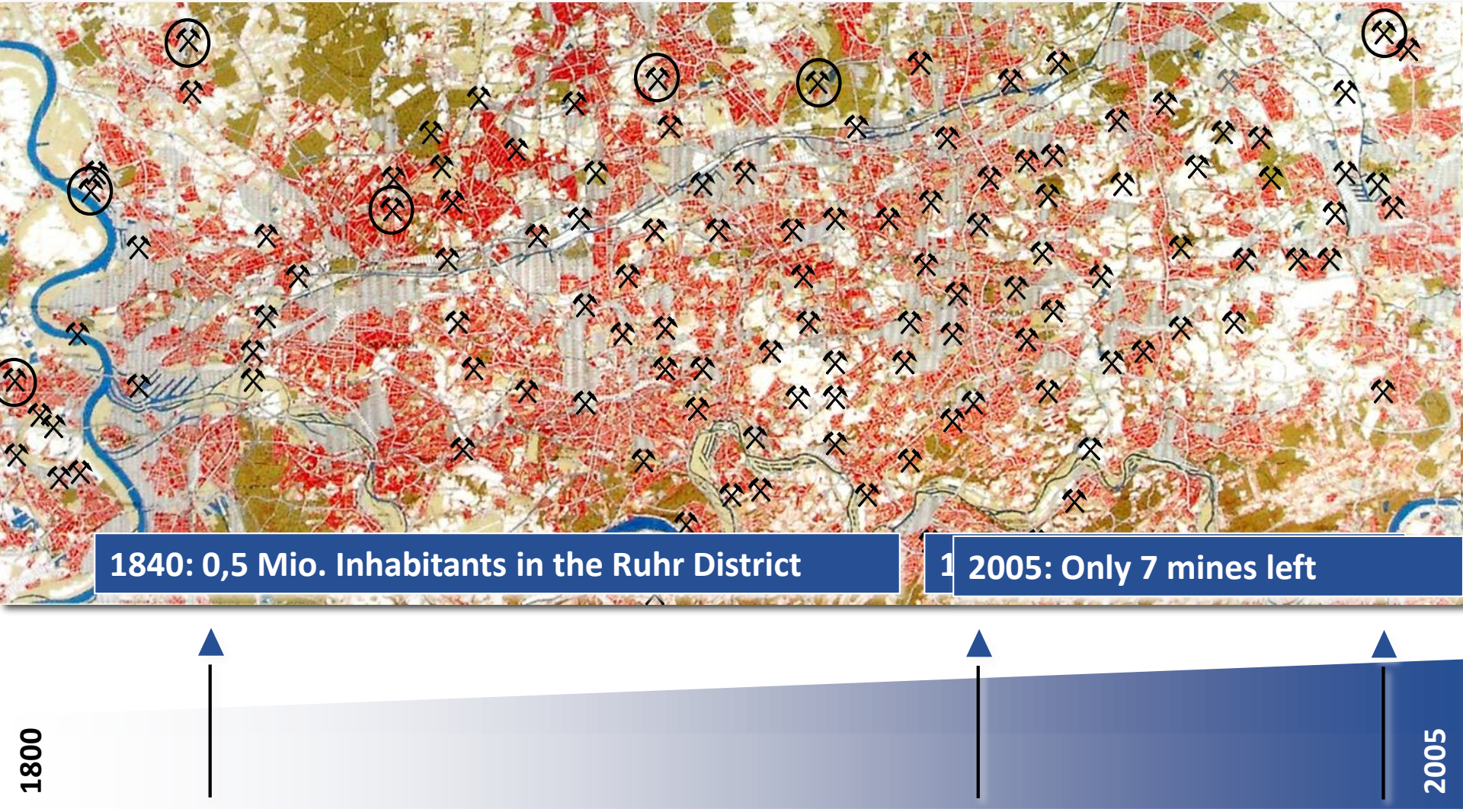
Structural change of the Ruhr District

Dr.Ing. Rolf Petry,
Prof. Dr.Ing. Christoph Dauber

Kyiv, 14 th of June 2017

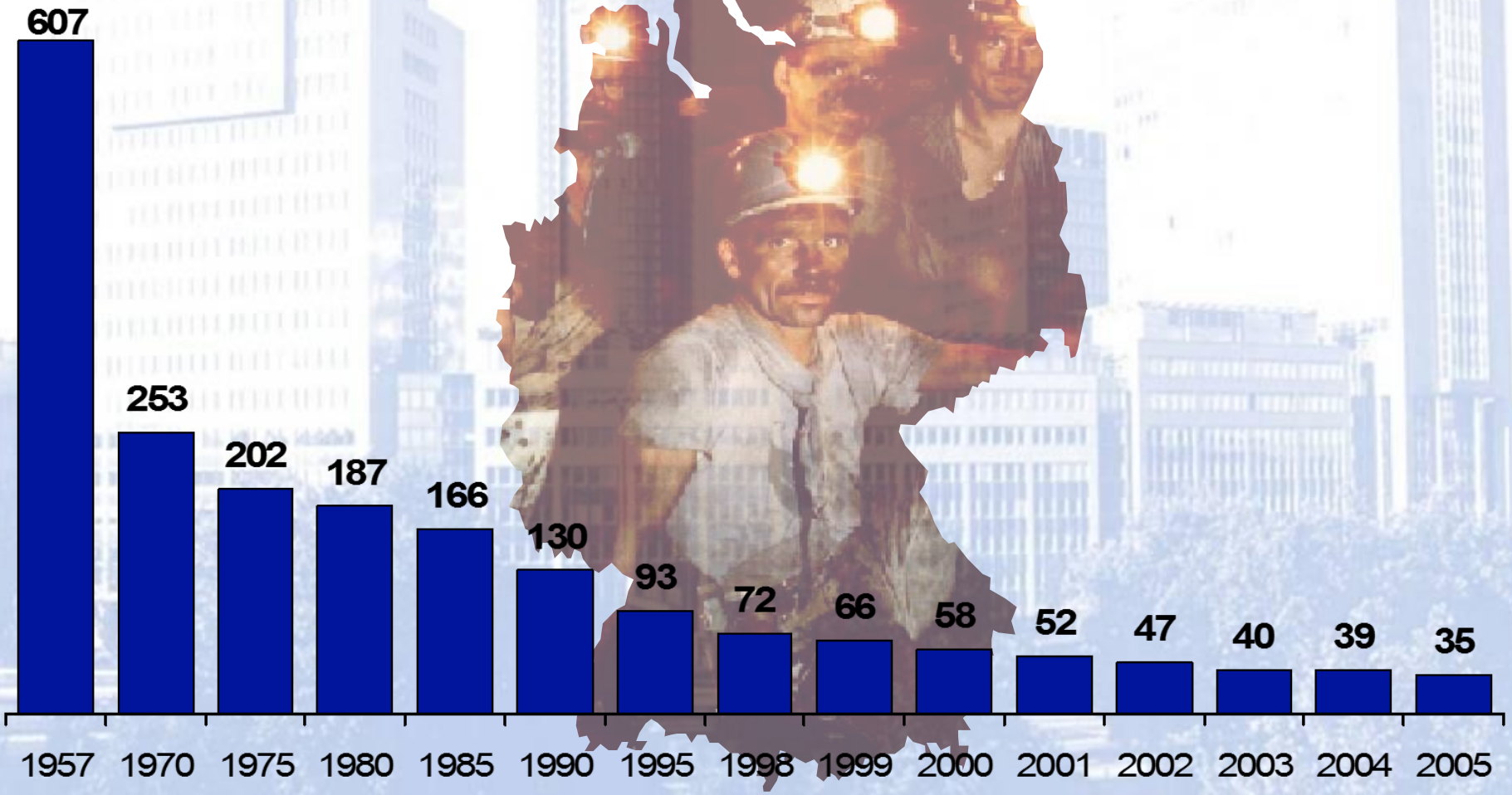
Geographical position

Development of the Ruhr District



Corporate policy decisions on goals and general principles

