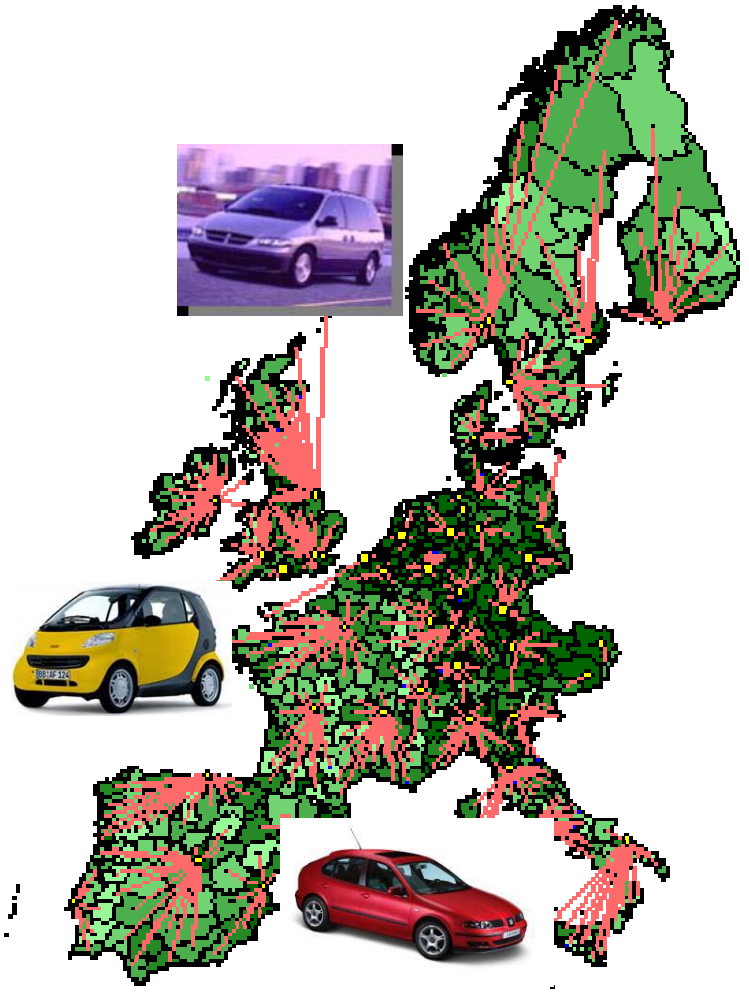

Transportation networks in the European vehicle logistics

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5th Global automotive logistics

9-10 October 2003, Barcelona, Spain

The Fraunhofer Gesellschaft

- 56 institutes in Germany
- approximately 11,000 employees
- 900 million Euro turnover
- 750 million Euro in ordered research
- Branches in the U.S.A., Malaysia, Singapore, China

Joseph von Fraunhofer (1787 - 1826)
Researcher and entrepreneur

Fraunhofer IML

Dortmund

Facts and Figures

- founded in 1981
- 160 scientists
- annual turnover 16 million €
- thereof over 60% from industry, trade and services

Branches and project centres

- Cottbus
- Frankfurt/Main
- Paderborn
- Prien/Chiemsee

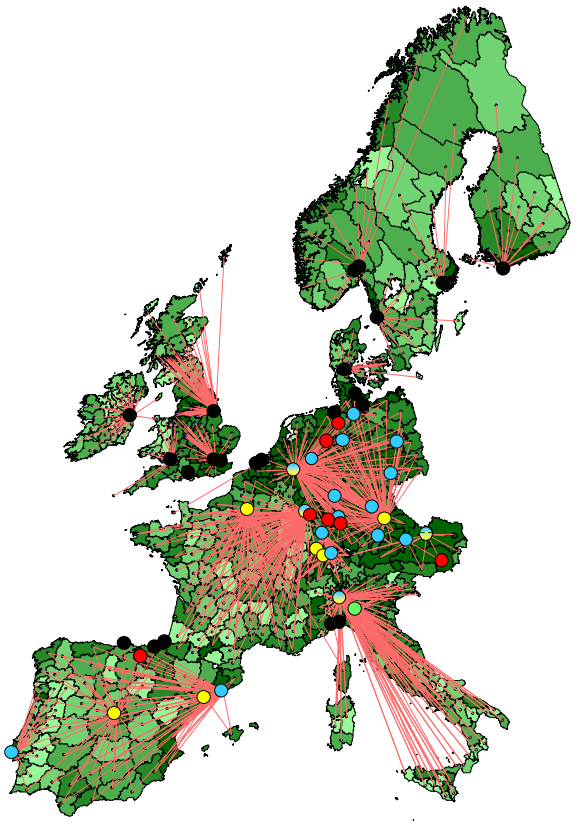
Core competences in Transportation Logistics

