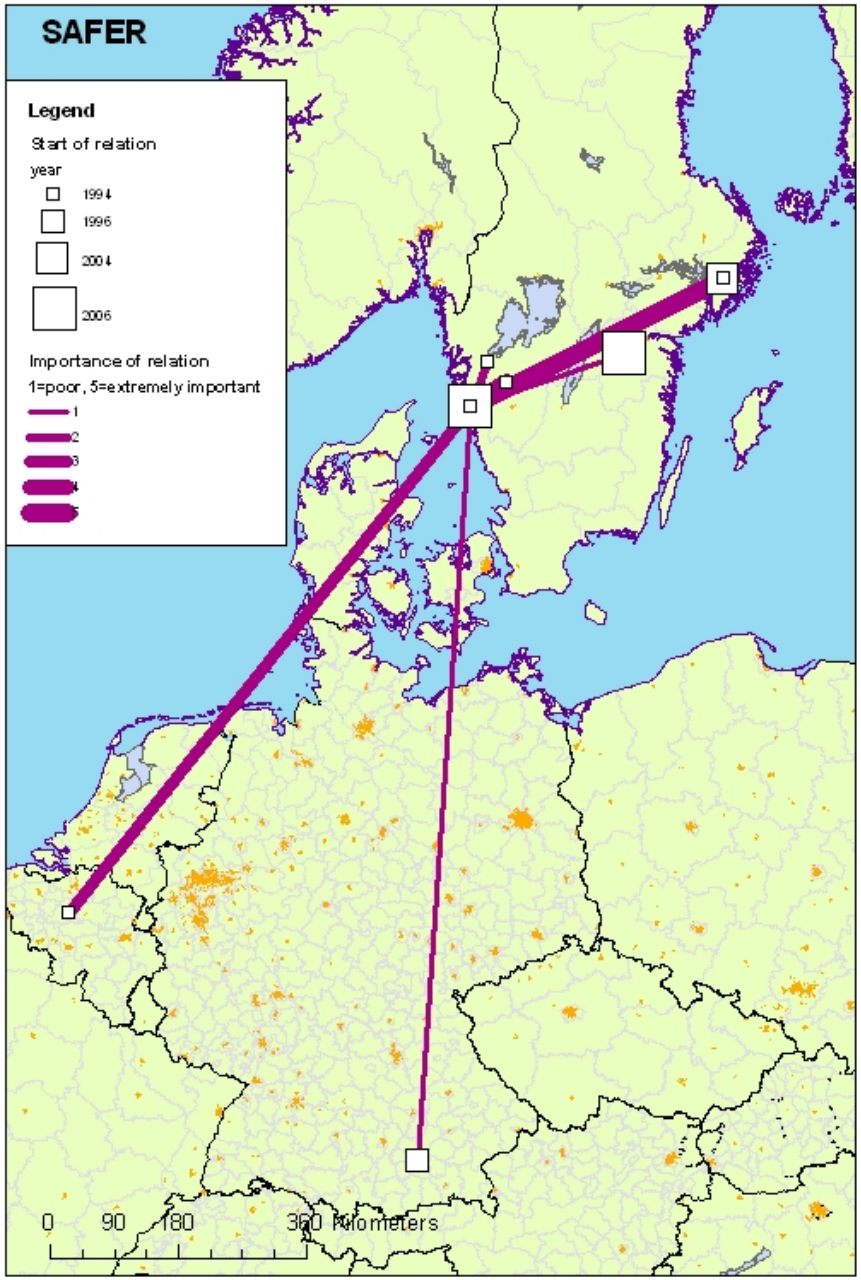
	Context (institutional nature of collaboration partner)					
	firm-internal	Market (suppl/cust)	Education /science	governance /policy	society /culture	Total (N=364)
same city	25.3	32.2	25.3	12.6	4.6	87
different city, same region	16.0	35.0	31.0	15.0	3.0	100
different region, same country	7.9	40.0	32.6	16.6	6.7	89
different countries	25.8	46.0	19.5	5.7	2.3	87