Employees in the mining industry
In thousand



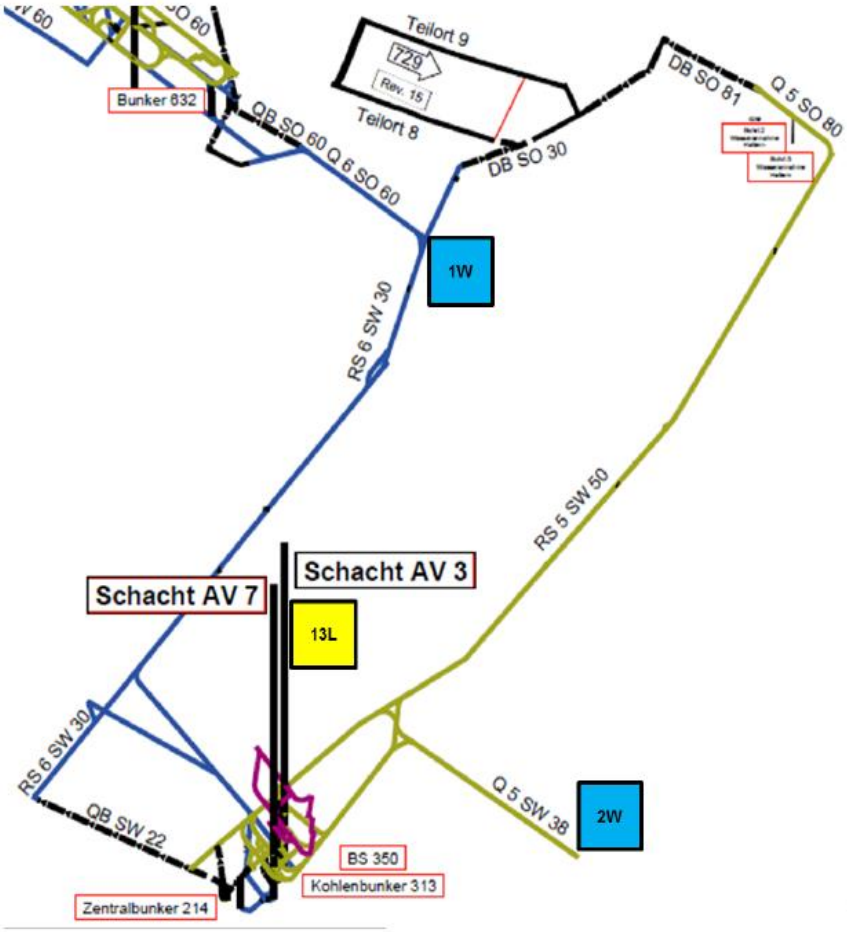
The Post Mining Research Institute

- On 23rd October 2015 the Post Mining Research Institute at THGA was officially opened.
- The Institute is sponsored by the RAG Foundation, the State of NRW and the EU.
- The research activities cover coal mining and non coal mining issues.
- The vision is to guard all post mining activities in a sustainable and responsible manner.
- Due to the history of the THGA the Ruhr Region is a specific focus of the scientific work.