- Distribution logistics
- Network planning and disposition
- Information technology in transport
- Design of transport chains and
- Consultancy for logistic sites

Practical example – modelling the present situation

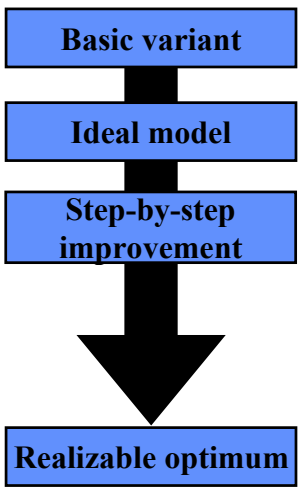
Optimization of the European distribution network of DAIMLERCHRYSLER

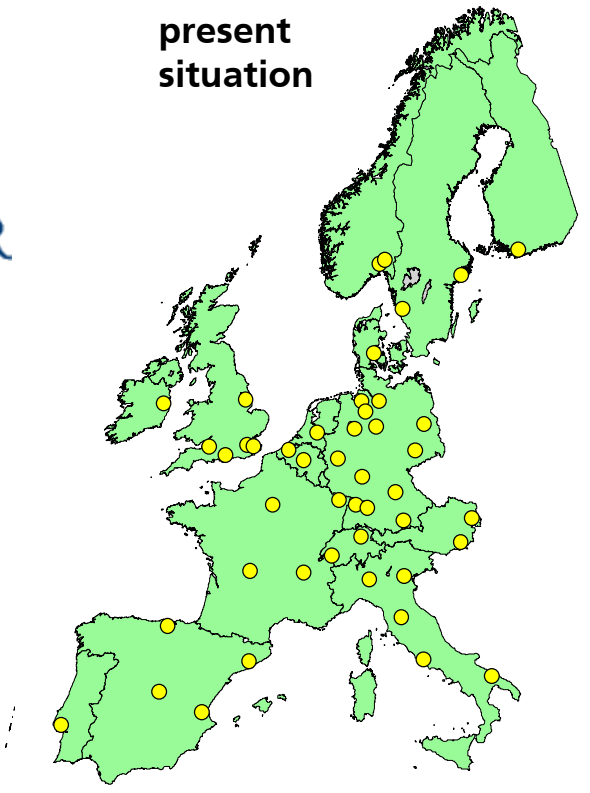
- Consideration of the transported volume
- Locations of plants and handling places
- Transportation processes and costs
- Countries considered: EU, Norway, Switzerland
- Car models considered: All types of Mercedes Benz, Chrysler/Jeep and Smart

