Robotika ako prierezová téma slovenského priemyslu a záverečná konferencia k projektu Integrated policymaking in the area of RDI

Final Conference

2025-04-11

European Commission

European Commission

AGENDA

9:00-9:30 Registration & Breakfast

9:30-9:40 Welcome & Opening Remarks

9:40-10:00 Keynote Speech on Robotisation in Slovakia

10:00-10:30 Presentation on Key Project Deliverables (D3 Focus)

10:30-10:50 Coffee Break

10:50-11:50 Panel Discussion: Is Robotisation a Horizontal Priority for Slovakia?

11:50-12:00 Closing remarks

European Commission

Welcome & Opening Remarks

European Commission

Robotika – horizontálna priorita RIS3

Miroslav Balog

RIS3


Inovatívny priemysel
pre 21. storočie


Digitálna transformácia
Slovenska

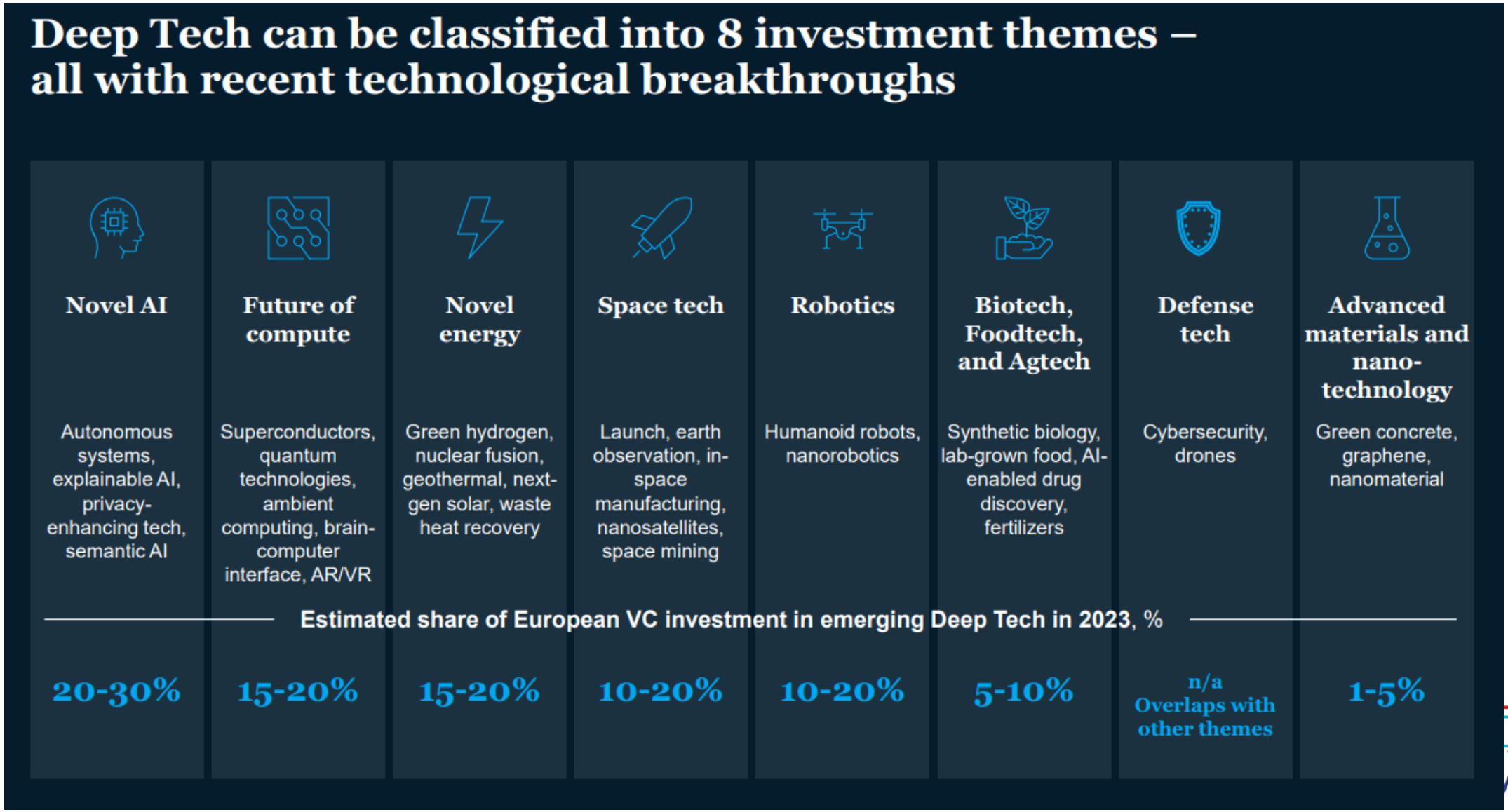

Zdravá spoločnosť


Mobilita
pre 21. storočie


Potravinová
konkurencieschopnosť a
klimatická odolnosť

McKinsey & KPMG & Draghi

McKinsey


Deep Tech can be classified into 8 investment themes – all with recent technological breakthroughs
Novel AI
Autonomous systems, explainable AI, privacy-enhancing tech, semantic AI
Future of compute
Superconductors, quantum technologies, ambient computing, brain-computer interface, AR/VR
Novel energy
Green hydrogen, nuclear fusion, geothermal, next-gen solar, waste heat recovery
Space tech
Launch, earth observation, in-space manufacturing, nanosatellites, space mining
Robotics
Humanoid robots, nanorobotics
Biotech, Foodtech, and Agtech
Synthetic biology, lab-grown food, AI-enabled drug discovery, fertilizers
Defense tech
Cybersecurity, drones
Advanced materials and nano-technology
Green concrete, graphene, nanomaterial
Estimated share of European VC investment in emerging Deep Tech in 2023, %
20-30%
15-20%
15-20%
10-20%
10-20%
5-10%
n/a
Overlaps with other themes
1-5%

McKinsey

Deep Tech can be cl
all with recent techn

Novel AI

Autonomous systems, explainable AI, privacy-enhancing tech, semantic AI

Future of compute

Superconductors, quantum technologies, ambient computing, brain-computer interface, AR/VR

Gree
nuc
geot
gen
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Estimated sh