Research Topic - Mine Water Flow

Coal Mine Auguste Victoria in Marl

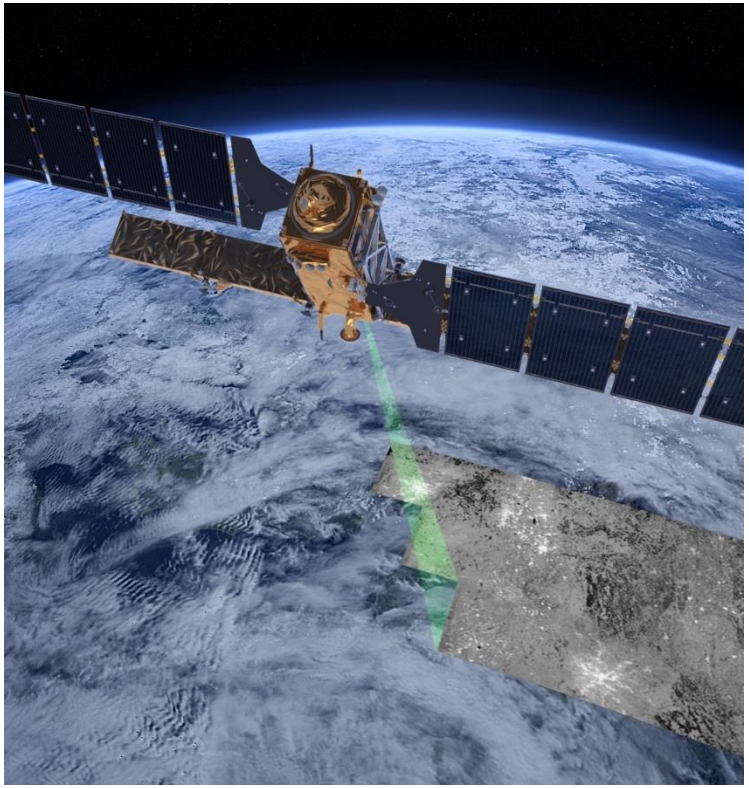
- Coal mining ceased in 2015 and the mine will be exposed to rising mine water levels.
- Robust sensor devices, power and data infrastructure suitable for long term telemetering have been developed.
- The monitoring concept was specified.
- At four sites underground water pressure, temperature, conductivity and flow speed will be recorded; in shaft AV 3 methane %.
- The monitoring will give indication how to optimize the mine water rise in coal mines being closed in 2018. Source: RAG et Bendrat



Research Topic – Use of Remote Sensing

EU Programme Copernicus

- Copernicus is a European system for monitoring the Earth.
- Copernicus consists of a complex system which collect data from earth observation satellites and in situ sensors on ground.
- In Cooperation with other partners THGA aims to work on the application of satellite data for monitoring post-mining processes.
- Particular emphasis is placed on the hydrochemistry of waterbodies, the soil water content, the land use and the land coverage. Source: ESA, Goerke-Mallet, THGA



Reconstruct a coal industry area a close cooperation is important between

- Town , local Community , (Oblast)
- Public organization,
  administrated by independent management
- Public Private Partnership (PPP)
- Pension Funds

Public organization at the region

- Membership of towns and regional communities is mandatory for all
- Duties and responsibilities
  - Spatial planning (surveying and mapping)
  - Regional traffic planning ,Infrastructure
  - Landscape and environmental affairs
  - Hospital, School and Cultural institutions
  - Waste management
  - Tourism and Leisure activities
  - Definition of competence projects
  - Coordination of government aid and promotions of EU, IFO

Competence projects

- Reclamation of areas affected by mine-related activities
- Water supply
- Waste management treatment plants
- National Development Strategy