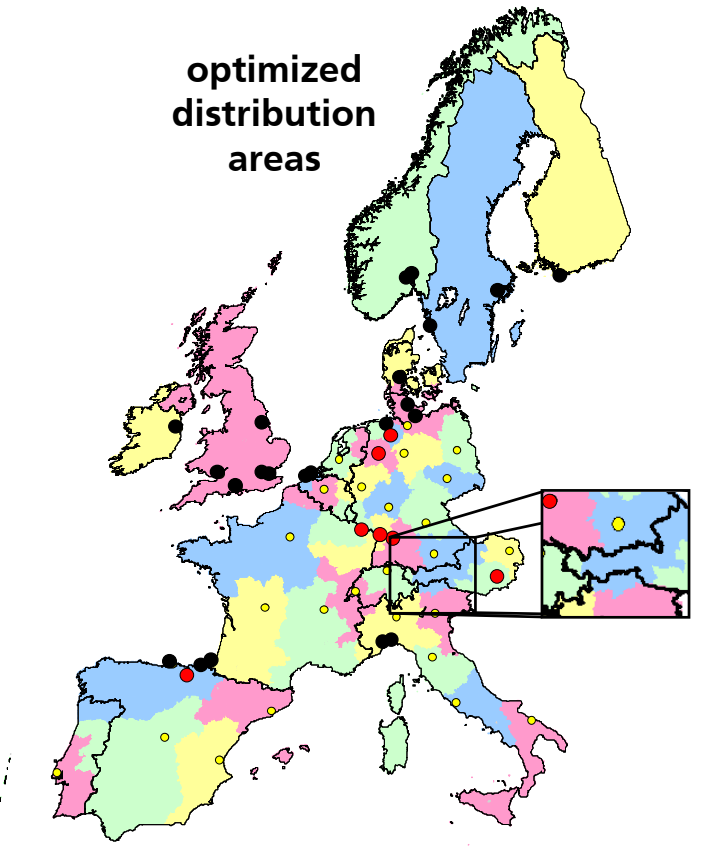


Practical example – Scenarios

Optimization of the European distribution network of DAIMLERCHRYSLER



