



The continuous success of technology-based clusters outside the world's metropolis regions

Changing Foresight Practices in
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Mr. Jukka Teräs, Norrum Oy

Mr. Jukka Teräs

- M.Sc. (Technical Physics), Helsinki University of Technology
- MBA, Helsinki School of Economics and Thunderbird, Phoenix, USA
- 20 years experience in the fields of high technology, innovation promotion, internationalization and regional development
- Managing Director and owner of Norrum: 1995-





The structure of the presentation

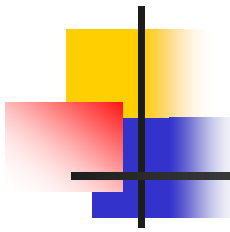
- High technology clusters: remarks
- Case study of a high technology cluster in Finland: The Oulu Phenomenon
- Case study of a regional policy innovation instrument: the Multipolis network in Northern Finland
- The dynamics of the cluster and the challenges: how to guarantee the continuous success of the clusters



How to build up a successful high-tech cluster?

BUILDING HIGH-TECH CLUSTERS: SILICON VALLEY
AND BEYOND: Ed. T.Bresnahan, A.Gambardella,
Cambridge University Press 2004

- To build up a successful cluster, a number of different routes exist : technology opportunity, educated labour, flow of entrepreneurial talent, and so on. And - one should not forget luck. Still, luck and skill are complementary, those initiatives which embody a superior business model or technology are more likely to find the "luck" they need.
- "No recipes but some deep regularities in order to build successful high-tech clusters: highly skilled technical labor , managerial labor, new-firm formation and firm building, connection to markets."



Is it possible to create successful technology clusters outside the metropolis regions?

Two cases from Northern Finland:

- The Oulu phenomenon
- The Multipolis network of technology centres in northern Finland



THE OULU PHENOMENON

- The city of Oulu and the surrounding region became known as the High tech capital of the Nordic countries during the 1980s and 1990s
- University of Oulu 1958
- Technology Park in Oulu 1982
- "In the Cold and Dark, High-Tech Heat" (Business Week 1995)
- "The expertise of radio technology in Oulu is the best in the whole world" (Mr. Bob Iannuci, Director, Nokia Research Centre, May 2006)



Northern Finland

- 105 000 square km, 716 000 inhabitants
- Central Ostrobothnia, Northern Ostrobothnia, Kainuu, Lapland
- Major cities: Oulu (126 000 inhabitants), Kajaani (36 000), Kokkola (36 000), Rovaniemi (35 000), Kemi (23 000), Raahe (23 000), Tornio (22 000)
- Both technological hot spots (especially Oulu region) and problem areas



Oulu phenomenon: The development stages

- The formative stage 1970-
- The consolidation stage 1980-
- The fast growth stage 1990-
- The diversification stage 2000-



OULU PHENOMENON: CONCLUSIONS

- combination of Oulu University, world-class science park (Technopolis), Technical Research Center of Finland (VTT) and a strong cluster of high-tech companies (over 10,000 private sector advanced tech jobs)
- key factors behind the success: University of Oulu, active role of Oulu city, Nokia effect, success stories/SMEs, clever strategic choices (telecom), the optimal size of Oulu (and luck with timing)



University and the success of Oulu

- "The establishment of Oulu University was the best regional policy initiative in 100 years" (Mr. Pertti Huuskonen, CEO, Technopolis Plc)
- "What is needed is long-term stamina" (Prof. Seppo Säynäjäkangas, founder of Polar Group, heart rate monitors)
- "The basis of the upturn of ICT and electronics in Oulu region was created in 1960's and 1970's by professor Juhani Oksman who directed the Oulu university teaching into these new fields" (Mr. Mika Kulju, edit. book Oulu Miracle, 2002)

The radiation effect of Oulu expertise

Source: VTT



VTT and OY, Oulu

- National and Int'l activities
- Oulu region programme



Softpolis Raahe

Per Brahe Software Lab

(VTT, OY, OAMK)



RFM-polis Ylivieska

- RF-tech dev't programme



Measurepolis Kajaani

- measurement, sensor dev't programme
- wireless instrumentation (VTT, OY, KAMK)