20-30%

15-20%

1

Contents

s –

Defense tech

Cybersecurity, drones

%

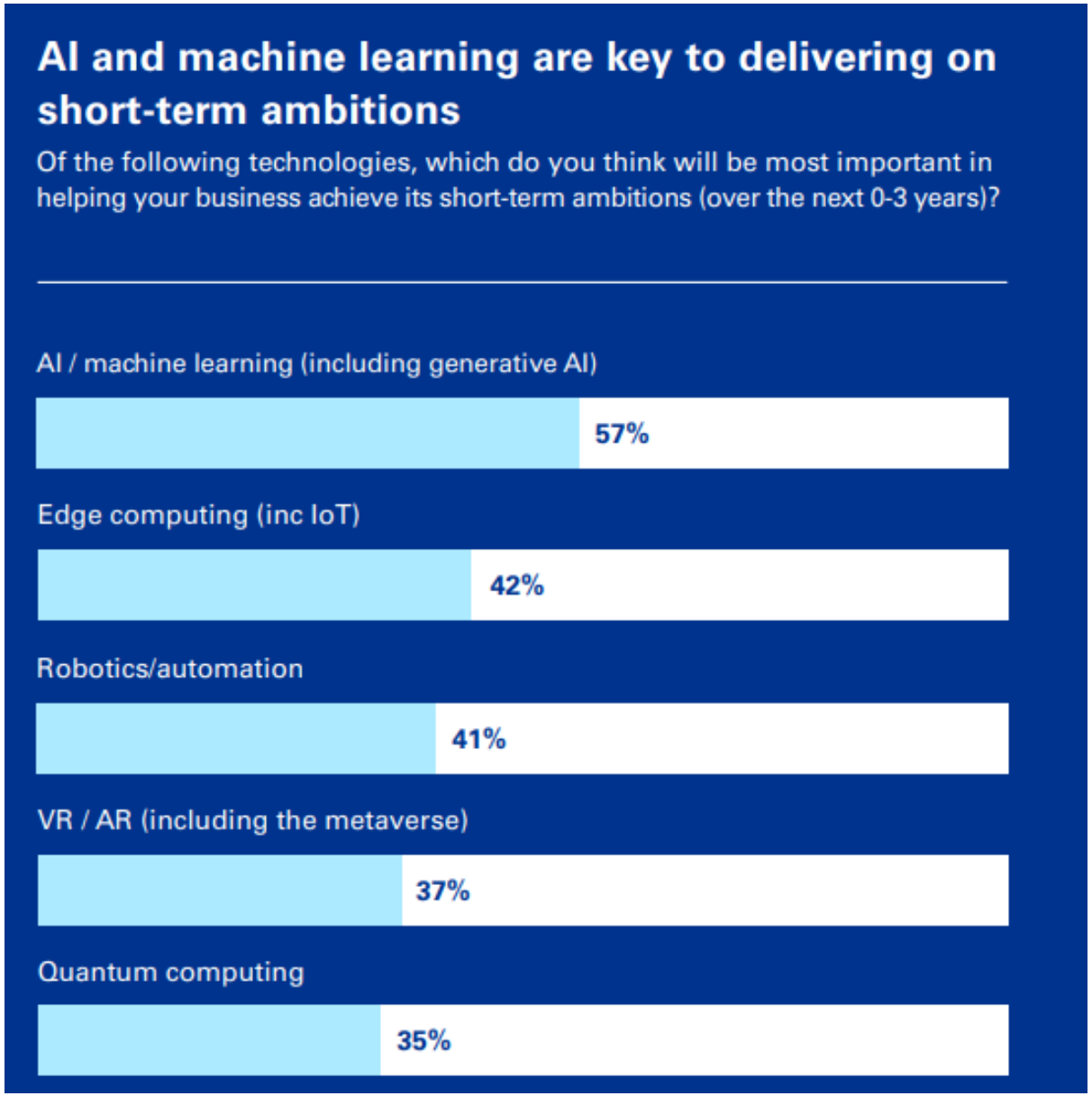
n/a
Overlaps with other themes

Advanced materials and nano-technology

Green concrete, graphene, nanomaterial

1-5%

KPMG


AI and machine learning are key to delivering on short-term ambitions
Of the following technologies, which do you think will be most important in helping your business achieve its short-term ambitions (over the next 0-3 years)?
AI / machine learning (including generative AI)
57%
Edge computing (inc IoT)
42%
Robotics/automation
41%
VR / AR (including the metaverse)
37%
Quantum computing
35%

Draghi

Objectives and proposals

The EU must have the ambition to be a leader in developing AI for its sectors of strength, regain and retain control over data and sensitive cloud services, and develop a robust financial and talent flywheel to support innovation in computing and AI. To achieve this, the EU should aim to:

- Secure a strong position during the next five years in AI embedded in key industrial sectors, such as advanced manufacturing and industrial robotics, chemicals, telecoms and biotech based on a set of EU-developed sectoral Large Language Models and Vertical Models.
- Expand the EU's computing capability and capacity of the Euro-HPC network across Europe to serve both science and research, as well as to business ventures.
- Retain control of security, data encryption and residency capabilities within EU companies and institutions and facilitate the consolidation of EU cloud providers.

1. **Create an EU semiconductor budgetary allocation complementary to Member States' allocations, as well as ensure all other pre-conditions to develop a long-term EU Semiconductor Strategy aimed to boost Europe's open strategic autonomy, by:**
   - Ensuring a centralised EU budgetary allocation dedicated to semiconductors, allowing Member States' co-investment on priority initiatives and industrial projects of high EU added value.
   - Facilitating voluntary R&D and demand requirements to increase the critical mass necessary to support the EU chips industry strategic investments in innovative chips – e.g. shared industry pilot lines in the automotive industry, industrial robotics, aerospace, telecoms equipment and medical devices – safeguarding them from EU anti-trust enforcement.

2. **Launch an 'EU Vertical AI Priorities Plan'. Within these priorities, the plan would fund key vertical AI models across industrial sectors, built on EU data sharing, safeguarded from anti-trust enforcement.** This would encourage EU companies to participate in and accelerate European AI developments, across the following ten strategic industries where European know-how and value capture should be safeguarded:
   - Automotive industry and mobility platforms for autonomous driving [see the box];
   - Advanced manufacturing and robotics;
   - Energy, for both grid optimisation, as well as the production and integration of sources [see the box]
   - Telecom networks, including edge computing and IoT;
   - Agriculture, including space-generated Earth observation data;
   - Aerospace;
   - Defence;

Further automation in the automotive industry (e.g. beyond production) has the potential to raise labour productivity and soften constraints concerning labour shortages. To achieve this, it will be necessary to:

- Level the playing field with competitors when automation is subsidised. As discussed, our competitors show higher labour productivity also because of higher degrees of automation, sometimes in spite of lower labour costs and thanks to subsidies.
- The recommendations on adult learning and curricula in the chapter on skills could contribute to more and improved skills in relation to automation and robotisation.

