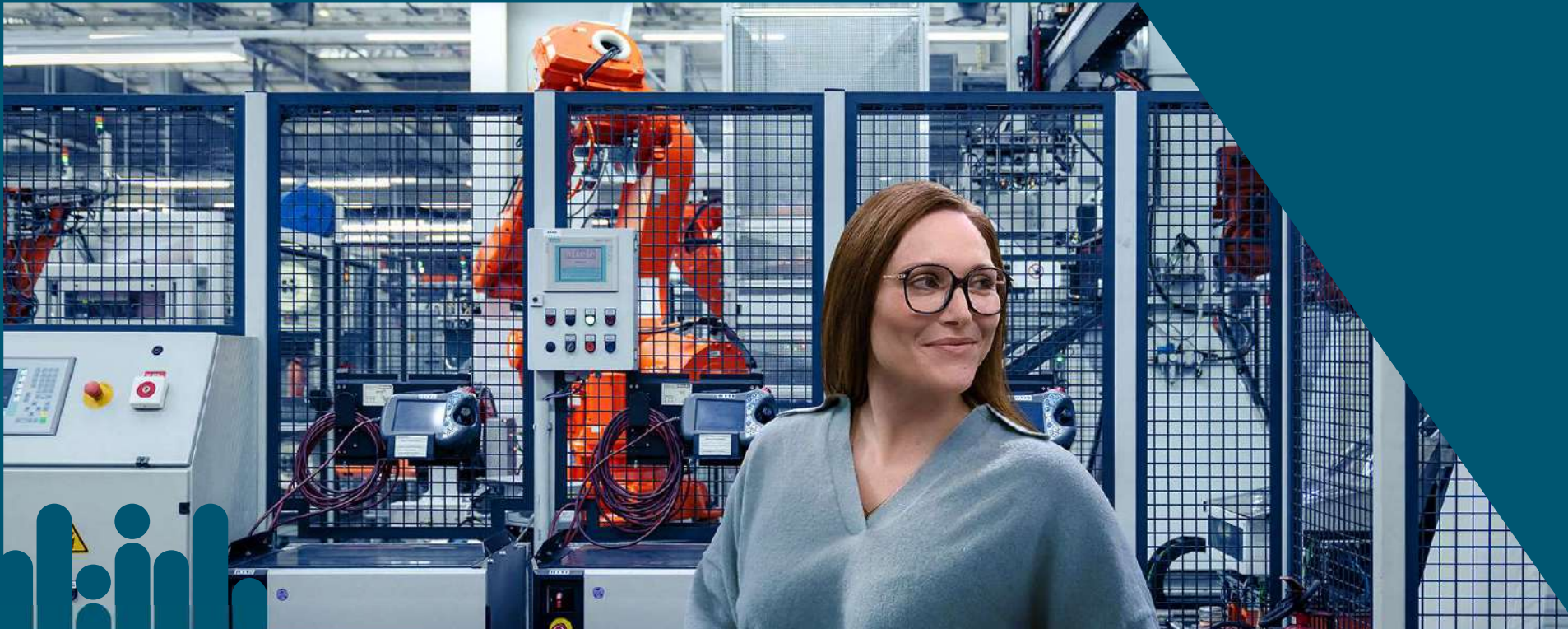
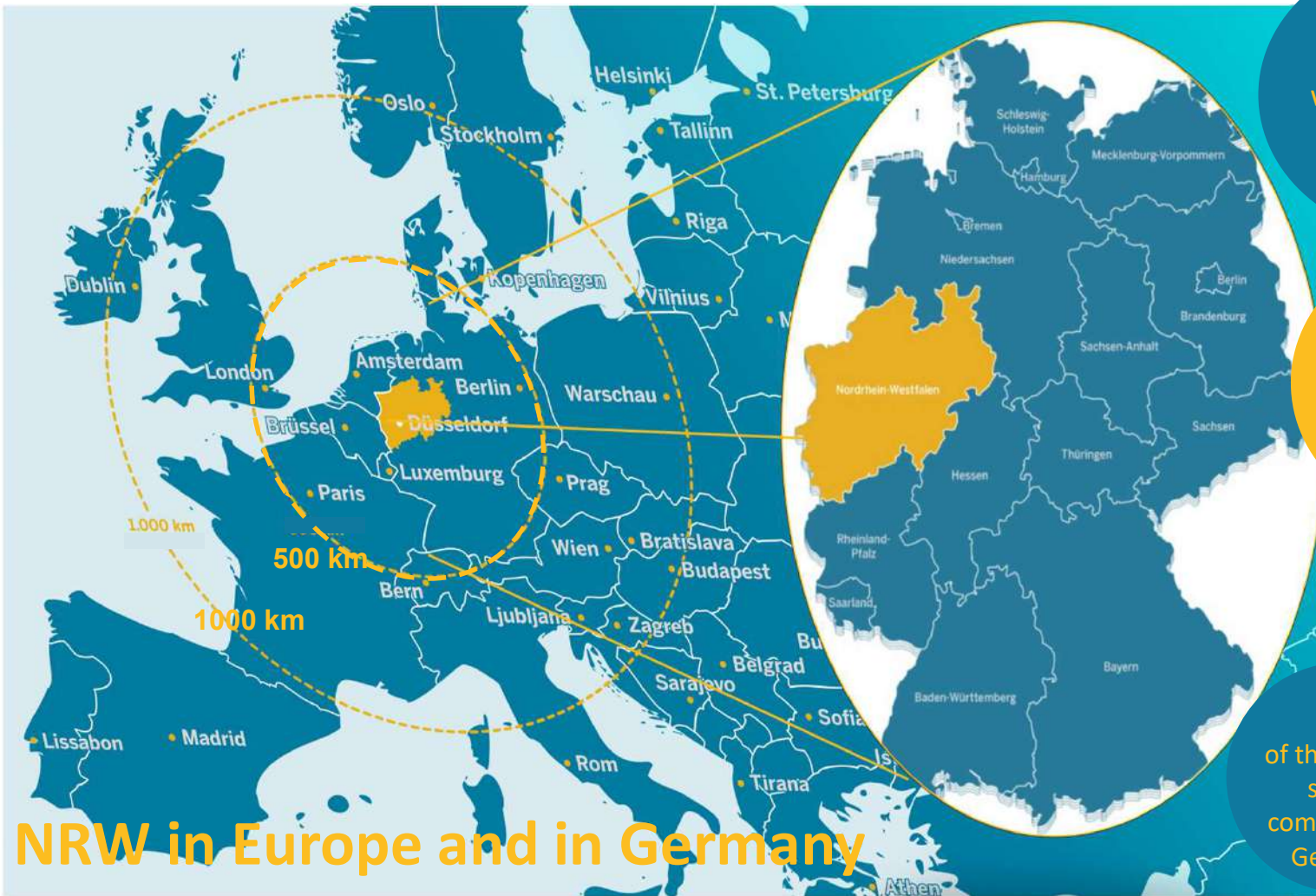


