## The European Internet Infrastructure



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European fibre optic infrastructure: here nodes are identified by European cities and connections refer to fibre-optic cables set down in the ground (data refer to 2001). Different colours of nodes refer to different countries. Zoomed detail on the European fibre optic network.

An algorithm was run in order to reshape the graph, without taking into account nodes' geographical position, but only connections' weight and centrality indices. It seems that nodes belonging to the same country tend to cluster anyway, in terms of connections, and that central connected nodes belong to the most powerful countries in Europe.

*European fibre optic infrastructure (data refer to 2001).* 



Overlap of the three networks: it is possible to observe competitiveness and complementarities among network nodes and links.

European air passengers' flows: displayed flows refer to more than 500000 passengers (data refer to 2003).

> To what extend the European Internet infrastructure is explained by other

Top 30 European banks: connections indicate relationship between banks' headquarters and their branches (data collected by students in 2007).

## network structures?

Social Network Analysis will be used to describe differences and similarities between the networks. With a first look it's possible to understand to what extend the networks overlap or are complementary. Initially, it is possible to compare centrality indices for each network (like degree, betweenness and closeness centrality), but more sophisticated statistical measures are needed. This method could be used both to compare different type of networks, and to study the evolution of one network over time.

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