Beside the direct benefits listed above, space activities have several spillover effects for society: economic (including the exploitation of data and services); technological (from solar panels to the most efficient communication protocols); industrial (raising the quality of products given the need for the uninterrupted operation of space systems); robotics and remote operations; complex operations planning.

2. **Revise curricula in light of changing skills needs.**

   Curricula will need to be designed and delivered to meet new needs. The revision of curricula needs to be done through an inclusive approach, with the involvement of teachers, educational providers, social partners, companies and other stakeholders. Rather than focusing on generic programmes, curricula will need to explicitly target the development of the most needed skills within the EU labour market, ideally identified using granular data [see proposal 1]. This implies focusing on the development of:

   - STEM skills, for example, by including interdisciplinary approaches that integrate STEM into other subject areas.
   - Digital skills, for instance, by incorporating technology and digital literacy, as well as advanced skills in coding, programming and robotics.

- Specialist skills. Fast technological developments put a higher premium on science, technology, engineering, and mathematic (STEM) skills. These so-called 'hard' skills are crucial to mastering the use of new technologies and advancing their development. The nature of many existing occupations is evolving and requirements in terms of specialist skills are increasing. This also concerns a number of traditionally medium-skilled occupations. For example, many manufacturing jobs have involved repetitive tasks, but the advent of new technologies (such as robotics or 3D printing) requires manufacturing workers to acquire advanced skills to operate the technologies used today.

Established advanced manufacturing processes also send strong investment signals further up the critical minerals supply chain. In the manufacturing sector, developments are taking place at a fast pace, with the European Investment Bank (EIB), for example, providing over EUR 1 billion in financing for Northvolt's battery factory in Sweden[xxiii]. Ensuring the EU's competitiveness in this sector is increasingly assured by the roll-out of advanced technologies and robotics.

Robotika

- Priemyselná robotika
  - robotické ramená pevne pripevnené k zemi, stropu a pod.
  - ľahko riadime ich polohu

- Servisná robotika
  - poskytuje služby
  - často mobilná (s robotickým ramenom)
  - náročné a nespoľahlivé riadenie polohy

