

The experience of the new Länder in the frame of German innovation policy

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(1) Germany's Innovation System: Strengths

- **The German economy is traditionally highly innovation orientated:**
- **Gross R&D expenditures in Germany 54.3 bn Euro, 2.55 % of GDP (2003, +21% 1998 – 2003)**
- **66% of gross R&D expenditures are financed by enterprises**
- **Share of SMEs that innovate in-house is the highest in the EU**
- **World market share of 14.9% in R&D intensive goods (2nd after USA), 132 bn Euro active trade balance (2002)**
- **Share of sales with new products in manufacturing is among the EU top three**
- **No. of patent applications per inhabitant (127) is second highest among large countries**
- **Third rank in international publications (9%)**

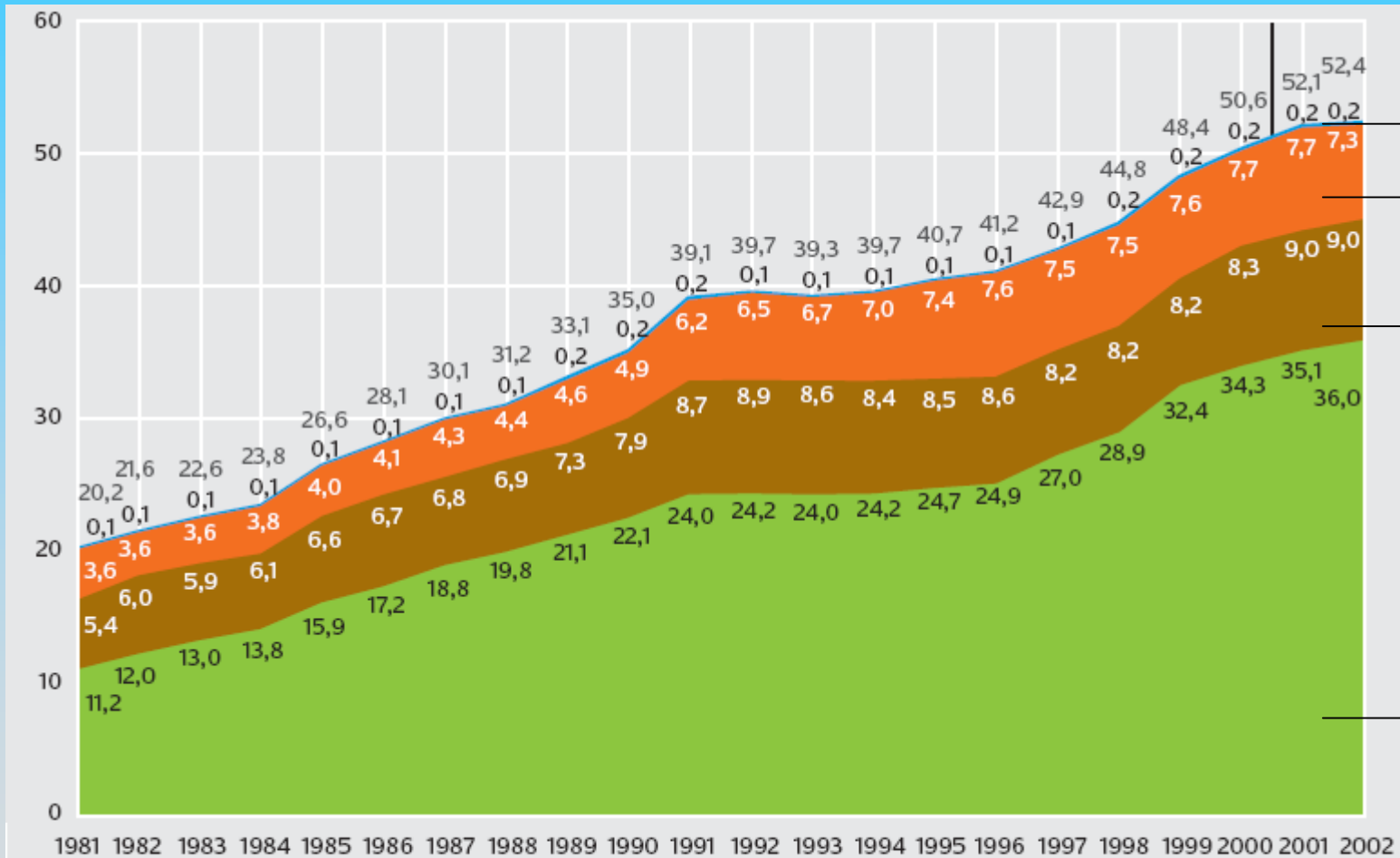


Germany's Innovation System: Weaknesses

- Financing of innovation activities is getting increasingly difficult, especially for SMEs
- In high-tech sectors (e.g., pharmaceuticals, computers, electronics, aircrafts) Germany is losing momentum
- Technological performance is increasingly dependent upon the automotive sector
- Worsening output performance of the education system (in terms of the share of highly qualified and the performance of pupils)
- Public expenditures in R&D not holding up with private investments
- East Germany and Berlin: 25 % of federal research budget (2 bn Euro), 11% of R&D personnel, 6% of patents



R&D Expenditures in Germany (1981 – 2002 in bn Euro)