Welcome to North Rhine-Westphalia (NRW) Center of Excellence of Production Technologies and Hub of Cyber Security in Germany





NRW in Germany and in Europe



160 Mio

Consumers within a radius of 500km

GDP 733 bn €

20% of Germany's GDP

17.9 Mio

Inhabitants

700.000

Small and Medium-sized companies

€357 bn

In sales generated by industrial enterprises

17

of the 50 top-selling companies in Germany

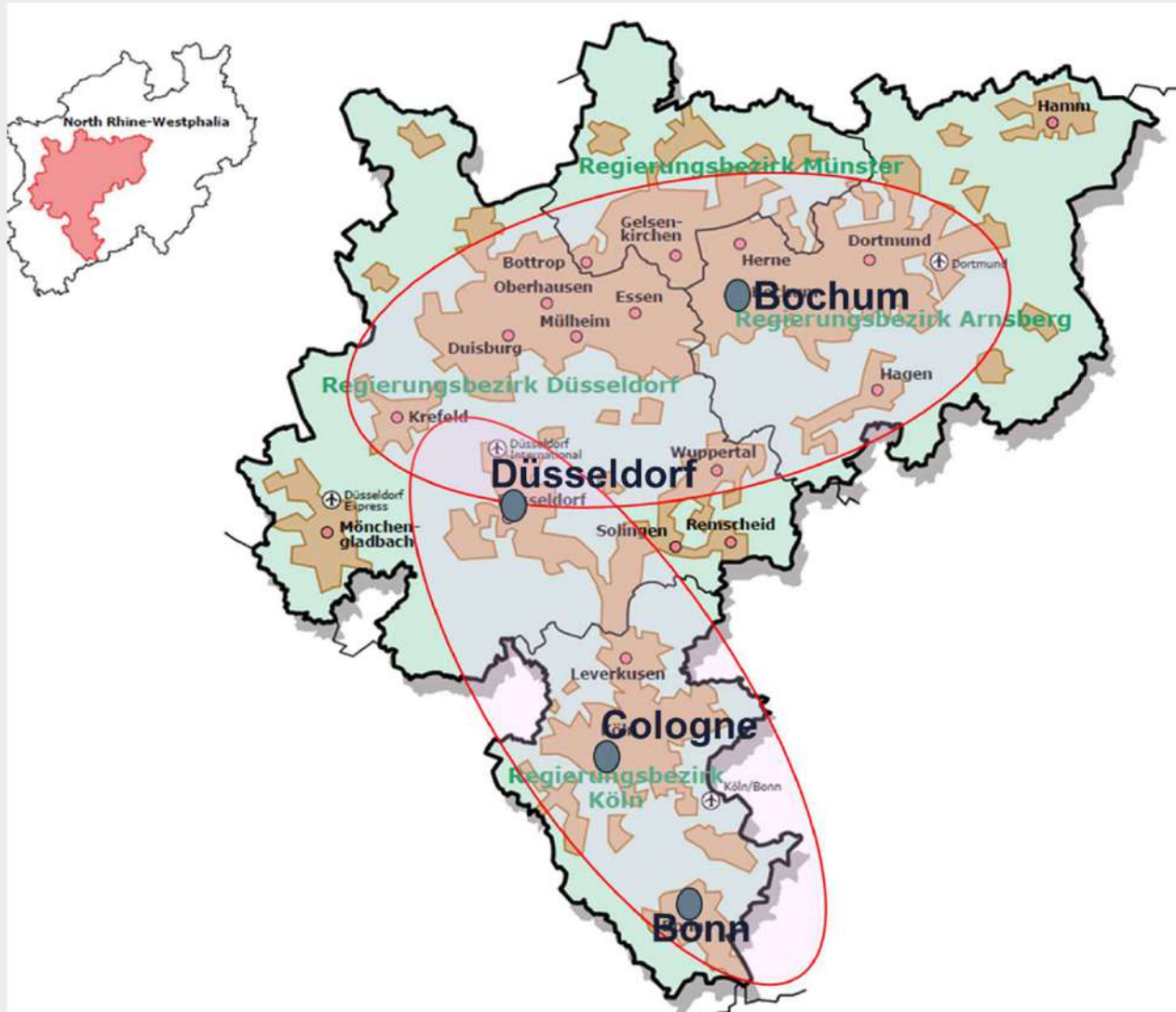
25% of Germany's Hidden Champions

NRW in Europe and in Germany

NRW is the 6th strongest economy on the European continent.