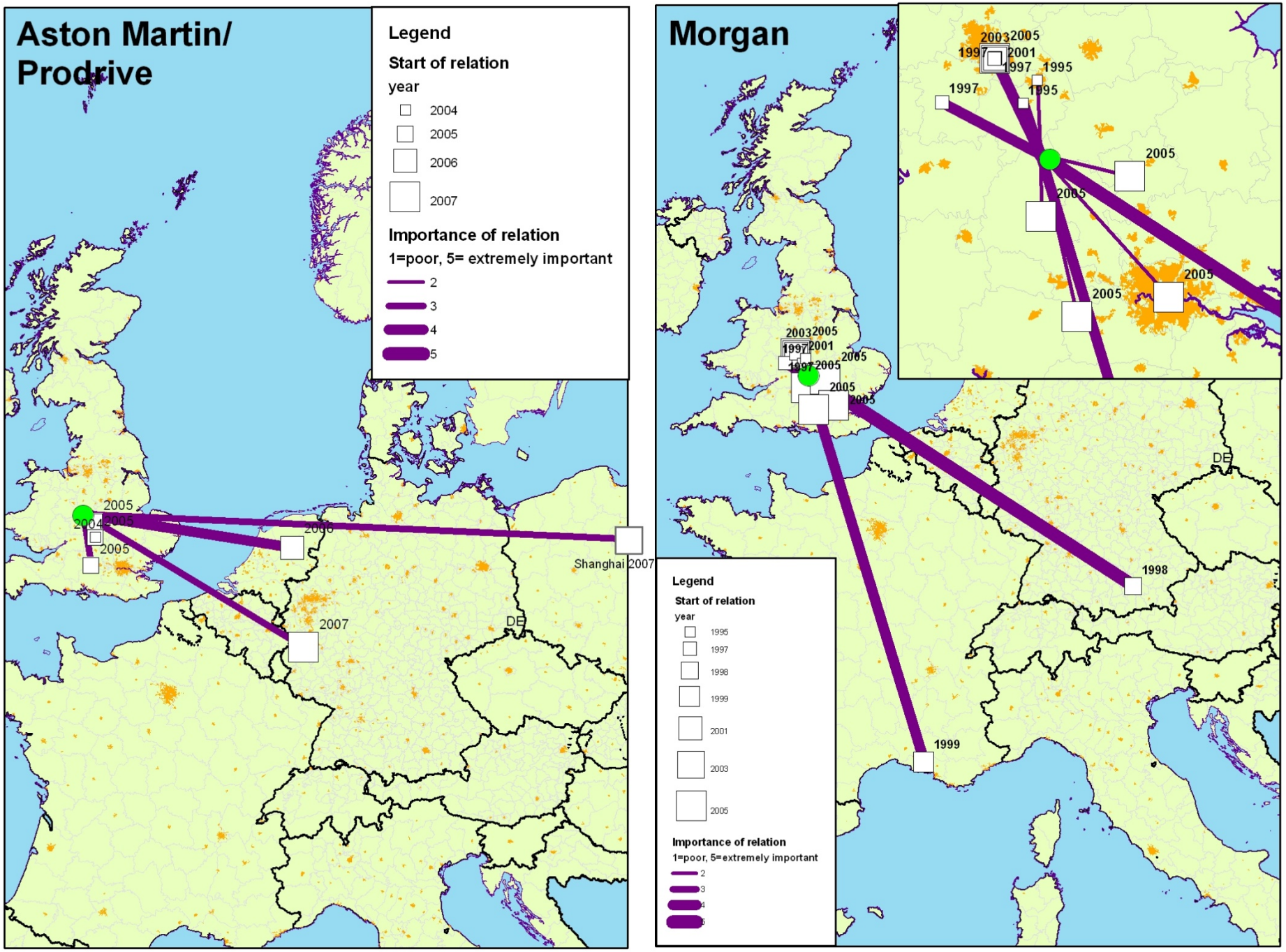
Source: Vissers Geert (2010): *Proximity and Collaboration in Firm Knowledge Dynamics.* Eurodite WP7 Report, Yellow Cloud internal report.