Source: BMBF 2004

Private non-profit institutions

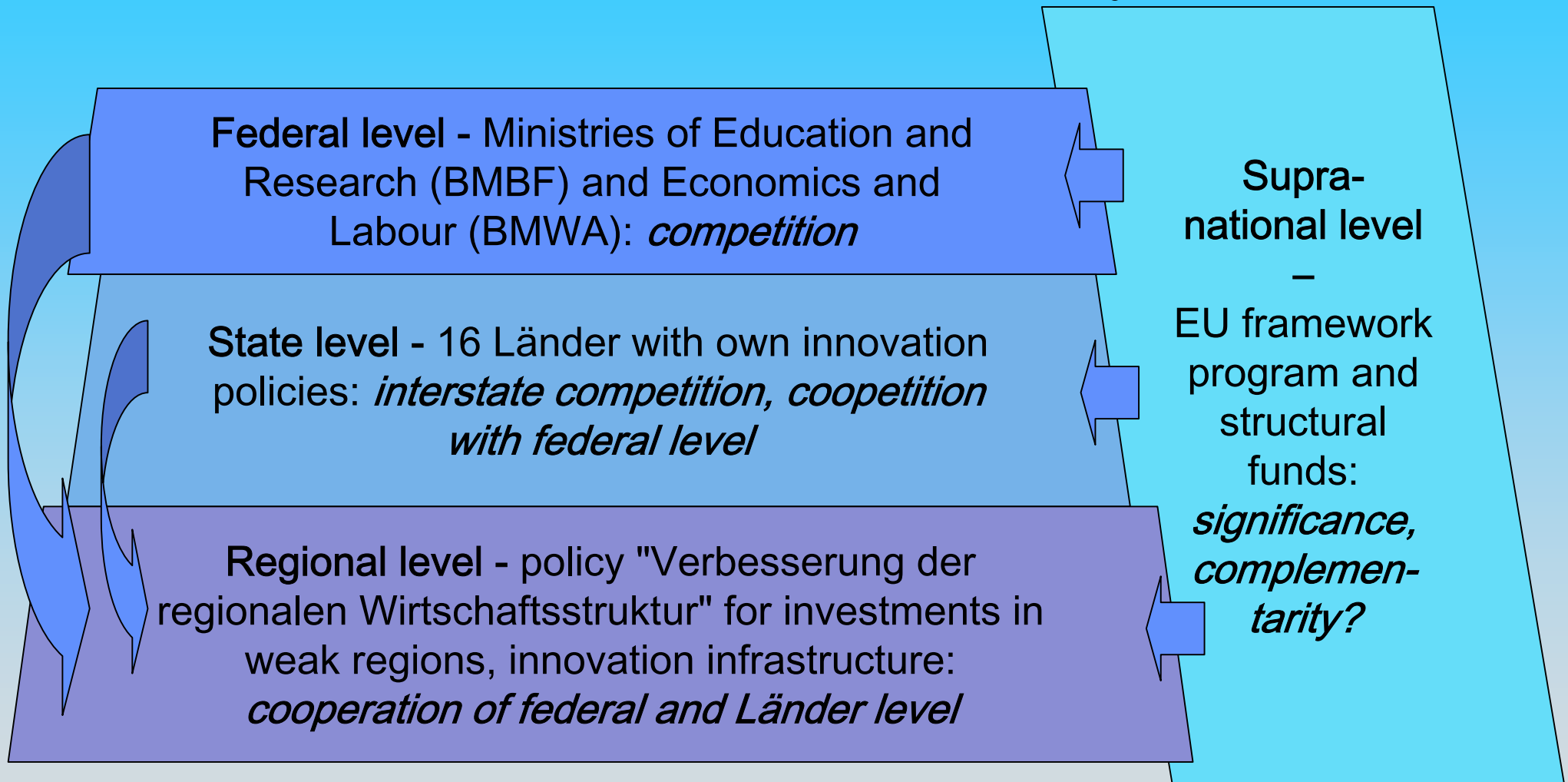
Länder

Federal government

