



DAAD Postdoctoral Networking Tour in AI Employer's Perspective from Bosch

Michael Pfeiffer, Bosch Corporate Research, 24 January 2024

DAAD Seminar: Attracting and Retaining Talent for AI in Europe

Bosch: Who We Are

Our business sectors



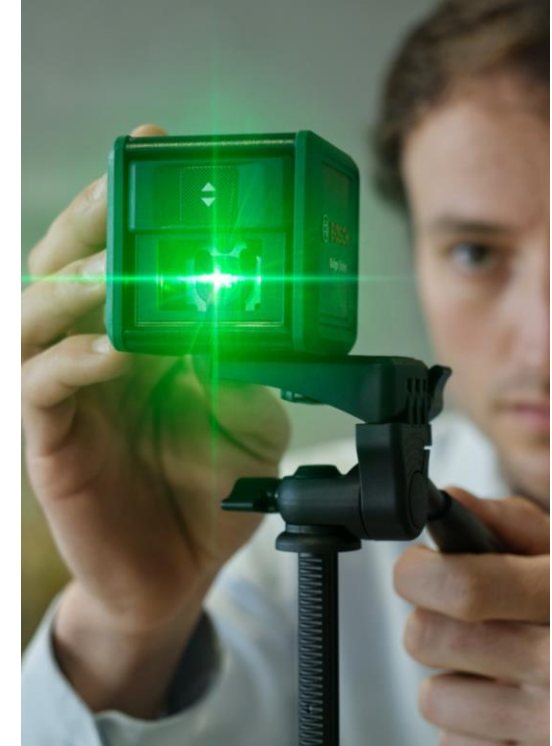
Mobility Solutions



Industrial Technology



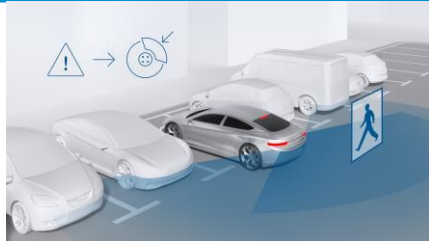
Energy and Building Technology



Consumer Goods

Industrial AI at Bosch

AI-based smart products



Driver Assistance