GDP in € bn,
Source: IT.NRW 2023, Eurostat 2023

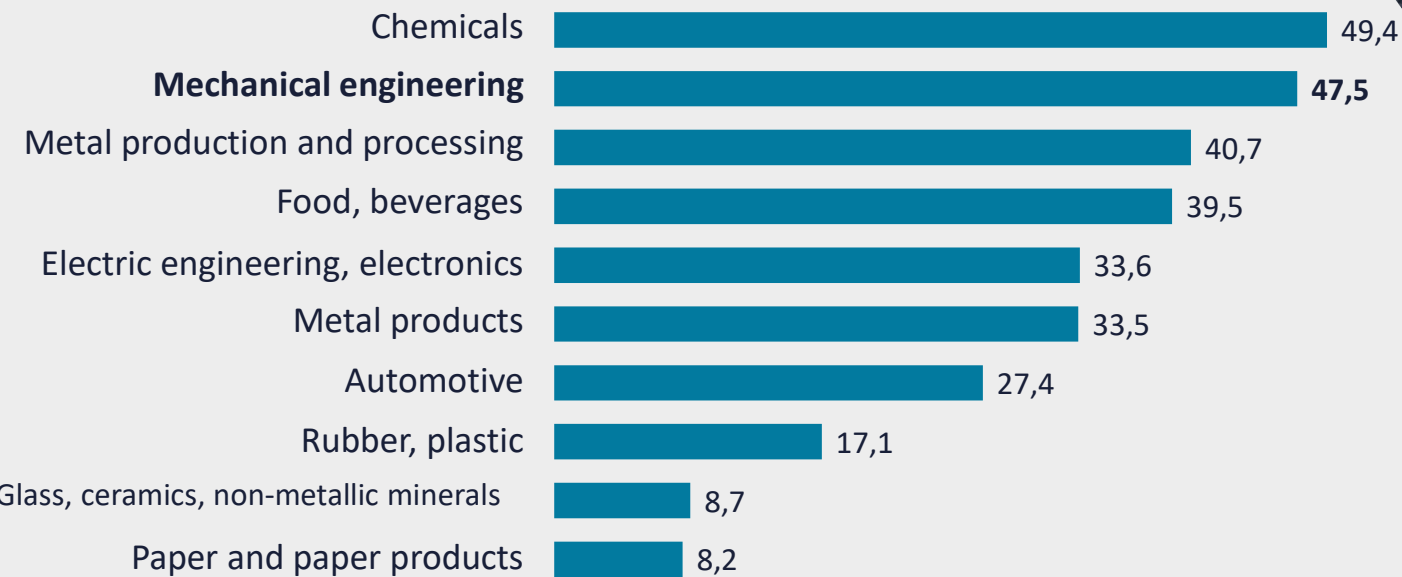


The Rhine - Ruhr Metropolitan Area

- stretches out along the rivers Rhine and Ruhr
- Includes all major cities of NRW: Cologne, Düsseldorf, Duisburg, Essen, **Bochum** and Dortmund
- Accounts for 11 mio inhabitants
- is the industrial and economic core of NRW
- Includes 5 of the biggest universities of Germany

The largest industrial sectors by sales

(2021 in bn €)



Smart Machinery and Smart Manufacturing in North Rhine - Westphalia (NRW)



EUROPE'S  HEARTBEAT

The economic importance of Smart Machinery



Sector sales in NRW:

7,8 Mrd. €



Machine building companies in NRW:

750



Sectoral sales in Germany:

26,8 Mrd. €



Workforce in NRW:

35.100

- The machine building industry in NRW is a driver of Smart Manufacturing.
- The companies generate more than one third of the sectoral sales in Germany
- The most important export markets of the sector are in Asia, Europe und North Amerika.
- A well developed science landscape in NRW supports the development of innovative technologies at a high level.

Quellen:

Statista Analyse (2023)

Berechnungen auf Basis der Umsatzdaten von gewichteten Wirtschaftsklassen (4-Steller) von Destatis. Die Berechnung basiert u.a. auf den folgenden Wirtschaftsklassen: Maschinenbau, Herstellung von Datenverarbeitungsgeräten, elektronischen und optischen Erzeugnissen.

Clusters and Networks for Smart Manufacturing

Mittelstand-Digital Zentrum Ruhr-OWL
Standort: Dortmund
www.mittelstand-digital-ruhr-owl.de

Zentrum für Produktionstechnologie Dortmund
Standort: Dortmund
www.zfp-do.de

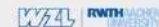
ProduktionNRW Cluster Maschinenbau/Produktionstechnik
Standort: Düsseldorf
www.produktionnrw.org

WZL RWTH Aachen
Standort: Aachen
www.wzl.rwth-aachen.de

Internet of Production
Standort: Aachen
www.iop.rwth-aachen.de

FIR RWTH Aachen
Standort: Aachen
www.fir.rwth-aachen.de

Cluster WEST - Fraunhofer-Institut
Standort: Aachen
www.rokhy.de



owl maschinenbau
Standort: Bielefeld
www.owl-maschinenbau.de

SmartFactoryOWL
Standort: Lemgo
www.smartfactory-owl.de

ARC – Automatisierungs- und Robotik-Center
Standort: Greven
www.muensterland.com

it's OWL
Standort: Paderborn
www.its-owl.de

Netzwerk Industrie RuhrOst e. V. (NIRO)
Standort: Unna
www.ni-ro.de

Netzwerk Maschinenbau Südwestfalen (NEMAS)
Standort: Altena
www.nemas-sw.de

Maschinenbaunetzwerk Bergisch Land
Standort: Solingen
www.maschinenbaunetzwerk.de

NRW: Logistic Hotspot No. 1 – Europes densest transport infrastructure

Duisburg

world's
biggest inland port

120 ports,
112.1 million
tons of goods by
ship

25%

of all logistics centers
in Germany

2,200 km
of expressways

Max 3h

Flight to all major
cities in Europe

From
6 airports to half
of the world

Cybersecurity in North Rhine – Westphalia (NRW)

EUROPE'S  HEARTBEAT

Cybersecurity

Sector of economic importance for NRW



Turnover in NRW:

1,2 Mrd. €



Companies in NRW:

900



Turnover in Germany:

7,02 Mrd. €



Employment in NRW:

5.300 and growing

North Rhine-Westphalia is a leading location for cybersecurity that offers companies and investors ideal conditions.