Digipolis Kemi

Microelectronics

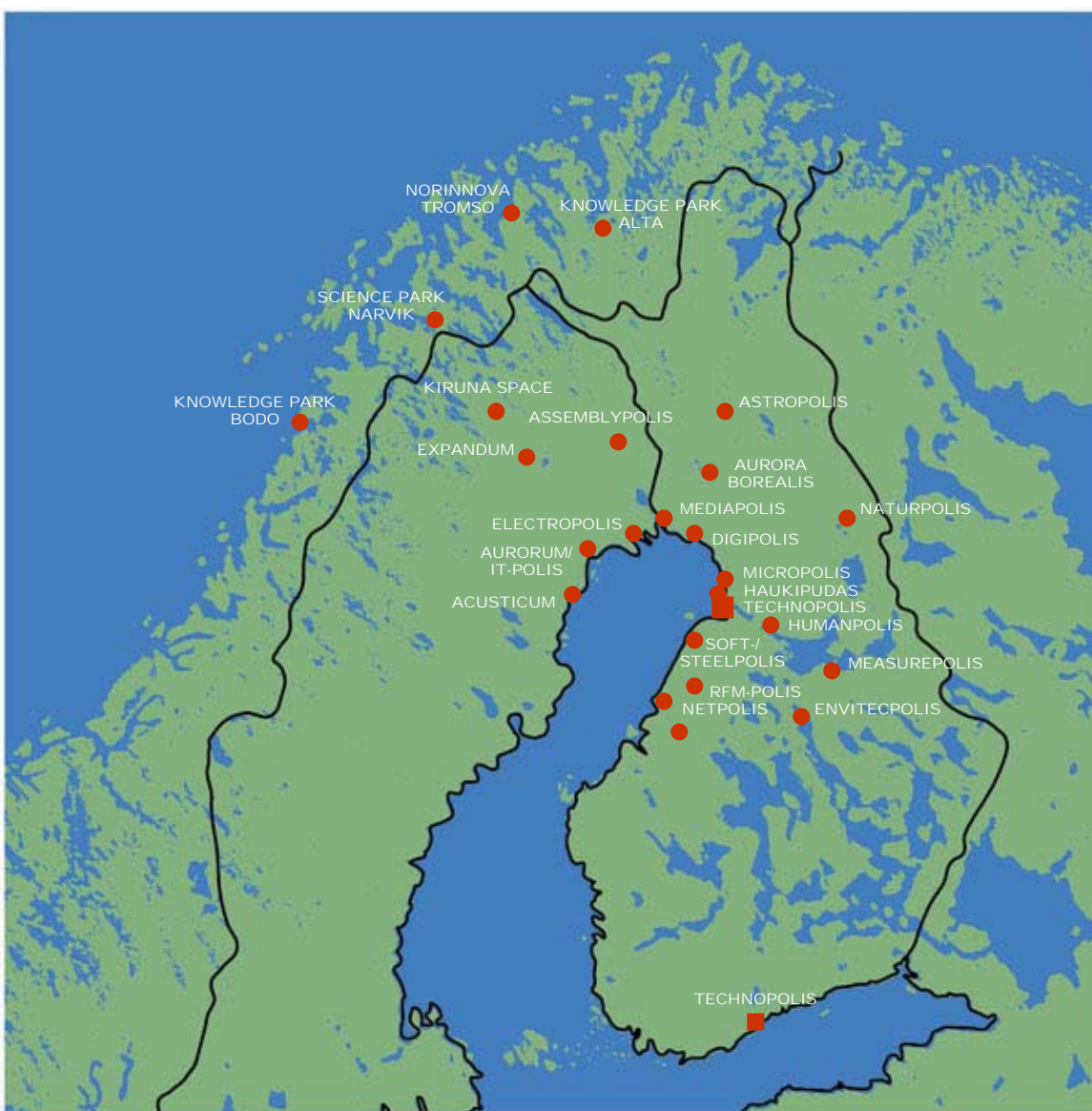
- Nat'l Semiconductor
- SELMIC
- IC dev't program



MULTIPOLIS NETWORK

- Multipolis is a co-operation network and activity between technology enterprises and regional developers in Northern Finland
- The activities started in 2000
- Multipolis connects 15 specialised clusters (polis) of technology enterprises and expertise in northern Finland
- The direct public funding for the Multipolis activities in 2000-2006 slightly over 1 million euro