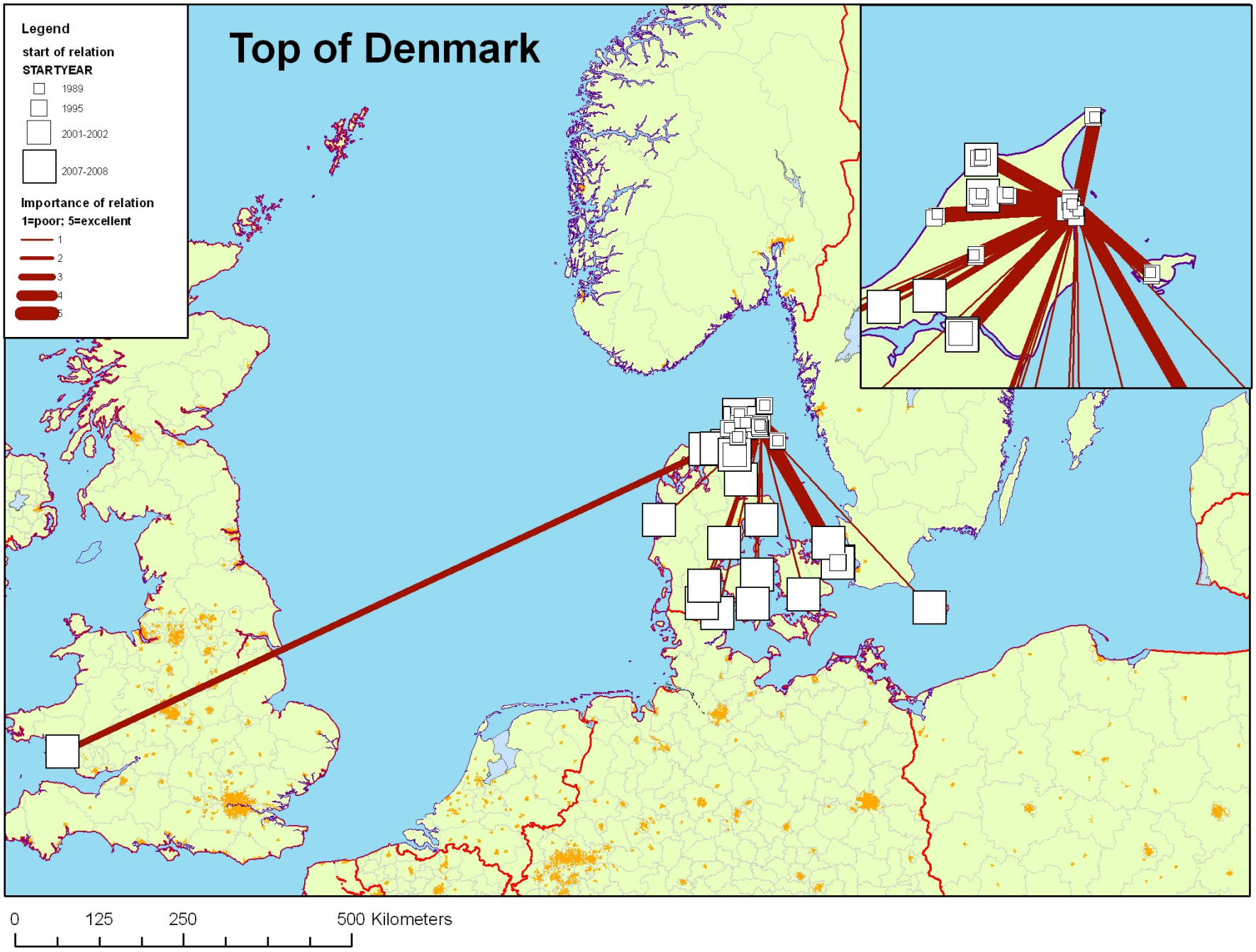

Niedersachsen Automotive Research Centre
Hannover
Wolfsburg
Braunschweig
0 5 10 20 Kilometers
Legend
Start of relation year
1992 - 1994
1995 - 1996
1997 - 1998
1999 - 2000
2001 - 2002
2003 - 2004
2005 - 2006
Importance of relation
1=poor, 5=extremely important
2
3
4
5
0 5 10 20
Kilometers
0 50 100 200 Kilometers
Wolksvagen