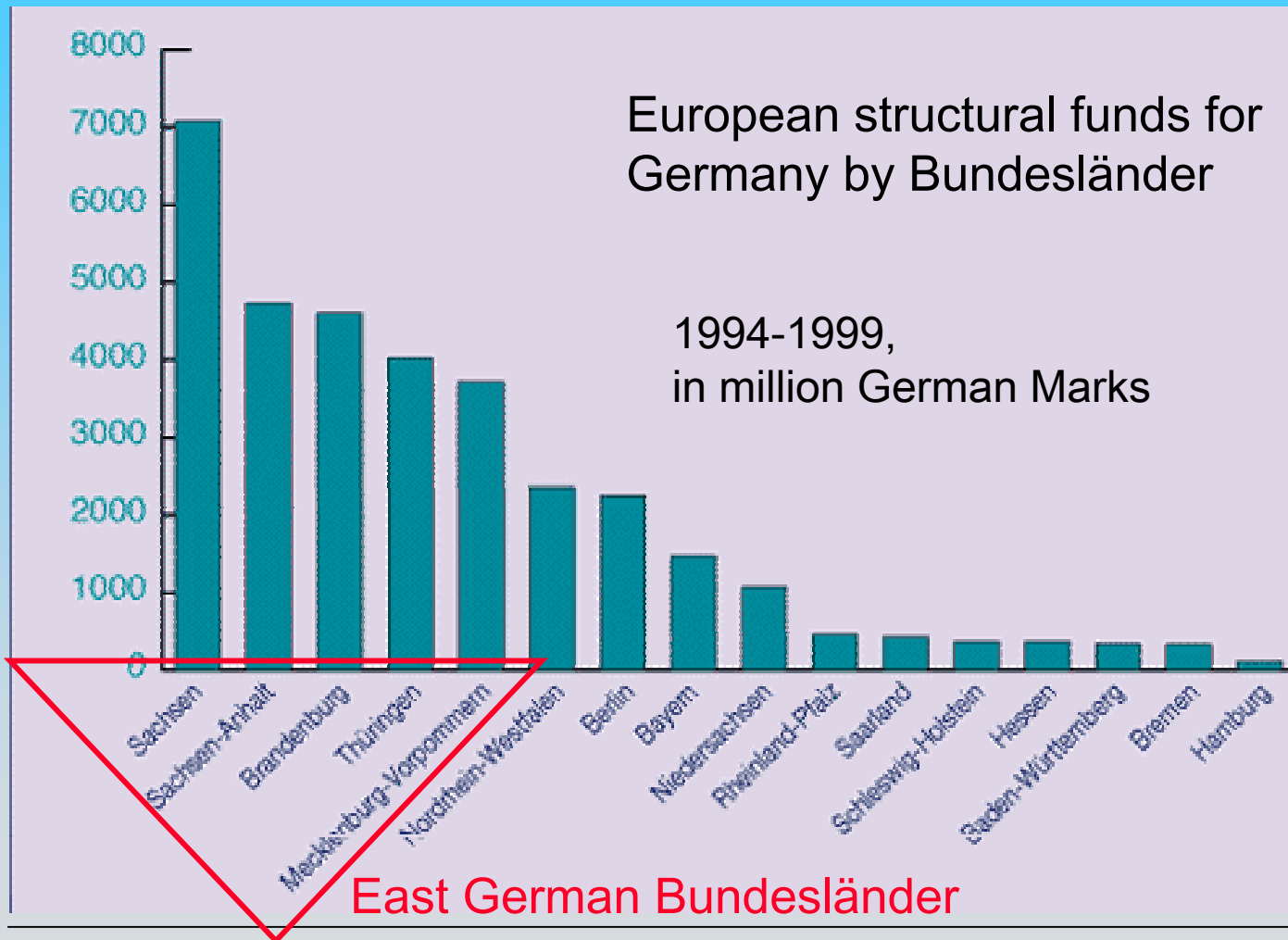
Business enterprise sector



Governance Structure in German Innovation Policy



(2) Innovation system in East Germany