IFR – International Federation of Robotics

Agriculture

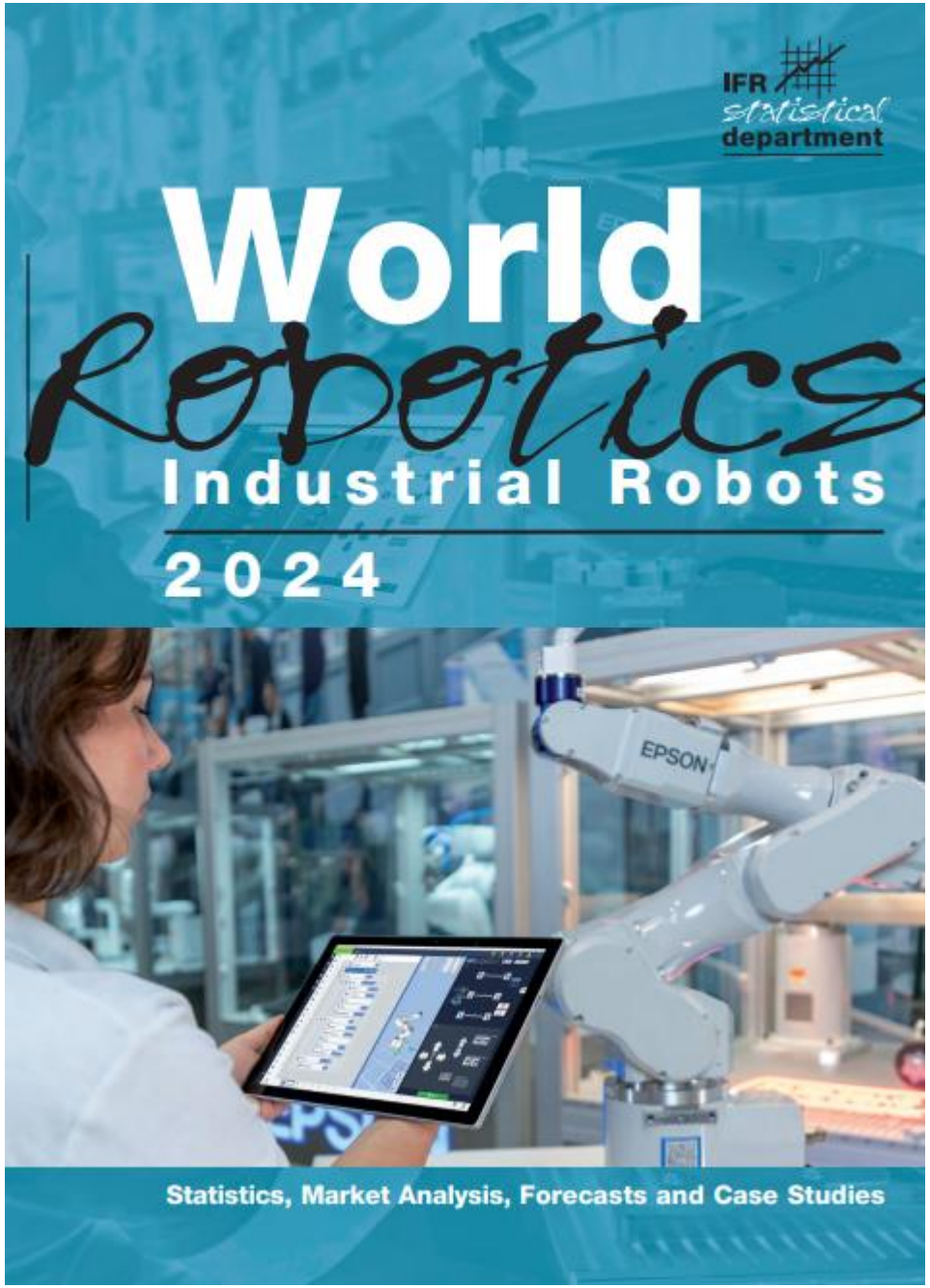
Inspection and maintenance

Transport and logistics

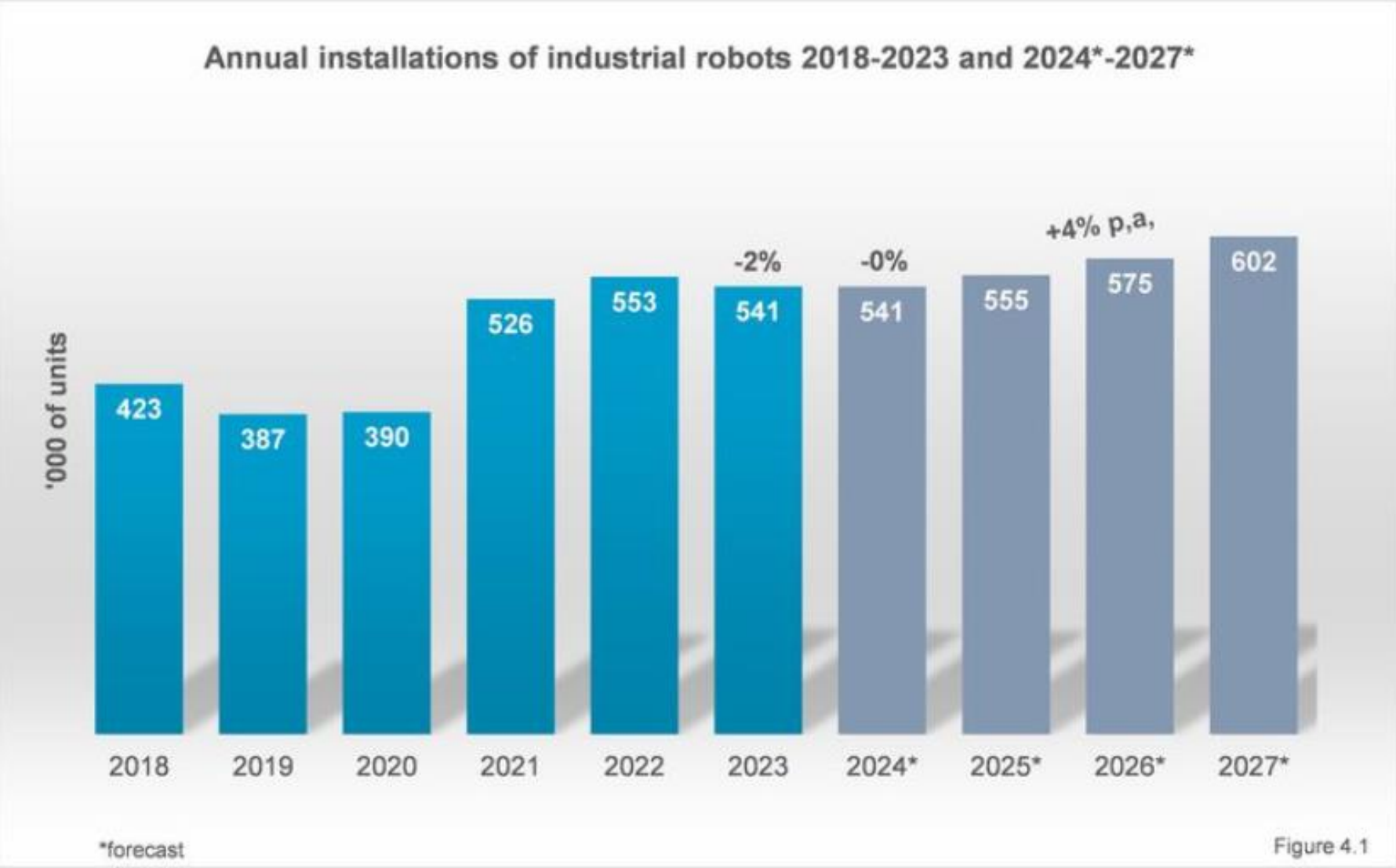
Medical robots

Application		Description
AP	**Professional service robots**	**Robots intended for use by trained professionals.**
AP1	**Agriculture**	**Robots for agricultural and farming applications**
AP11	Cultivation	Plowing, seeding, harvesting, weeding, fertilizing, pesticide spraying of/for crop plants and fruit indoors (greenhouse) and outdoors (field, vineyard)
AP12	Milking	Milking
AP13	Other livestock farming	Livestock farming, except milking, e.g. feeding, barn cleaning
AP19	Other agriculture	Agriculture, but none of the above
AP2	**Professional cleaning**	**Robots for professional cleaning applications**
AP21	Floor cleaning	Cleaning of horizontal areas, e.g. floors in offices, hotels, public buildings, streets and sidewalks. Note: Robots for barn cleaning are included in class AP13
AP22	Window and wall cleaning	Cleaning of windows, walls and other vertical areas
AP23	Tank, tube and pipe cleaning	Inside cleaning of tanks, tubes or pipes
AP24	Hull cleaning	Outside cleaning of hulls (aircraft, train, other vehicles, tank, container)
AP25	Disinfection	UV, spray, wiping or other disinfection methods
AP29	Other professional cleaning	Professional cleaning other than above
AP3	**Inspection and maintenance**	**Robots for inspection and maintenance**