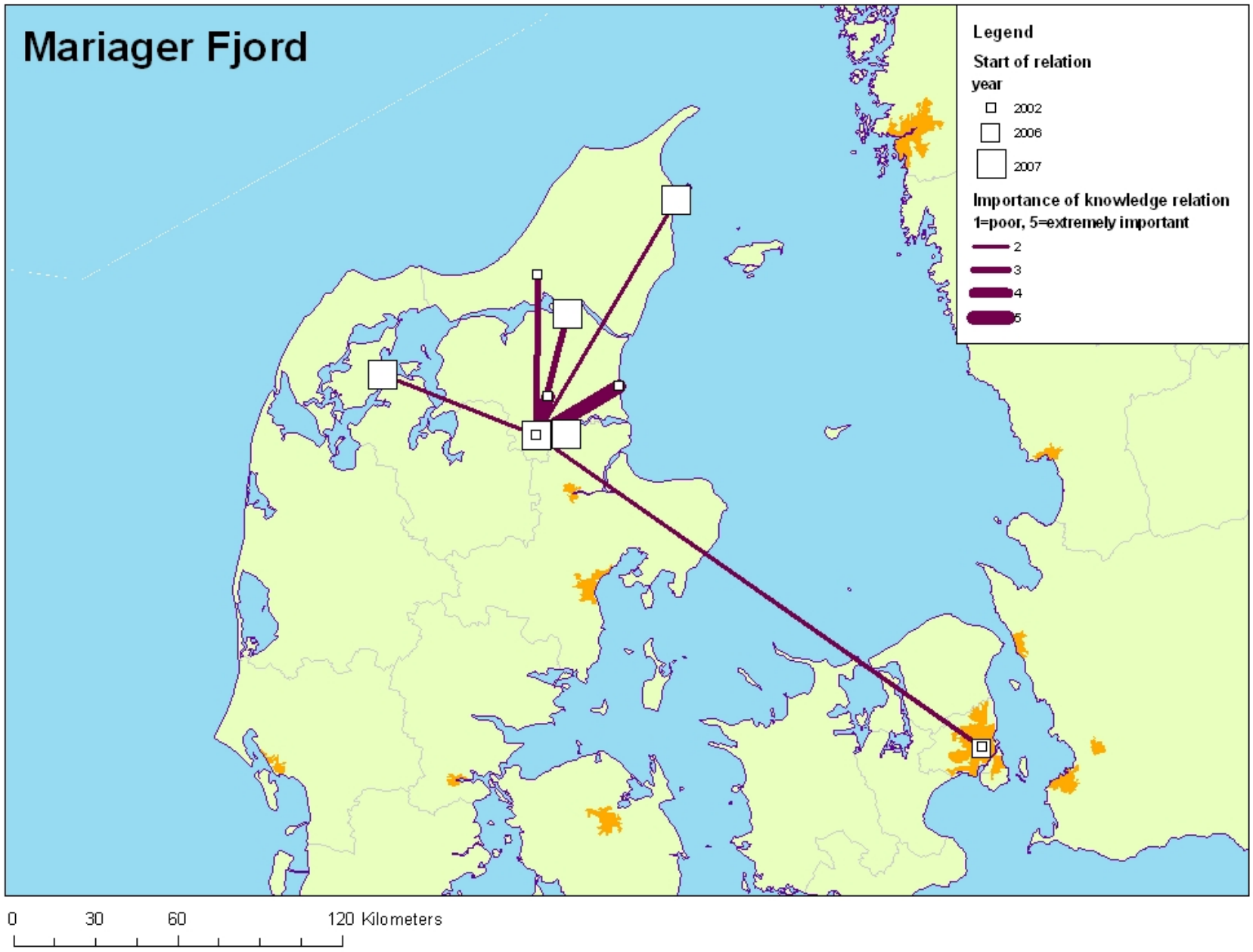

Plastal
Legend
Start of relation
year
2000
2002
2003
2009
Importance of relation
1=poor, 5=extremely important
1
2
3
4
5
0
85
170
340
Kilometers