Source: European Commission



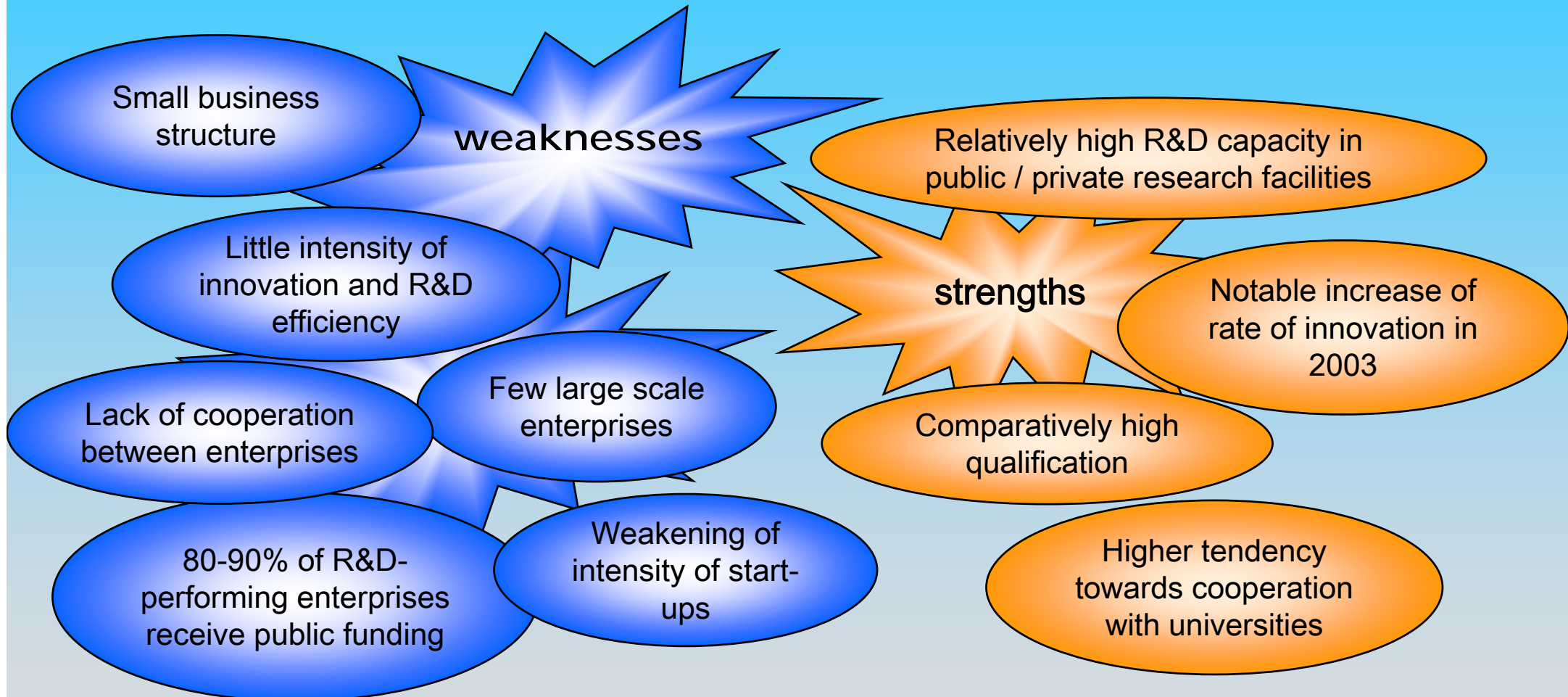
Necessity for a specific East German Innovation Policy?