With around 900 IT security companies, several global players, a large number of SMEs and a broad research landscape, NRW is one of the top centers for cybersecurity in Europe.

Quellen:

Statista Analyse (2023)

Berechnungen auf Basis der Umsatzdaten von gewichteten Wirtschaftsklassen (4-Steller) von Destatis. Die Berechnung basiert u.a. auf den folgenden Wirtschaftsklassen: Datenverarbeitung, Hosting, verbundene Tätigkeiten, Beratungsleistungen der Informationstechnologie, Betrieb von Datenverarbeitungseinrichtungen für Dritte.

Cybersecurity

Exportvolume and Exportmarkets



Export volume

58,4 Mio. €



Export rate

5 %



Top 3 exportmarkets for NRW companies



Schweiz



Netherlands



Austria

Quellen:

Statista Analyse (2023)

Berechnungen auf Basis des Warenverzeichnisses der Außenhandelsstatistik (2-Steller) von Destatis.

Cybersecurity: Clusters and Networks in NRW

CASA– Cyber Security in the Age of Large-Scale Adversaries
Standort: **Bochum**
www.casa.rub.de



eurobits e.V.
Standort: **Bochum**
www.eurobits.de



DIGITAL.SICHER.NRW.
Standort: **Bochum/Bonn**
www.digital-sicher.nrw



Bonn



Cyber Security Cluster Bonn e.V.
Standort: **Bonn**
www.cyber-security-cluster.eu