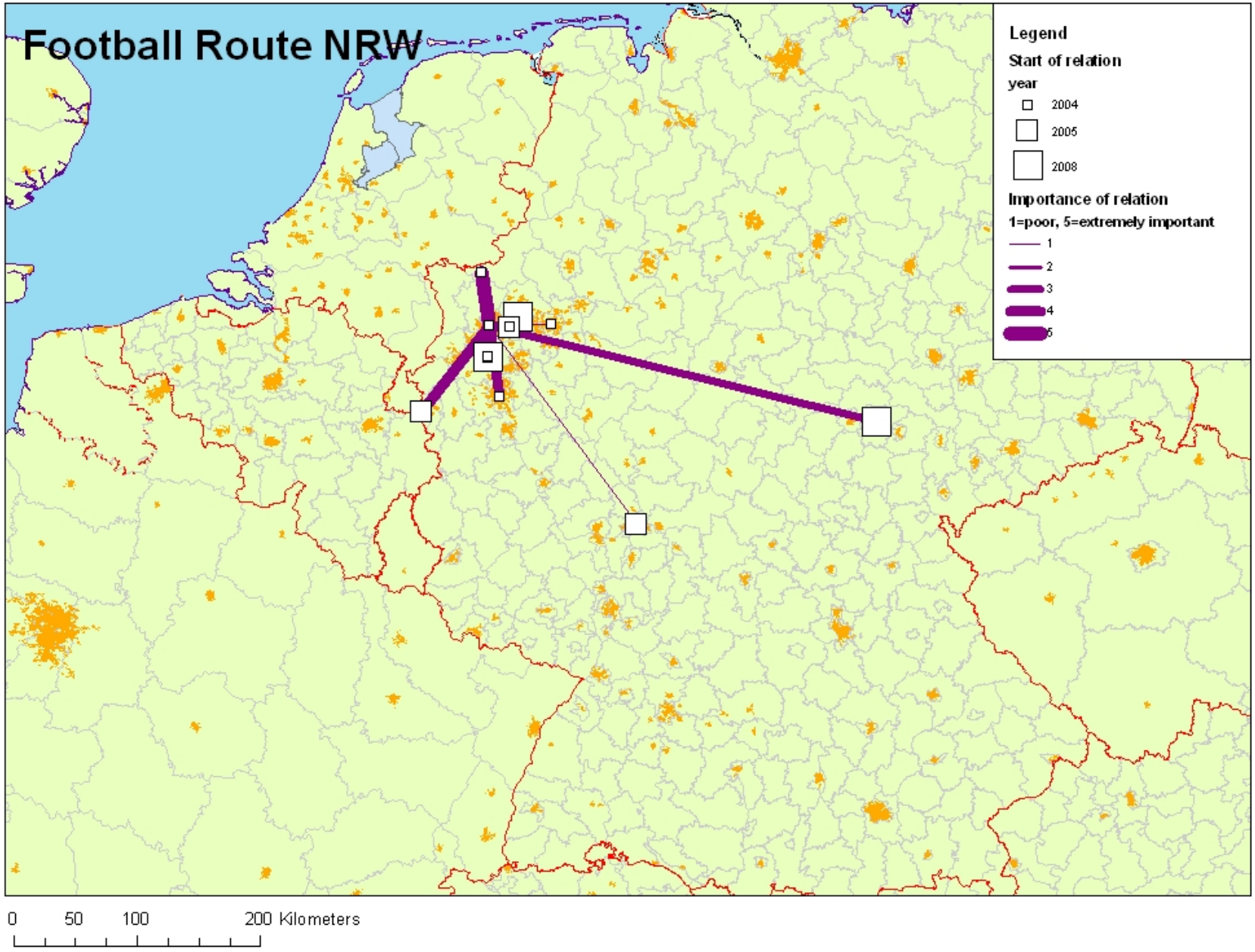

Volvo Booster Cushion
Legend
Start of relation
year
2003
2005
Importance of relation
1=poor, 5= extremely important
2
3
5
0 55 110 220 Kilometers