Patents per 100,000 employees in industry (2000)

Source: Kulicke 2004



Strengths and weaknesses of the East German innovation system



(3) Innovation policy programs for East Germany – federal level

	<i>Program</i>	<i>Year</i>	<i>Funding 2003 in €</i>	<i>Type</i>	<i>Coop. / Networks</i>	<i>Regiona l focus</i>
Min. education/research	InnoRegio ("Enterprise Region")	1999-2006	65 m	Subs.	✓	✓
	Innovative regional growth poles (Wachstumskerne)	2001-2008	24 m	Subs.	✓	✓
	Centers for innovative competence	2002-2009	7 m	Subs.	✓	✓
	Interregional alliances (Innovation Forums)	2001-2008	1 m	Subs.	✓	✓
Min. economy and labor	Special R&D Program for East Germany / INNO-WATT	1990–2003 / since 2004	104 m	Subs.		
	InnoMan	2000-2004	2,5 m	Subs.		
	NEMO	2000-2004	6 m	Subs.	✓	✓
	FUTOUR	1995-2003	15,8 m	VC		

Source: Federal budget BMWA 2003, BMBF 2003, BMBF 2004



Example: InnoRegio (Innovative Regions in East Germany)

- **Funding:** 1999-2006 255 m Euro
- **Goals:** Establishment of sustainable regional innovation networks in East Germany as a means for strengthening endogenous regional innovation potential. Supported regions should develop a profile in education, research and economic activities.
- **Instrument:** Complex multi-level-multi-actor program; funding of network management and projects (product/service development) of successful regional networks
- **Target groups:** Large Companies; SMEs; research institutes; universities; researchers; graduates; public authorities; individuals



Example: InnoRegio (Innovative Regions in East Germany)

■ Three stages:

- (1) Qualification: call for ideas for regional activities, 444 responses (1999); 25 regions selected;
- (2) Development: 25 regions develop concepts and projects;
- (3) Realisation: 23 of the 25 selected for financial support until 2006

■ Impact:

- Increase in innovation activities (2/5 of firms have patented in the last two years, almost all have introduced new products),
- 50 new firms since 2000,
- sustainability of regional networks as yet unclear;
- wide impact to network formation;
- on-going evaluation / scientific monitoring on InnoRegio's development



Innovation and technology policy of the new Bundesländer

Typical Länder programs include:

- Technology (R&D single or cooperation projects)
- Personnel and technology transfer
- Innovation assistance/technology and innovation consultancy
- Support of start-ups (consulting, coaching, incubation, finances...)
- Innovation infrastructure, i.e. technology parks, technology and start-up centers