CROSS BORDER MULTIPOLIS NETWORK



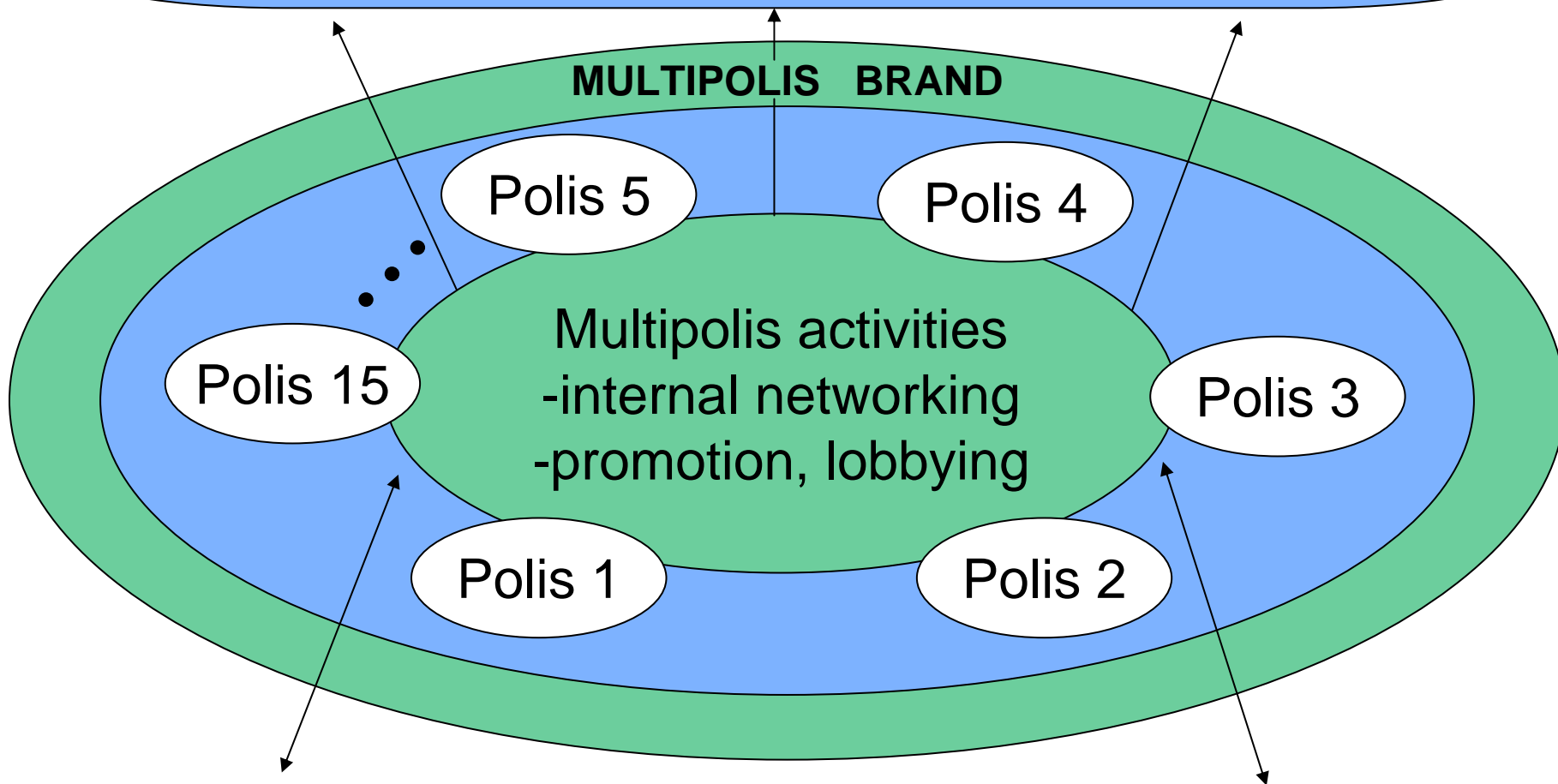


Multipolis network – why?

- The goal of the Multipolis: to maximize the utilisation of technology know-how in northern Finland and to expand the two-way technology-related expertise and knowledge between Oulu region and the other areas in Northern Finland
- The concrete aim: to improve the competitiveness of the companies in northern Finland – and to create jobs

Multipolis activities in brief

The present and potential clients of the companies in Northern Finland



The key interest groups of the technology centres



Multipolis network – major activities

- Multipolis co-operation projects: technology-oriented projects, training programmes, and internationalization projects
- R&D activation programme
- Multipolis brand development and lobbying
- Consultancy of the technology centre managers in specific issues (e.g. strategy)



Multipolis 2000-2006: Experiences

- The key interest groups of the Multipolis activities were interviewed in Spring 2006 to gather the experiences and the results of the Multipolis activities in 2000-2006
- The results include: concrete co-operation projects, increased awareness, trust building between the technology centres, even a well-known Multipolis brand
- All the interviewed persons would like to continue the Multipolis activities !

Contact information

- Helsinki office: Fredrikinkatu 69 B 17, 00100 Helsinki, Finland
- Rovaniemi office: Urheilukatu 5-7, 96100 Rovaniemi, Finland
- E-mail: jukka.teras@norrurn.pp.fi
- Mr. Jukka Teräs, mobile phone: +358-40-545 0844
- Internet: <http://www.norrurn.com>