Industrial Robotics



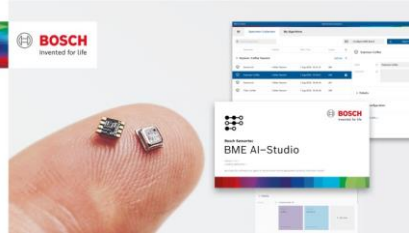
Home Robotics



Building Technologies



Smart Home



Smart Sensors



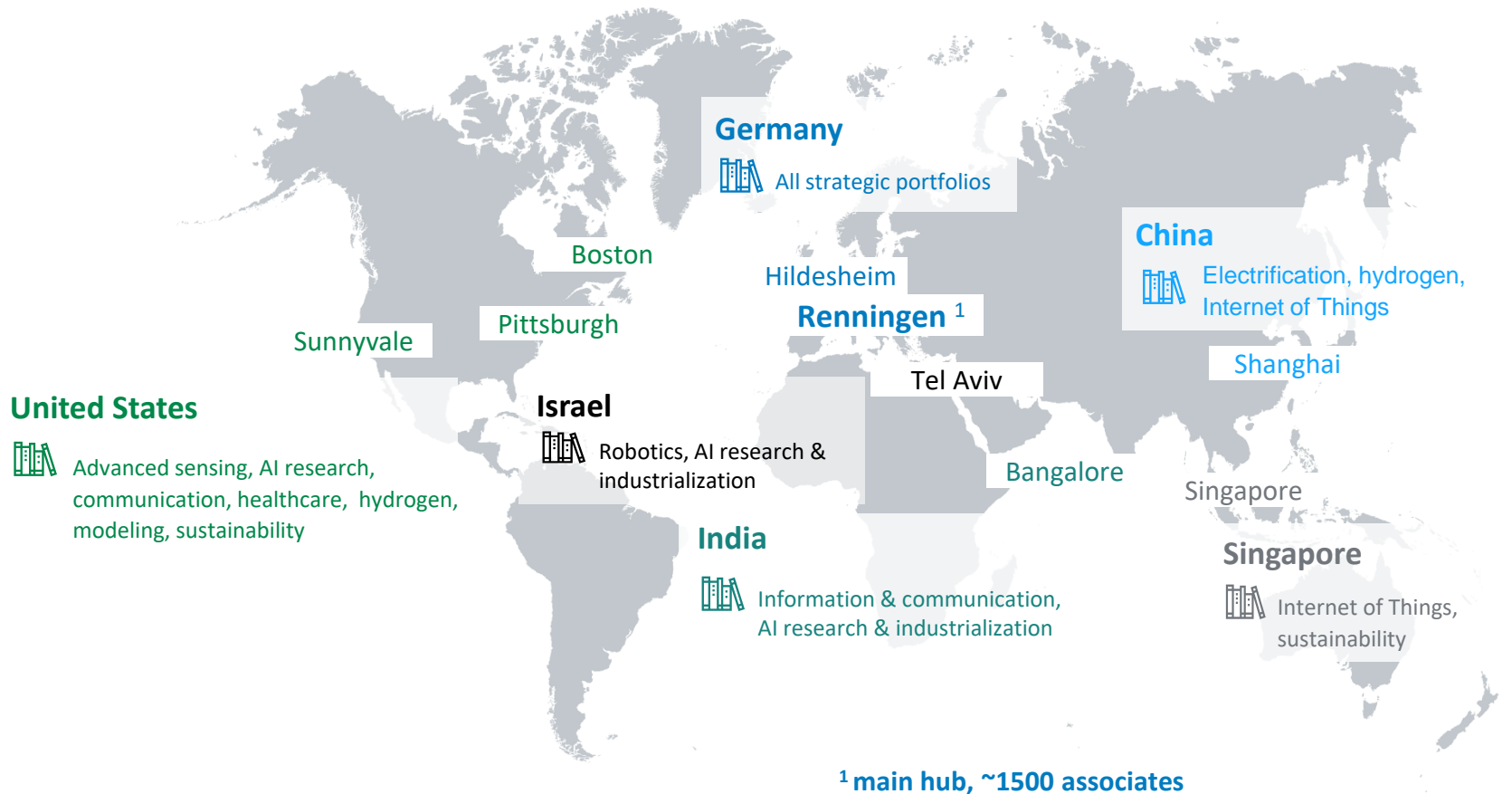
Vivalytic







Software-defined Vehicle

Bosch Research

Leveraging our international setup



-  **Connect to the best**
-  **Connect to RB local**
-  **Local Tech markets**
-  **Regional economics & talents**

Our Research Campus Renningen



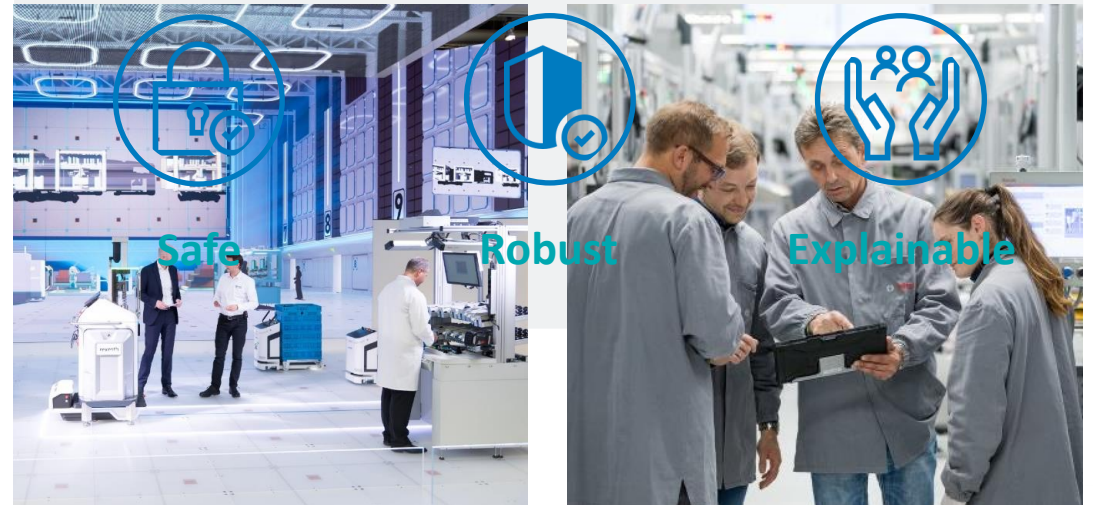
Industrial AI at Bosch. What is Industrial AI?