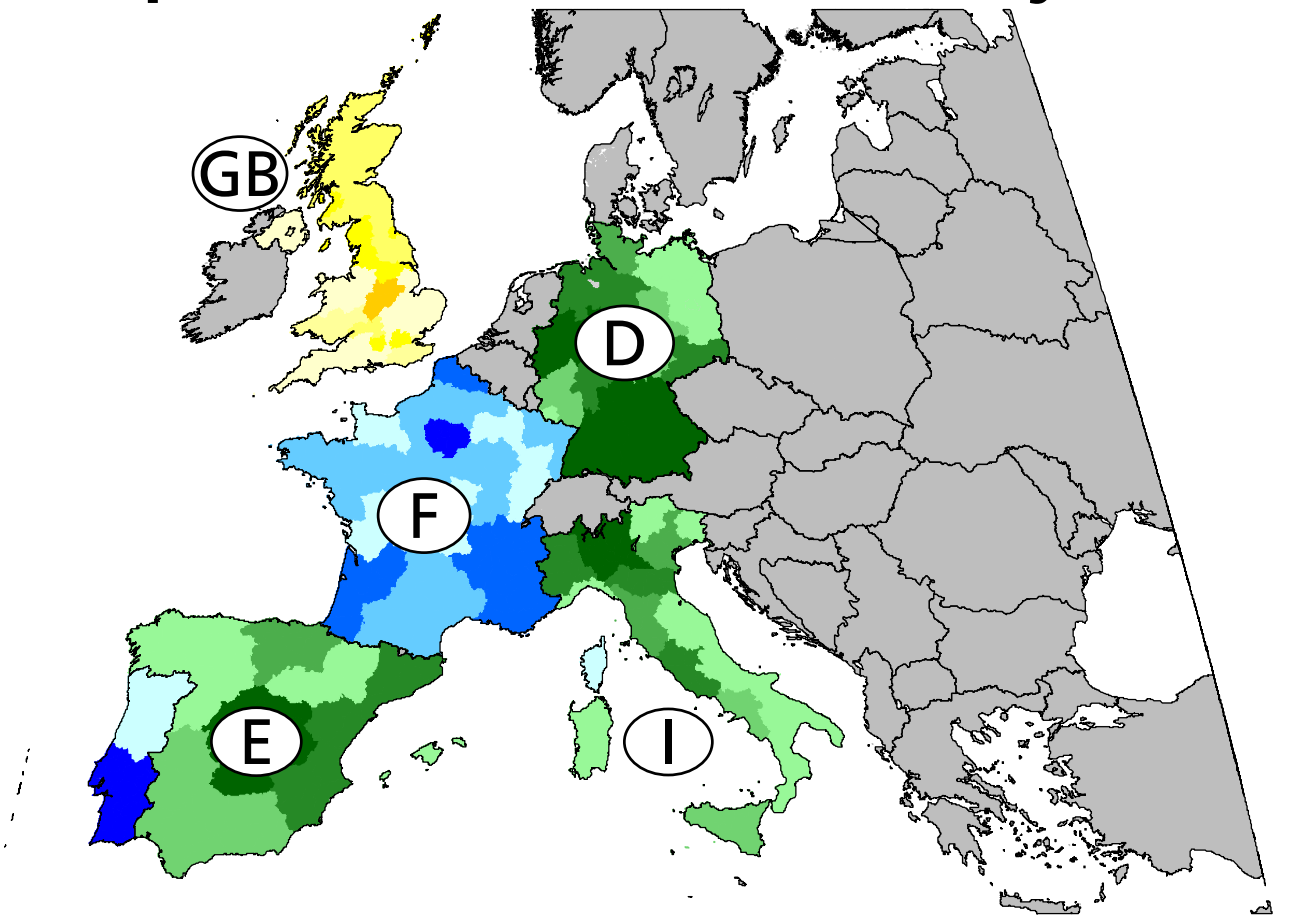




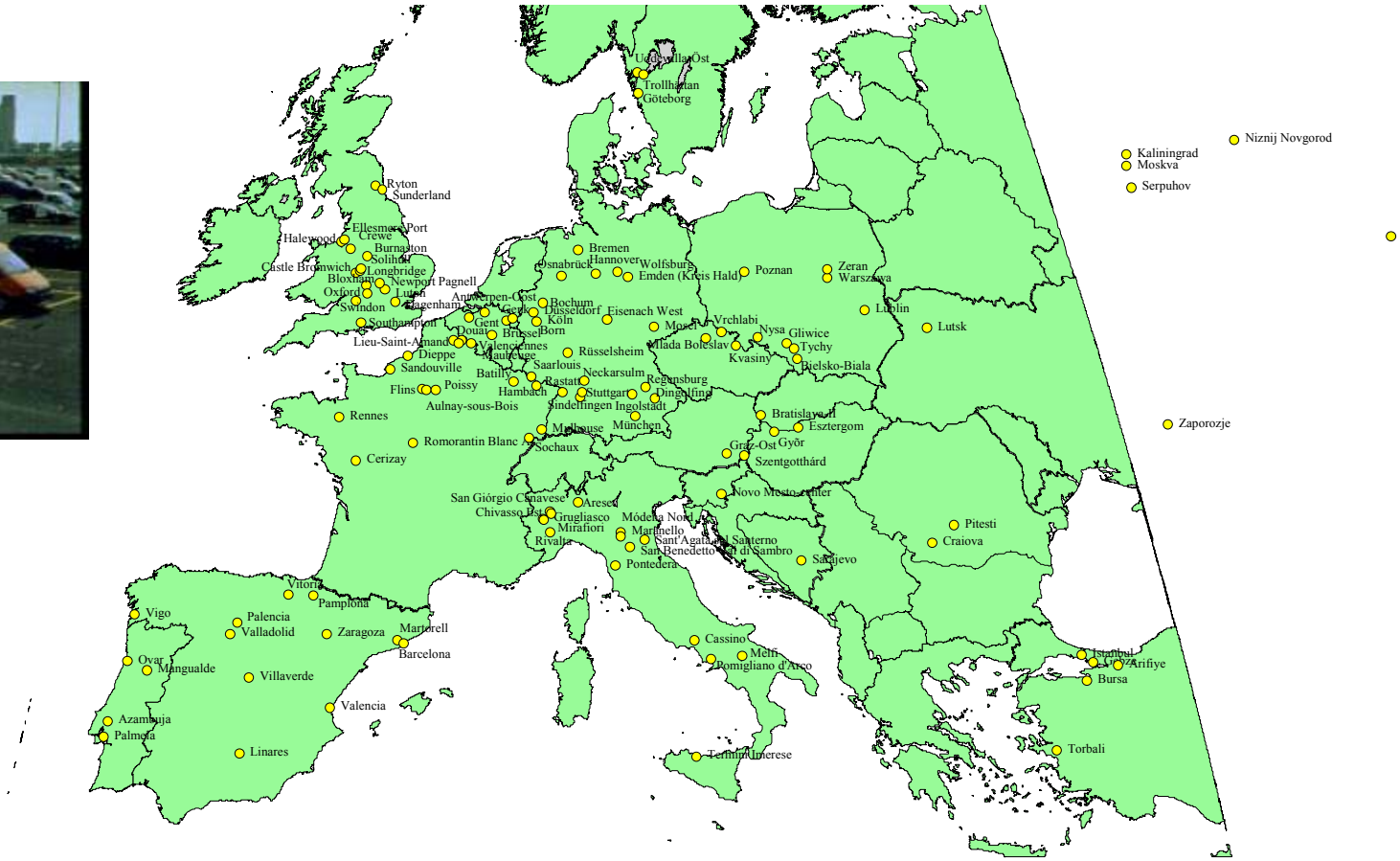
Structure of the European Automotive industry