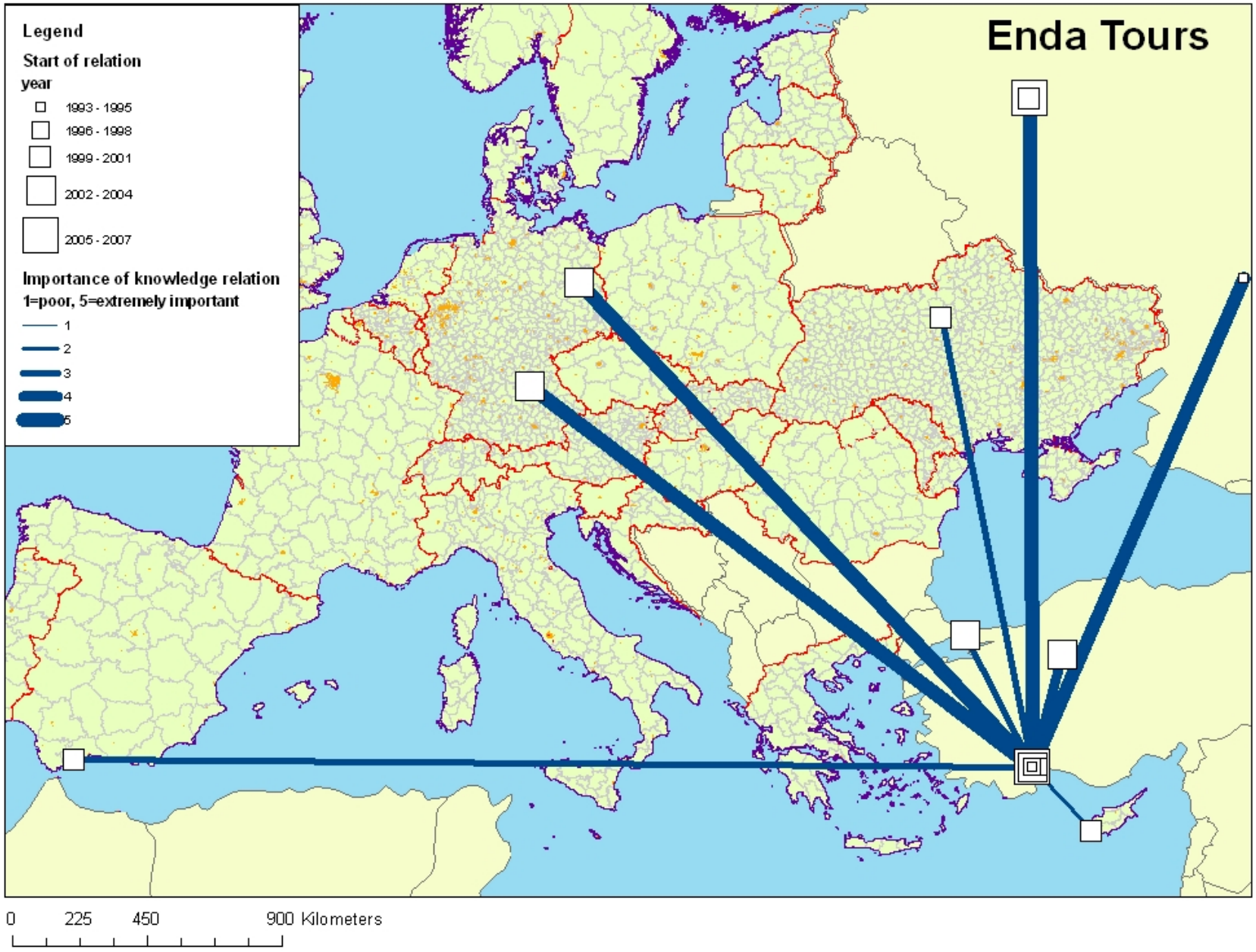

SAFER
Legend
Start of relation
year
1994
1996
2004
2006
Importance of relation
1=poor, 5=extremely important
1
2
3
4
5
0 90 180 360 Kilometers


Aston Martin/
Prodrive
Legend
Start of relation
year
2004
2005
2006
2007
Importance of relation
1=poor, 5= extremely important
2
3
4
5
2005
2004
2005
2005
2006
2007
Shanghai 2007
DE
Morgan
2003
2005
1997
2001
1997
1995
1997
1995
2005
2005
2005
2005
2003
2005
1997
2001
2005
1997
2005
2005
2003
DE
1998
1999
Legend
Start of relation
year
1995
1997
1998
1999
2001
2003
2005
Importance of relation
1=poor, 5=extremely important
2
3
4
5


Top of Denmark
Legend
start of relation
STARTYEAR
1989
1995
2001-2002
2007-2008
Importance of relation
1=poor; 5=excellent
1
2
3
4
5
0
125
250
500 Kilometers


Mariager Fjord
Legend
Start of relation
year
2002
2006
2007
Importance of knowledge relation
1=poor, 5=extremely important
2
3
4
5
0
30
60
120 Kilometers


Football Route NRW
Legend
Start of relation
year
2004
2005
2008
Importance of relation
1=poor, 5=extremely important
1
2
3
4
5
0
50
100
200 Kilometers


Legend
Start of relation year
1993 - 1995
1996 - 1998
1999 - 2001
2002 - 2004
2005 - 2007
Importance of knowledge relation
1=poor, 5=extremely important
1
2
3
4
5
Enda Tours
0
225
450
900 Kilometers


RIXOS Hotel
Legend
Start of relation
startyear
1994
2000
2003
2004
2006
Importance of knowledge relation
1=poor, 5=extremely important
2
3
4
5
1994
2004
2005
2006
2004
2006
2002
2005
2005
2003
2000
2003
0
415
830
1 660 Kilometers

Is proximity important for new innovation processes to start?

- Physical proximity is evident in all cases. Works as a facilitator for other types of relative proximity.
- Social proximity has been key to finish phase 1 successfully. Especially in organisational innovation cases. (WV, Film-track, Fine Watchmaking, SAFER ,ToD, Mariager Fjord)
- Regional universities are involved as partners both for its academic image, as educators and as ”consultants”, not as suppliers of new analythical knowledge.
- Public Policy plays an important role in tourism, partly in new media and to a lesser degree in automotive.

Is the region an important level?

- Yes and no... Knowledge can be inseparably connected to the ”home-region” through social networks, political boundaries and image. But...
- ... never only regional. Multi-scalar or multi-local, linking places rather than administrative territories.

Policy comments

- Innovation seen from an ego-network perspective is far from easy to fit into simple categories.
- The spatio-temporal complexity needs targeted policies depending on when and where.
- Is it possible to overcome administrative borders and invest public money outside the home-region?