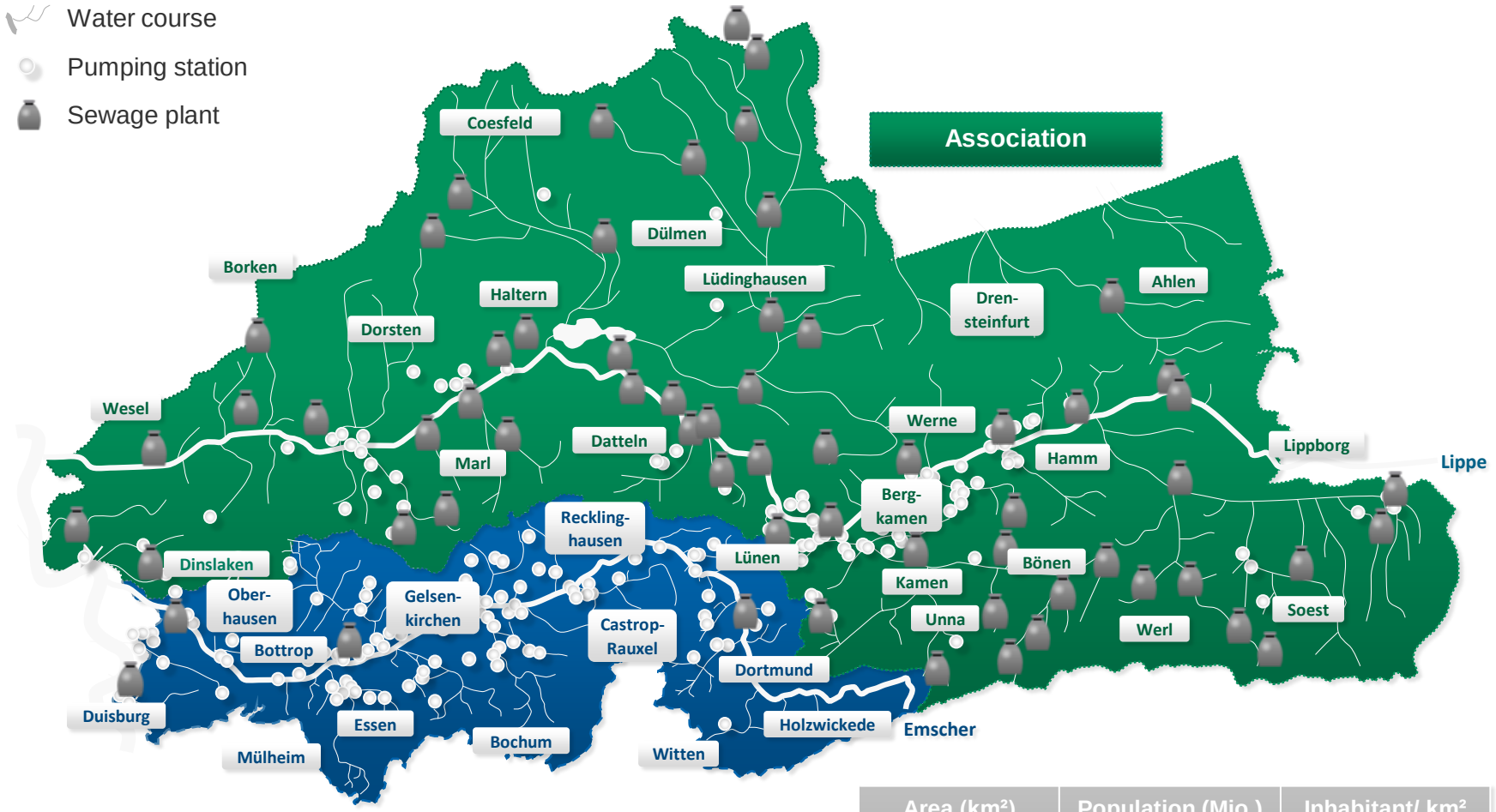
© KVR/E

© KVR/Schumacher

Competence projects

- Reclamation of areas affected by mine-related activities;
- Water supply;
- Waste management treatment plants.
- National Development Strategy

Drainage Area Emschergenossenschaft/Lippeverband



	Area (km²)	Population (Mio.)	Inhabitant/ km²
Lippeverband	3.280	1,4	427
Emschergenossenschaft	865	2,4	2.775

Water Management Parameter

Water course	742	km
Sewer conduit	1.189	km
Pumping station	303	
Polder	842	km²
Sewage plant	60	
Completed size	7,4	Mio. EW
Wastewater disposal	0,9	bn. m³/a
Rainwater treatment plant	370	
Flood control basin	56	
Total volume	4,9	Mio. m³
Dyke	193	km

Sewage Plant „Emscher Mitte“ in Bottrop

Sewage Plant „Emschermündung“ in Dinslaken

Competence projects

- Reclamation of areas affected by mine-related activities;
- Water supply;
- Waste management treatment plants.
- National Development Strategy

Competence projects

- Reclamation of areas affected by mine-related activities;
- Water supply;
- Waste management treatment plants;
- National Development Strategy