main countries in 2002

- D 3.3 mio vehicles
- GB 2.5 mio vehicles
- I 2.5 mio vehicles
- F 2.3 mio vehicles
- E 1.4 mio vehicles



Geographical locations of the European Automotive factories

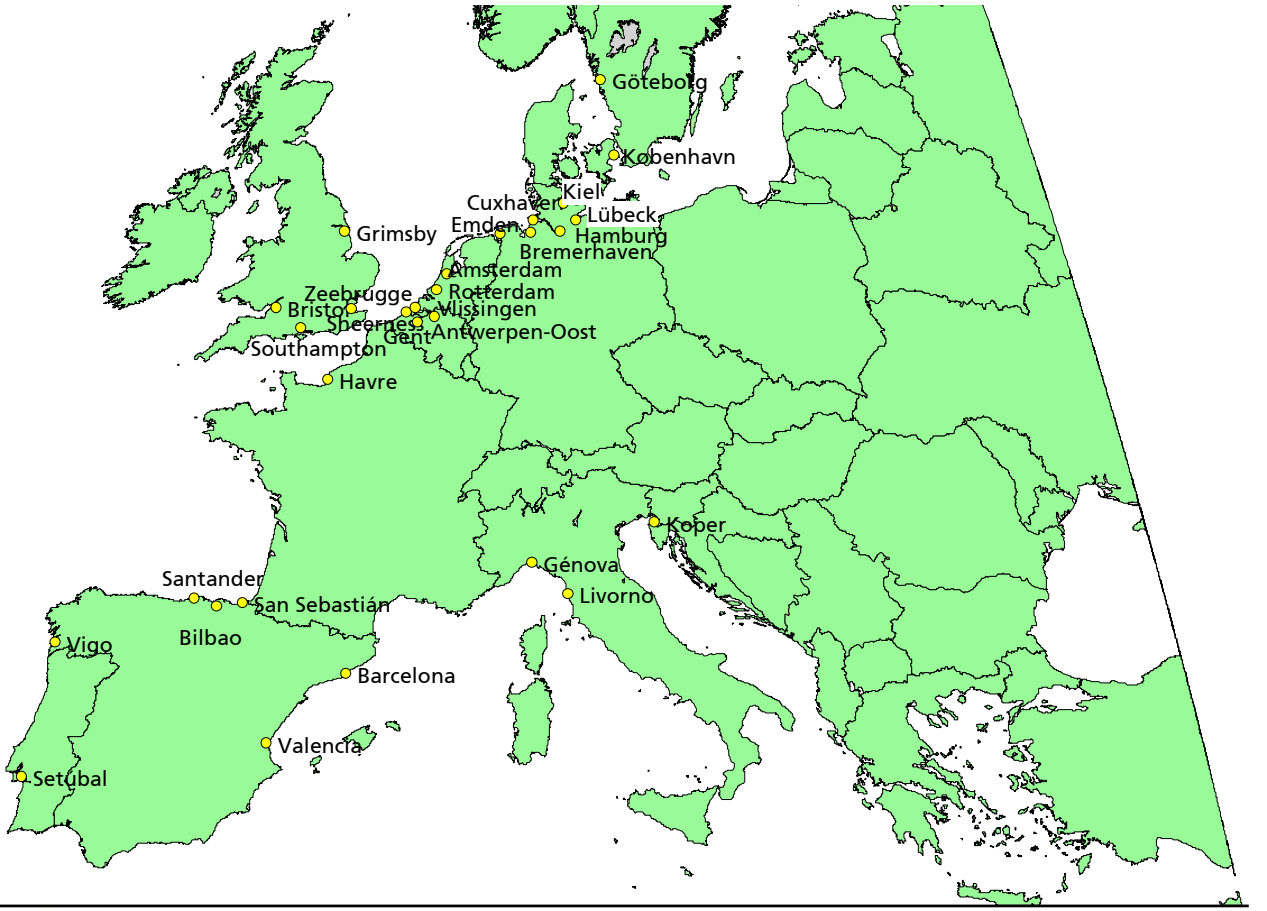


Source: ECG

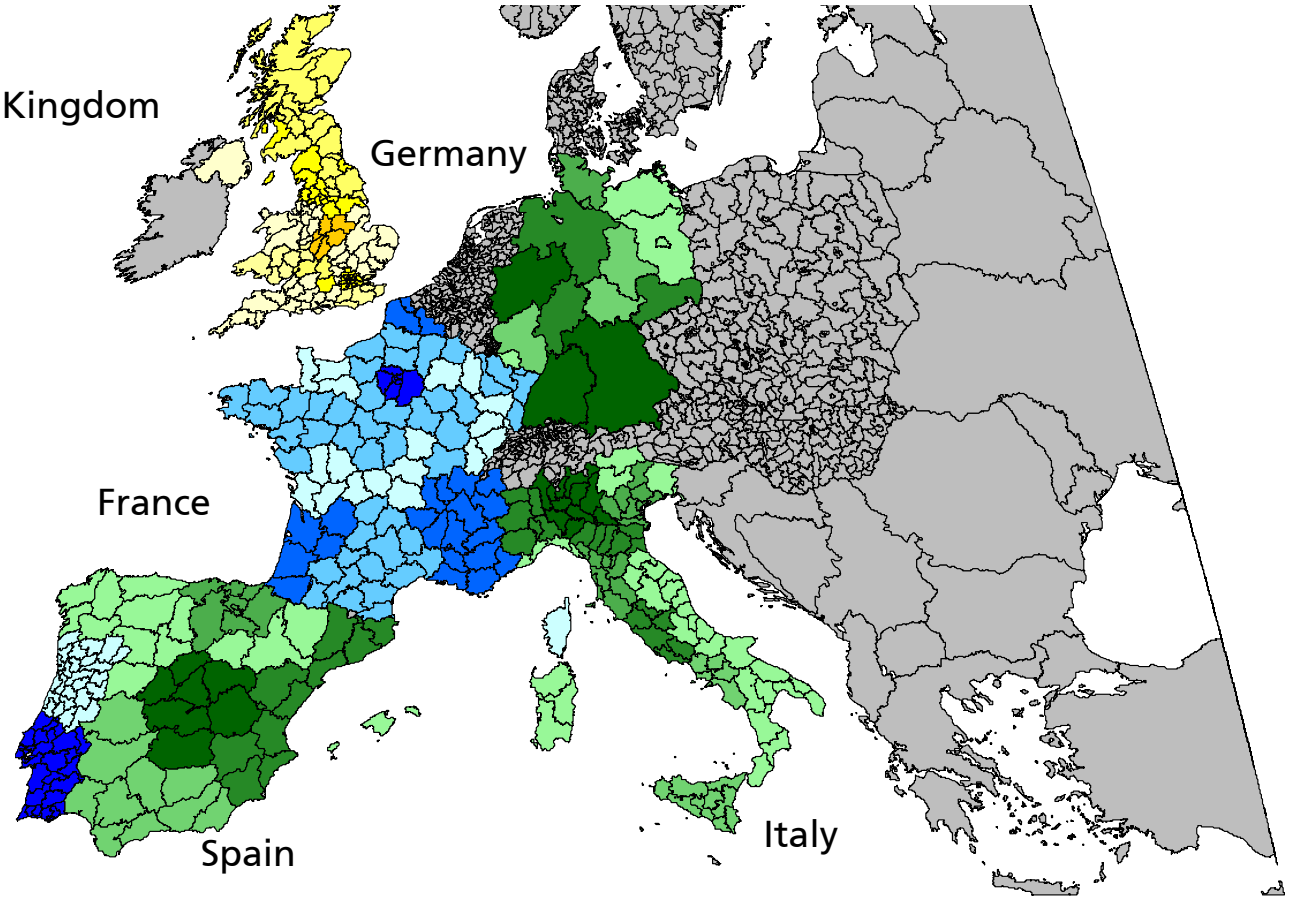
European Vehicle Compounds

Source: ECG

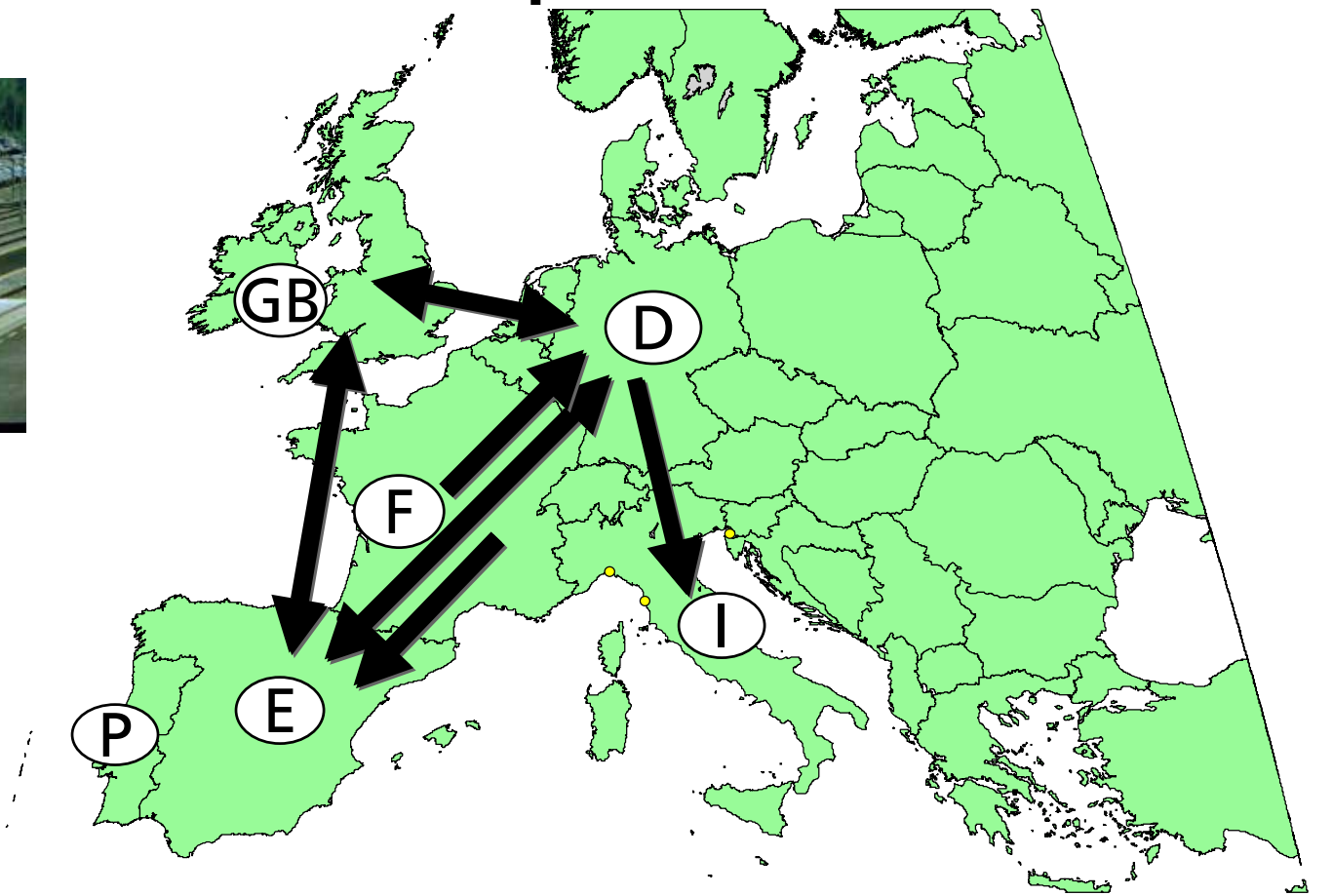
Throughput by European Gateports