AP31	Buildings and other construction	Outside detection of damage in buildings, plants, bridges, tunnels and other civil construction
AP32	Tank, tubes, pipes, sewers	Inside detection of leakage in tanks, pipes, or sewers
AP39	Other inspection and maintenance	Inspection and maintenance, but none of the above
AP4	**Construction and demolition**	**Robots for construction and demolition**
AP41	Construction	Installation of buildings and other constructions, earthwork
AP42	Demolition	Tear-off of buildings and other constructions
AP5	**Transportation and logistics**	**Mobile robots for transportation of goods or cargo and other logistics functions**
AP51	Indoor environments without public traffic	Cargo/goods transportation in indoor environments without public traffic only, e.g. warehouses, factories, non-public areas of hospitals, airports, etc.
AP52	Indoor environments with public traffic	Cargo/goods transportation in indoor environments with public traffic, e.g. hospitals, hotels, restaurants
AP53	Outdoor environments without public traffic	Cargo/goods transport in outdoor environments without public traffic only, e.g. harbors, airports
AP54	Outdoor environments with public traffic	Cargo/goods transport in outdoor environments with public traffic, e.g. home delivery, parcel delivery in the streets
AP55	Inventory	Counting and refilling of stock and inventory
AP59	Other transportation and logistics	Mobile robots for transportation and logistics applications not mentioned above. No passenger transportation
AP6	**Medical robotics**	**Robots in medical applications**