Science and research

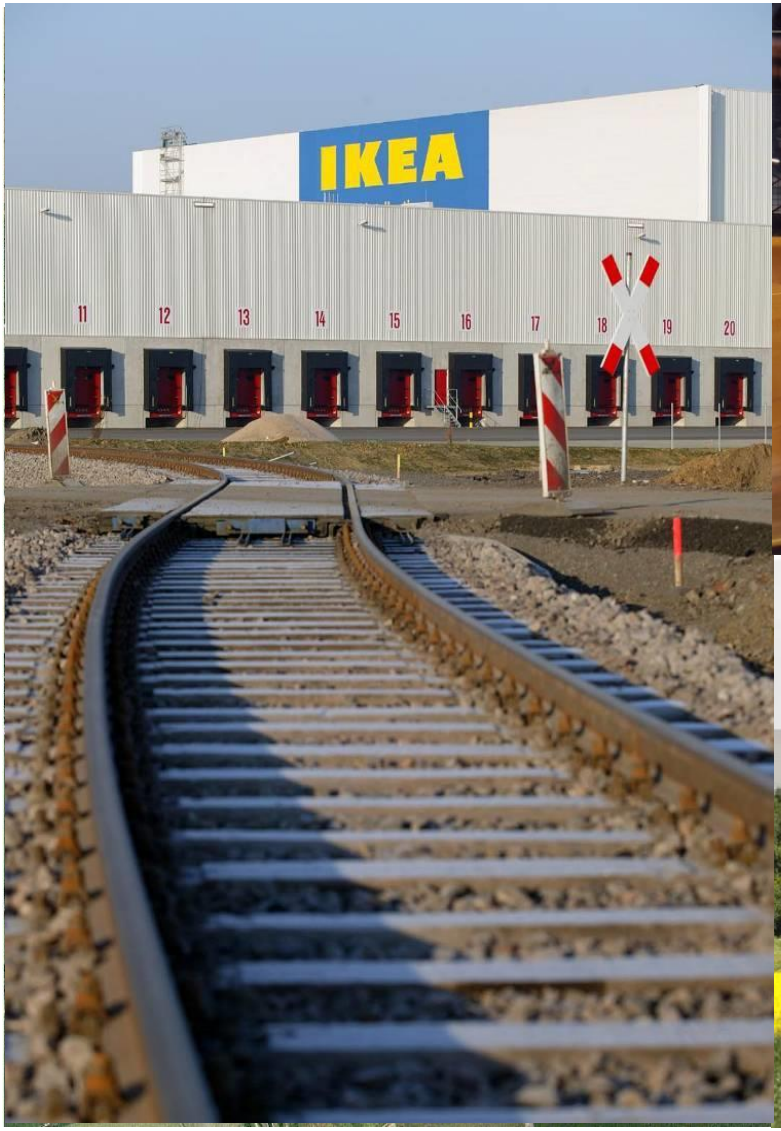
- 6 Universities
- 8 Polytechnics
- 171.000 Students
- 30 Technology centers

- Ruhr University
- Built 1964-70
- 380 Professors and 6.000 members of the staff
- 32.000 Students