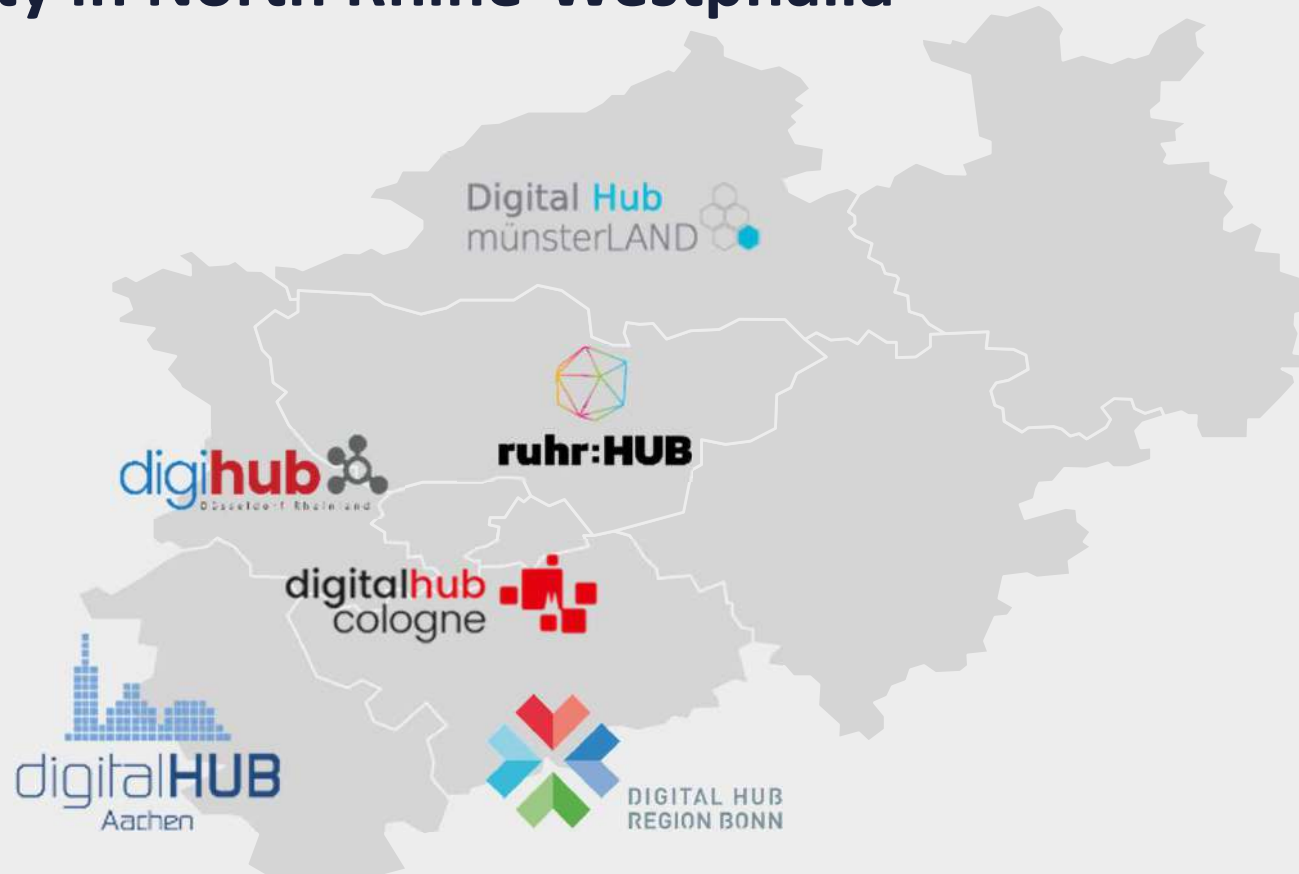
Paderborn



it's OWL
Standort: **Paderborn**
www.its-owl.de

Cybersecurity in North Rhine-Westphalia

Start-up hubs





Ensuring Cybersecurity with special incentives for SMEs in NRW

In addition to a number of nationwide programs for digitalization and innovation, the state of NRW specifically supports small and medium-sized enterprises (SMEs).

- **„Mittelstand Innovativ & Digital (MID)-Digital Security“**: As part of the MID Digital Security program, SMEs receive an external security audit, training for employees and basic IT protection consisting of software and hardware
- **„NEXT.IN.NRW“**: An innovation funding program that, among other things, focuses on “information and communication technologies and cybersecurity in the economy”.