AP61	Diagnostics	Robotic diagnostic systems. Includes robotic devices.
AP62	Surgery	Robots for invasive therapy (surgery). Includes robotic devices.
AP63	Rehabilitation and non-invasive therapy	Robots for therapy (except surgery) and rehabilitation of patients after surgery or accidents. Includes robotic devices.
AP64	Medical laboratory analysis	Handling or processing of samples in medical laboratories
AP69	Other medical robots	Other robots for medical applications. Note: Robots for transportation in hospitals are included in class AP52
AP7	**Search and rescue, security**	**Robots for emergency situations**
AP71	Firefighting	Robots for Firefighting. Includes robotic devices.
AP72	Disaster relief	Robots for detection or rescue of survivors. Includes robotic devices.
AP73	Security services	Robots for security functions, e.g. surveillance, bomb squad support. Includes robotic devices.
AP8	**Hospitality**	**Robots for interaction with guests or visitors**
AP81	Food and drink preparation	Robots for food or drink preparation
AP82	Mobile guidance, information, telepresence	Robotic information desks or guides, e.g. in museums, shops, hotel receptions. Robots for virtual participation in real-world events. Note: Telepresence robots specifically designed for the medical field are covered in AP69
AP9	**Other professional service robots**	**Robots that do not fit into any of the above classes**
AP99	Other professional service robots	Robots that do not fit into any of the above classes