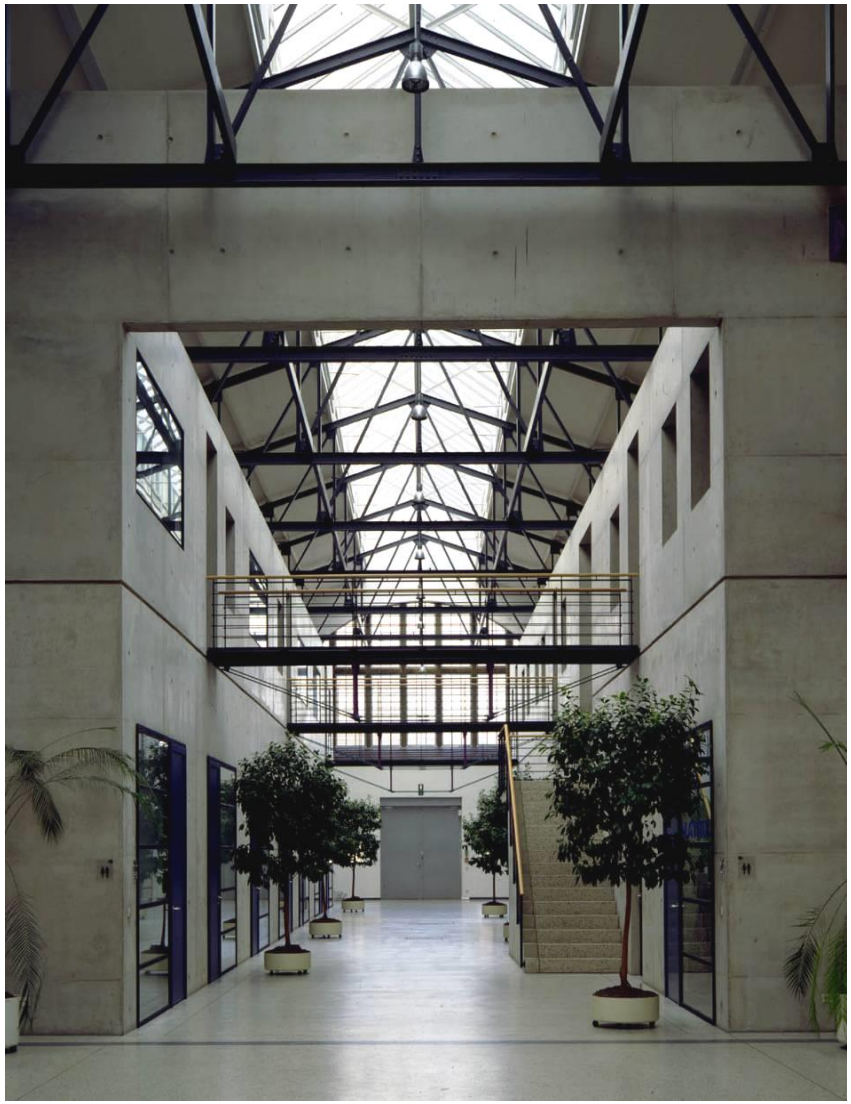
Challenge for the regional policy

- Centro Oberhausen
- Built 1994-96
- 4.000 employees
- 143 ha of a steelmill

GVZ Ellinghausen IKEA, Dortmund



Technologiy and Startup of park Eurotec



Business center of an ex-steel factory area

Structure of the initiativie committee of the Ruhr District

Established in 1989 Engagement for the Ruhr district

Ideal and financial assistance for the Ruhr district

Only commercial Engagement

Personal membership and the members represent the IR

Established until 2020

Model of a Public-Private-Partnership

PPP: Duties, responsibilities and targets

- Impulse of innovation
- Promotion of investments
- Sponsorship of projects in sport, culture, arts and sciences
- Establish clusters of knowledge (Education, Financing, Management, Public Relation)
- Sanitize the public image of the region.

Business plan contest

T a r g e t

- Inward movement of companies in the branch of material technology

- Promotion of job creation

Therefore : Business plan contest „Material“

Rhein-Ruhr International Materials Conference

First Conference on the Villa Hügel , Essen 2005

Topic: Materials for Energy Technology in the 21-st Century“

- **The Challenge: Global Concept for Cutting CO 2 Emissions**
- **The Innovation: Optimization of Existing Power Plants**
- **The Novel Solutions: Material and Technology Aspects for Future Energy Supply**