Industrial AI is...

...the industrial application of AI for the creation of value. It incorporates **smart products** and machines plus their **creation** (engineering, manufacturing).

...characterized through its key qualities **safety**, **robustness** and **explainability**. Mastering these key qualities is a **mandatory business requirement**.

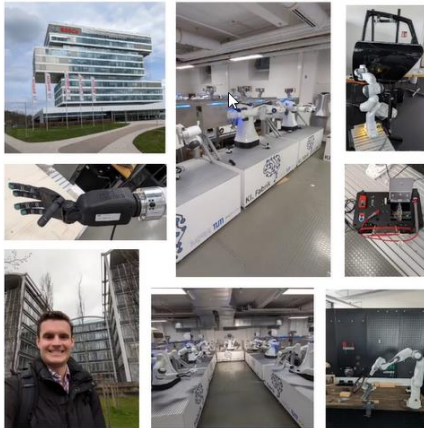
Typical use cases of Industrial AI can be found in **automated driving**, **manufacturing**, **online optimization**, **robotics**, and **more**.



DAAD Postdoctoral Networking Tour in AI

Bosch @ DAAD Postdoctoral Networking Tour in AI

- 2020: first participation – purely virtual due to Corona
- 2021: first physical site visits of participants from 2020
- 2022: participated in “AI in Cyber Physical Systems” tour
- 2023: participated in “Generative Models in Machine Learning” tour
- 2024: participation in “Safety and Security in AI” tour planned



Site Visit of Jack Collins (Uni Oxford), 04/2023



Site Visit of Yifan Zhang (NU Singapore), 11/2023



DAAD Postdoctoral Networking Tour in AI

Experience from Employer Perspective

- Unique opportunity to connect to an international pool of highly talented candidates from **top universities**
- Promote **AI research opportunities** in Germany and Europe
- **Virtual meetings** are interesting for both sides
- **On-site visits** provide great talks to inspire the team and create lasting connections for future joint research
- **Side effects:** marketing & connections between host institutions

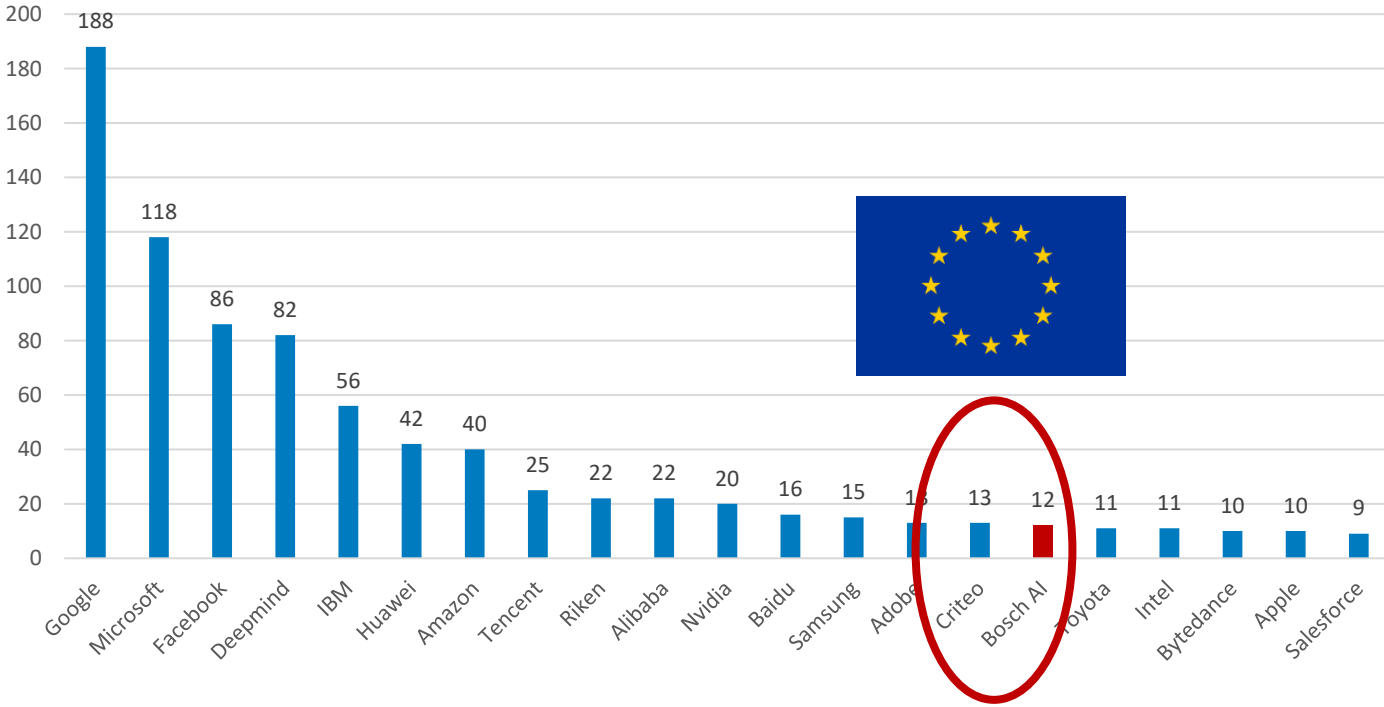
- **Observations:**
 - International talents have high awareness of **individual top researchers** in Germany / Europe
 - It's hard for them to identify the **top AI universities** in Germany / Europe
 - **Low awareness** of European / German industry in AI – US companies dominate the news
 - Most participants want to **grow their networks** rather than find a job in Germany immediately
 - Participants **highly appreciate the program**, in particular the opportunity for on-site tours