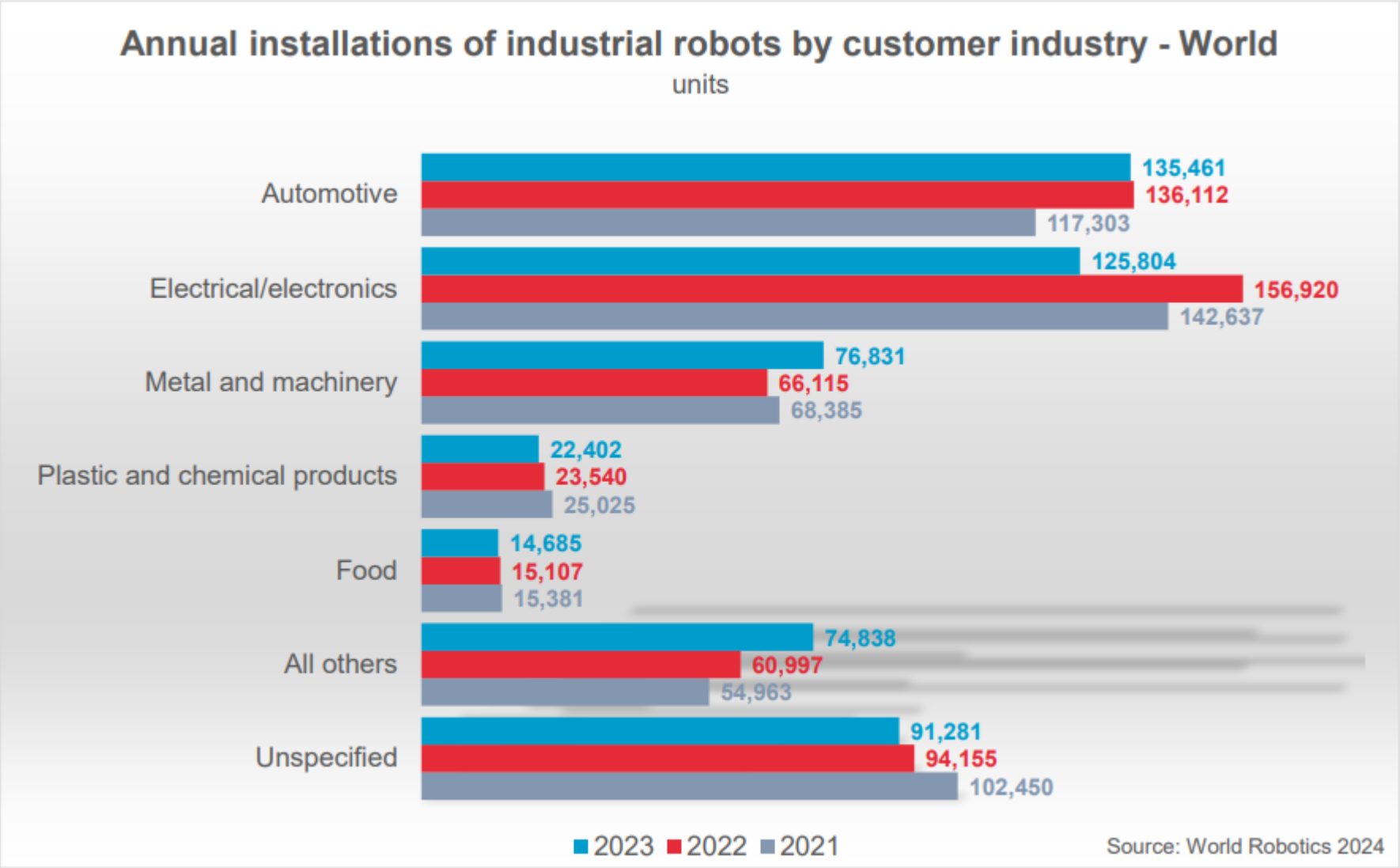
IFR


IFR statistical department
World Robotics
Industrial Robots
2024
EPSON
Statistics, Market Analysis, Forecasts and Case Studies