NRW: Europe's densest R&D Landscape

68

Universities &
Technical Colleges

60

Technology Centers

30+

Technology Transfer
Units

AI

AI, enevitable for smart manufacturing and cybersecurity

(AI is KI in German)

AI is a key technology for smart manufacturing and for smart logistics.

Politics, science and industry work hand in hand to reach excellence in development of AI and AI applications



KI. NRW is the central networking initiative in the field of artificial intelligence in NRW initiated and funded by the NRW government.

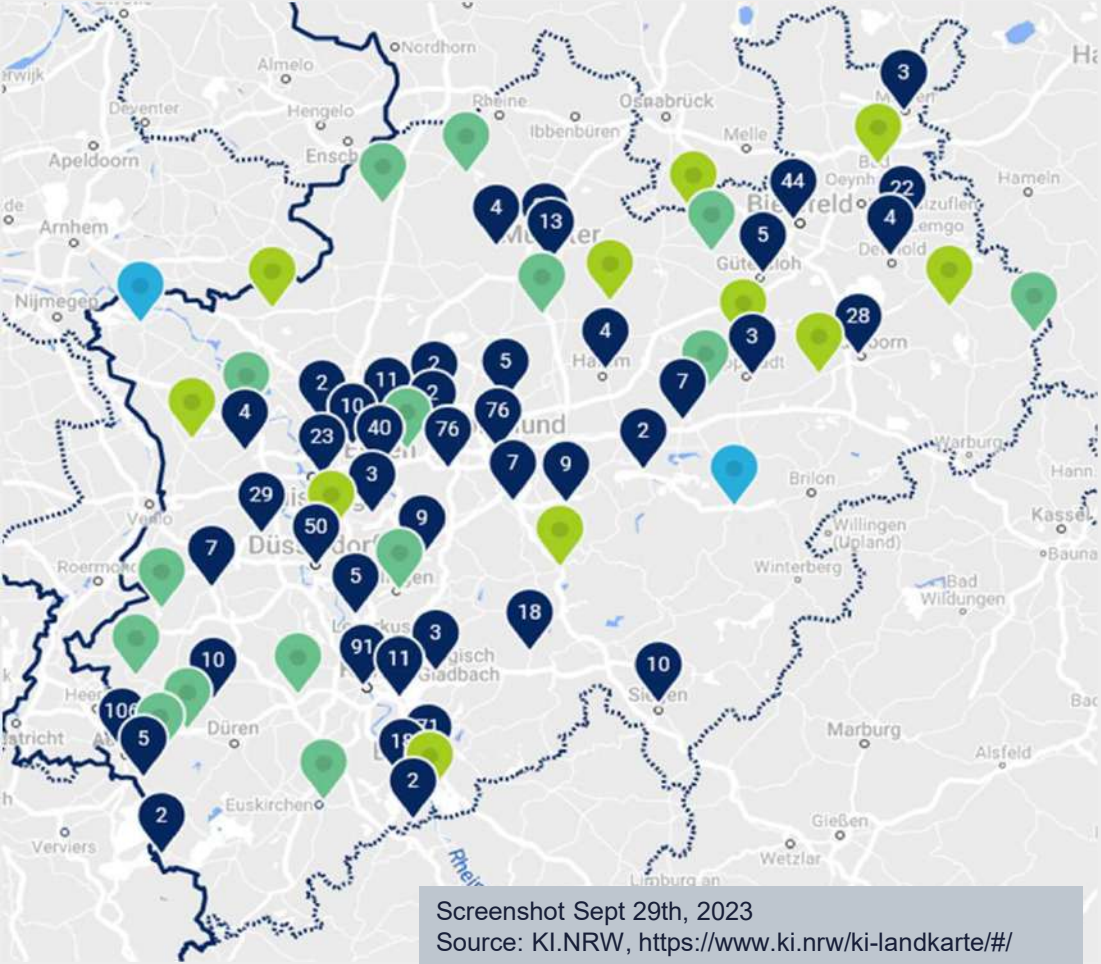
As a central point of contact, KI.NRW supports small and medium-sized enterprises in particular in taking advantage of the opportunities offered by artificial intelligence.