AI Research at Bosch

Global Competition in AI Research

TOP50 publications @ NeurIPS 2021
(Industrial institutes only)



Attracting and Retaining AI Talents in Germany and Europe

Challenges and Lessons Learned

- **Challenge 1: Awareness of opportunities in Europe is low**
 - The field is strongly dominated by US and Chinese tech giants and top universities
 - European research landscape is highly fragmented – few universities stand out (no Stanford, CMU, MIT, ...)
 - Europe is known for top fundamental research – not for startups or big AI players
 - PostdocNet AI Tour is a great opportunity to provide a better-structured overview for international talents
- **Challenge 2: Europe is not the #1 choice for top talents**
 - Salaries, access to data and compute, venture capital, ... is perceived better outside of Europe
 - Top talents are very mobile, and demand continues to be extraordinarily high
 - Reasons for interest in moving to Germany / Europe often is personal or quality of life
 - After a PhD in Germany / Europe, many postdocs aim for careers in the US or American companies
- **Challenge 3: Uncertainty of academic career paths**
 - Most candidates are still deciding between academic and industrial career paths
 - Early postdoc candidates seek industry contacts to expand their networks (e.g. for joint projects)
 - Experienced postdocs are more interested in benefits of industry careers

Attracting and Retaining AI Talents in Germany and Europe

Recommendations for Action

▪ **Promoting the European strengths in AI**

- Increase marketing and joint efforts (e.g. ELLIS) to bring more structure into European initiatives
- Diversity and fundamental research, but also industrial AI are fields where Europe is strong
- European research is perceived as credibly interested in promoting AI for good causes

▪ **Enhance European competitiveness in AI**

- Big struggle to transfer fundamental AI research into successful business
- Lack of venture capital and bureaucracy are perceived as blockers
- Lack of compute resources and data is increasingly critical for academic research

▪ **Enhance European Entrepreneurship: facilitate collaboration of academia and industry**

- Transferring fundamental research into industry solutions is rarely incentivized in academia
- Too few European companies invest into AI Research like Bosch

Attracting and Retaining AI Talents in Germany and Europe

Summary

- Bosch is very happy **continuing to support** the DAAD Postdoc-NeT-AI Initiative
- We **encourage participation** of more German / European industrial players to promote Europe as an attractive place for cutting-edge AI Research
- Main benefit: **increasing awareness** of the European AI landscape for top international talents
- **We are in strong global competition** to attract AI talents – but also have a **high risk of losing our own European talents**
 - Necessary to increase long-term attractiveness and career perspectives in industry and academia
- **We need more such efforts** to promote Europe's competitiveness in attracting and retaining the best AI talents