Regional car sales by (main) countries



Finished Vehicle Flows in Europe



Strategic Alliances in other industries

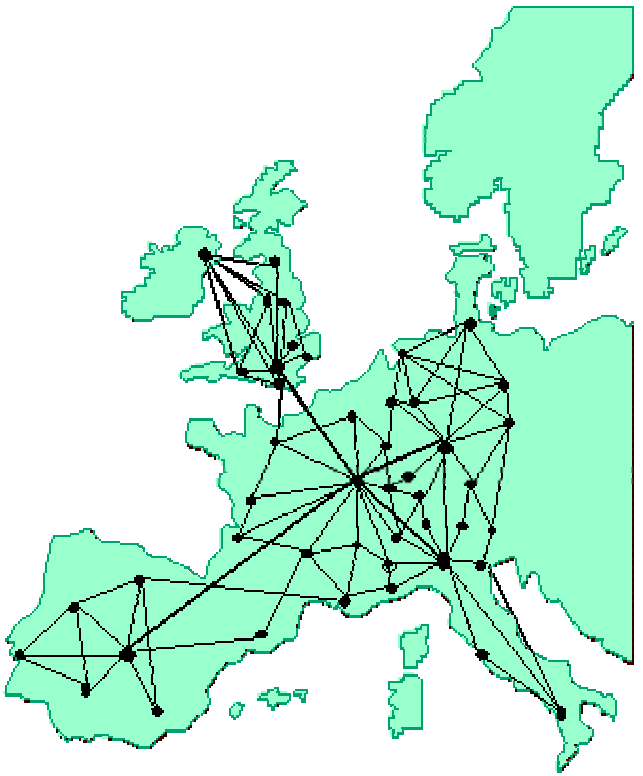
Aviation	Star Alliance, 14 airlines, better utilization of the aircrafts, matching of timetables and (bonus) mile programs
Pharmaceuticals industry	synergy effects in the sales
Telecommunication	providing standardized services in several countries, open alliance, uniform standards
Computers	matching of software programs and chip development, joint sales and service structures
Automotive industry	joint development of platforms and complete motors

Conclusion

Problems:

- the geographical complexity is increasing eastern European countries, Turkey, more overseas transports
- the mixture (utilization) per mode of vehicle types is decreasing due to bigger vehicles (van, …), less vehicles for one transport
- further dominance of road transport (lower prices)
- demand for lower freight rates in the future
- toll system for trucks is increasing the logistic costs

Trends in vehicle logistics



Prospect:

- increasing cost pressure
- reduce supply base (less carriers)
- increasing use of sea and rail
- Joint usuages of transport network by different OEM`s (collaboration)
- required alliances of carriers
- …