KI.NRW runs AI lighthouse projects funded by NRW:

Large companies, SMEs and start-ups work closely with universities and research institutions to solve socially relevant issues.

<https://www.ki.nrw/en/flagships-en/#>

The AI Map of NRW

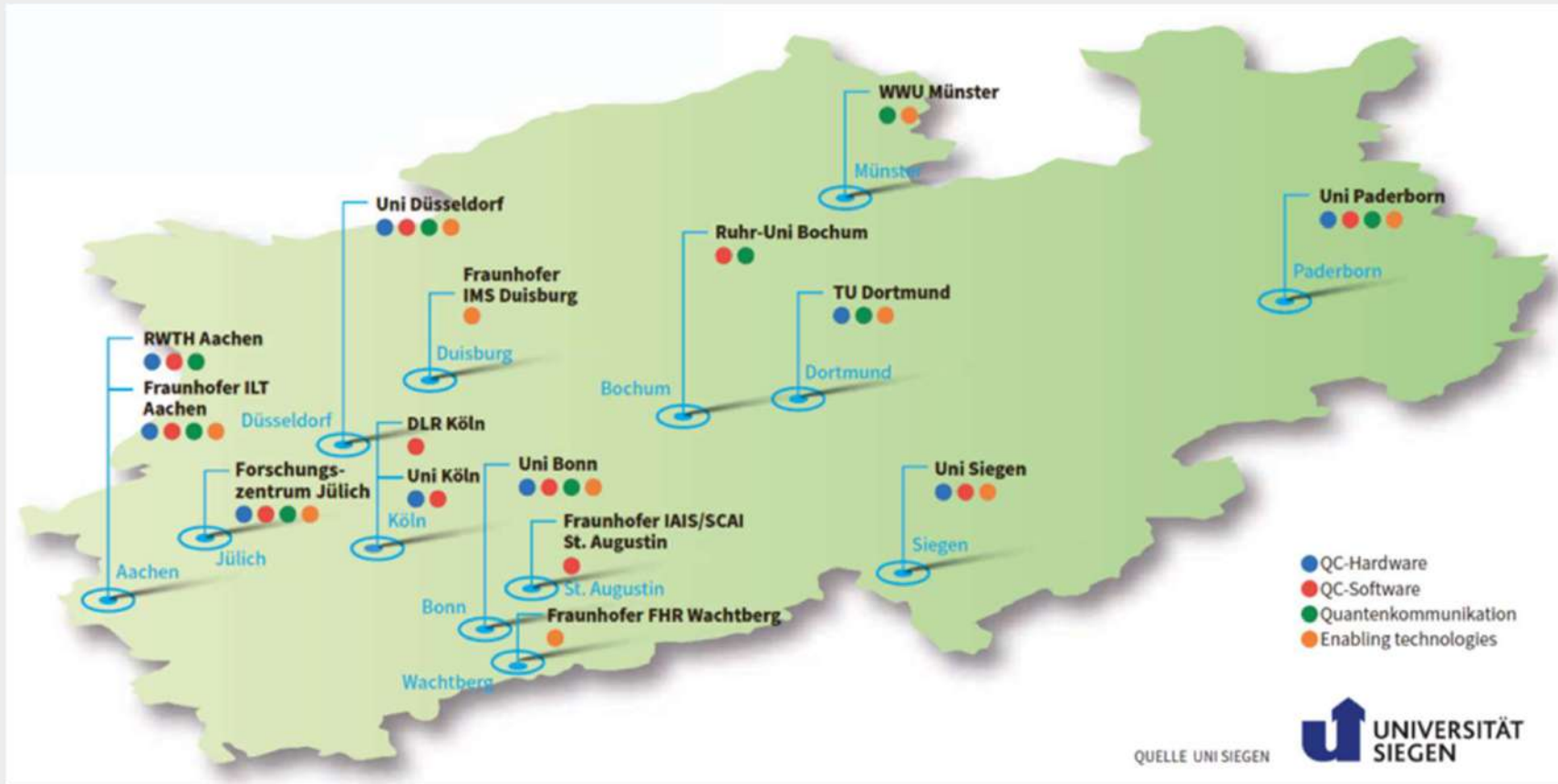


AI in Business: 394 entries
176 companies
95 pilot applications
94 AI products
29 transfer centers

AI in Science: 371 entries
93 research institutions
278 research projects and
research cooperations

AI qualification: 151 entries
46 professional education
105 University courses

Quantum computing in NRW



The NRW R&D landscape in Cyber Security

EUROPE'S HEARTBEAT



Horst Görtz Institute for IT-Sicherheit



Westfälische Hochschule Gelsenkirchen



Ruhr-University of Bochum



Max Planck Institute for Security and Privacy



Cyber Campus Nordrhein-Westfalen



Rheinische Fachhochschule Köln



Rheinische Friedrich-Wilhelms-Universität Bonn



NRW: One of Europe's best breeding ground for talent

780,000

Students at NRW
Universities

27%

of all students in
Germany

More than every third
student is enrolled in
a STEM subject

NRW is the most international and most Asia oriented region in Germany



1.200

Huawei, Minmetals, Shangong, XCMG, ZTE



650

Canon, Denso, Fujifilm, Hitachi, Mitsubishi Electric, NEC, Shimadzu, Shiseido, Takasago, Toshiba, Toyota



120

Alivira, Bharat Forge, BSV Bioscience, Infosys, RCL, Sudarshan Chemicals, TCS, Venus Pharma, Wipro



60

Doosan Machine Tools Europe, Hwacheon, Unitech



60

Emery Oleo, KLK, Cocotama Germany GmbH, Top Glove, Prisma Solar

- Most investment projects are from Greater **China**.
- Companies from **Japan** cover all industries and are the biggest employers with 53000 employees
- Investments from **India** focus on the ICT sector.
- **Korean** SMEs aim at the automotive market.
- Major investor countries from **ASEAN** are: Malaysia, Singapore and Thailand.



London and Paris? Nice places.