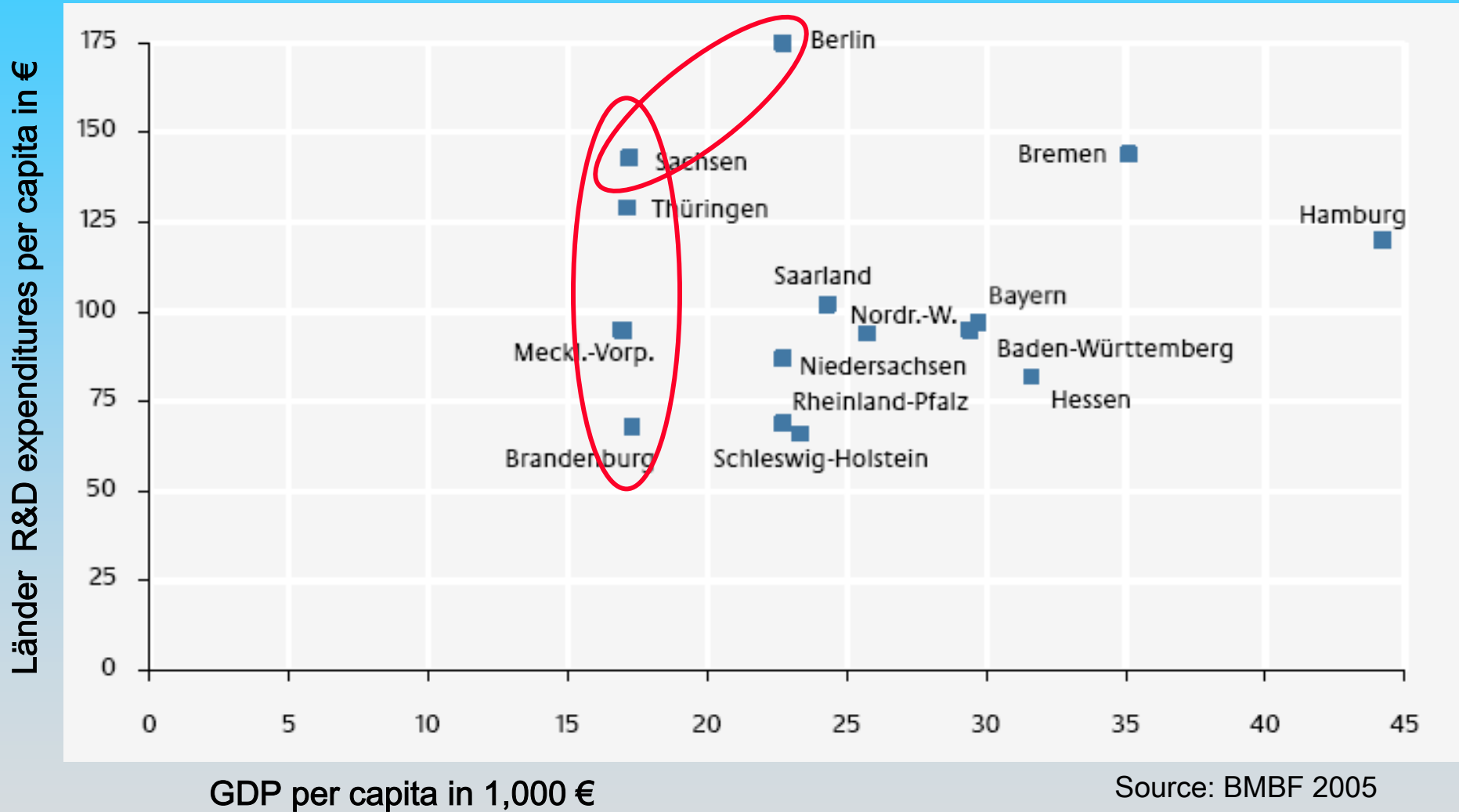
Total Länder expenditures for research in East Germany: 2 bn Euro (6 Länder)

Additional funding for weaker regions (almost all of East Germany):

- European Fund for Regional Development (EFRD)
- Policy "Verbesserung der regionalen Wirtschaftsstruktur" together with Federal Government 1.12 bn Euro (2000-2004)



R&D expenditures of the Länder and GDP per capita



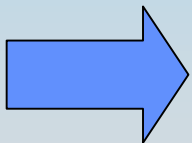
Specific policy focus of the new Bundesländer

- Focus on support of SME and external industrial facilities
- Notably higher portion of public R&D expenditures than in West Germany
- Objectives oriented towards the federal goals and the technological strengths of the respective Land
 - complementarities but also overlap, no clear division of labor
- Several Länder have a broad scope of technological priorities (up to 8)
 - danger of same funding strategy as without focus
- Similar technological foci (e.g., Biotech and IT in almost all new Länder)
 - yet different specific area (e.g., blue Biotech)
- Extensive innovation infrastructural measures (especially technology and start-up centers)
 - many not fully occupied, success with technology/sector specialisation



(4) Current state of innovation promotion in the development of East Germany

- Despite success still difficult situation in the new Bundesländer
- Increasing significance of innovation policy for the development of East Germany
- New Elements:
 - Support of networks
 - Competitive element in support programs
 - Increased focus on regions (reinforcement of regional development dynamics, bottom-up approach, endogenous potential)



Recognition of regionally different paths of development and growth
Realization of length of time period necessary for transformation