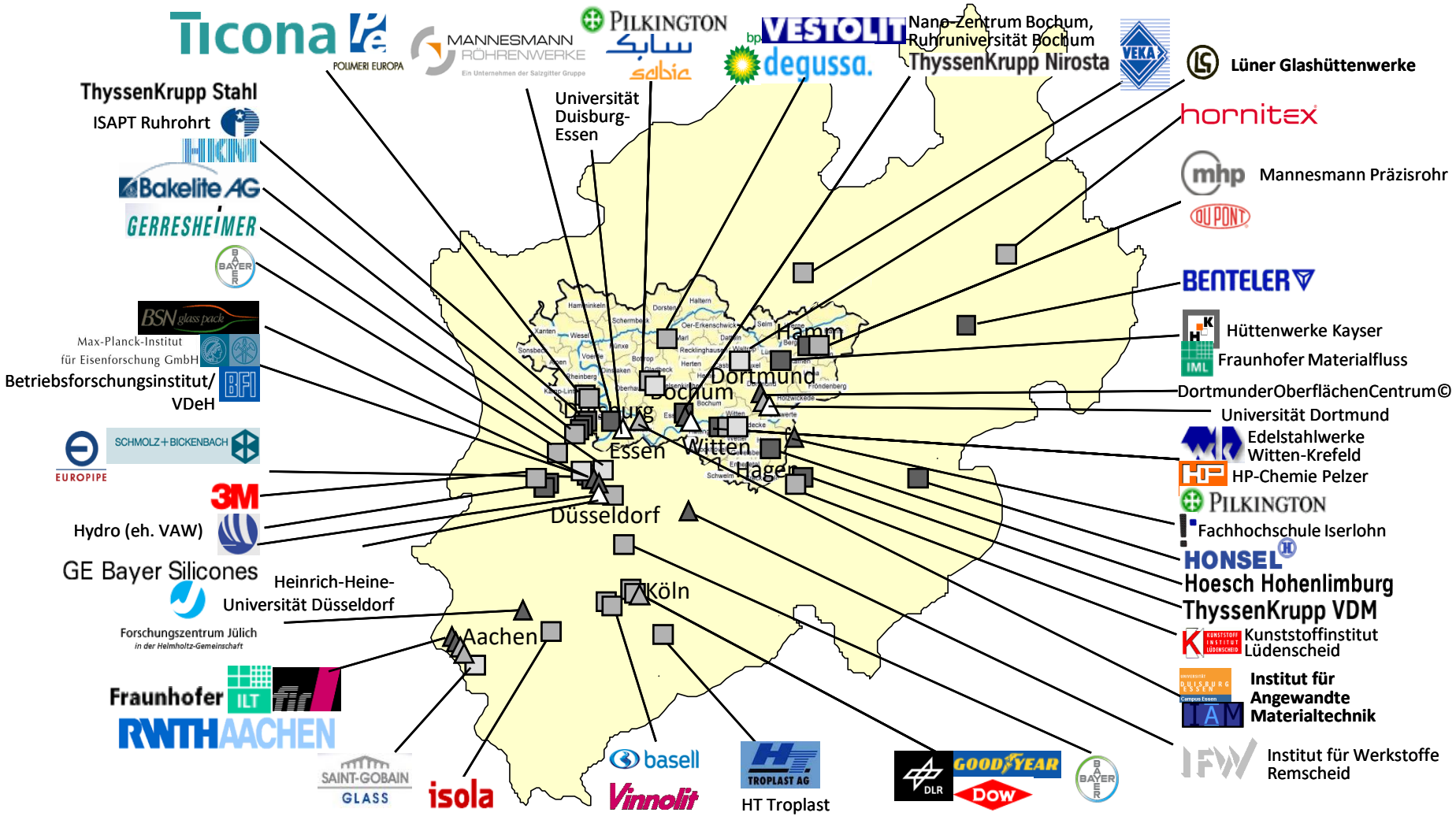
130 top representatives from economy, sciences and politics world wide were invited

Rhein-Ruhr International Materials Conference

T o p i c s

- **Medical Engineering (2006)**
- **Traffic Engineering (2007)**
- **Information Engineering (2008)**
- **Construction Engineering (2009)**

DIE WERKSTOFFREGION RHEIN-RUHR VERFÜGT ÜBER HOHE WERKSTOFFKOMPETENZ Zahlreiche Institute und Firmen aktiv



Quellen: Strukturdaten und Branchenbild in NRW 2001; BCG-Research

Tourism in the Ruhr area

„Not a phantopm, it is a reality“

- ca. 4,5 Mio. Visitors/Year
- Ruhr Triennial: 80.000 Visitors
- Extra shift: 100.000 Visitors

We believe in the potential of the Ruhr District and we want not more but also nevertheless that other people have the same spirit

Dr. Alfred Herrhausen, former CEO of Deutsche Bank AG
and founding moderator of
Initiativkreis Ruhrgebiet

Februar 1989