But you'll find the best mix of
European and Japanese life- and
workstyle in NRW!

Business-hub no.1 in Europe for Japanese companies

- NRW and Japan have a long standing and important economic relationship
- Around 650 Japanese companies have settled in NRW
- Approx. 53.000 people work in Japanese companies
- Annual turnover amounts to approx. 38 billion euros
- 67% are pure subsidiaries
- Half of all Japanese companies have their European HQ in NRW
- Key industries: automotive suppliers, mechanical engineering, telecommunications, electronics, chemicals and pharmaceuticals
- **NRW's capital city Düsseldorf** is the center of Japanese business and life in Germany



NRW's capital city Düsseldorf: Center of Japanese life- and workstyle in Europe

- 8.500 Japanese live in Düsseldorf
- 500 Japanese companies in town
- Japanese Consulate General
- Japanese Chamber of Commerce and Industry,
- Banks, forwarding agents, insurers, lawyers, tax consultants, HR consultants
- The yearly German – Japanese Business Symposium attached to the “Japan Day” is the largest in Germany
- Japanese Club with many cultural activities
- 4 Kindergartens with 320 pupils
- A Japanese International School (up to high school) with more than 500 students
- More than 20 Japanese restaurants in Düsseldorf
- Japanese medical doctors, Japanese supermarkets, book shops, hairdressers
- Yearly “Japan Day” – the biggest Japanese-German cultural festival in Europe



A satellite night view of Europe, showing city lights and industrial areas. Germany is highlighted with a white outline, and a red dot marks a specific location within it. Two concentric dashed blue circles are centered on this location. The background is a dark blue/black space with numerous yellow and white lights representing cities and industrial zones across the continent.

**North Rhine-Westphalia (NRW),
Germany's Industrial Powerhouse
is looking forward to welcome you!**

Thank you very much for your attention!