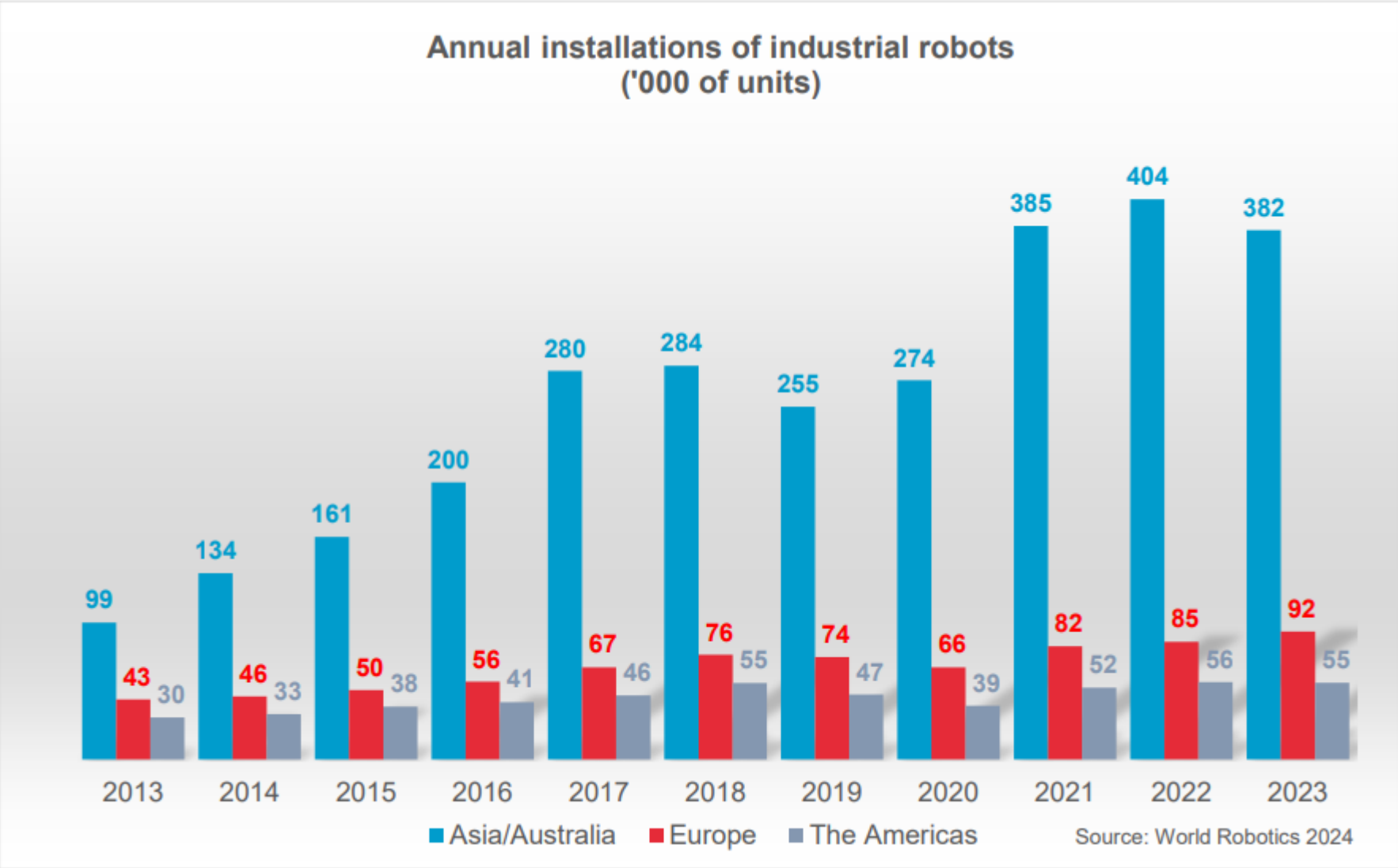
Priemyselná robotika



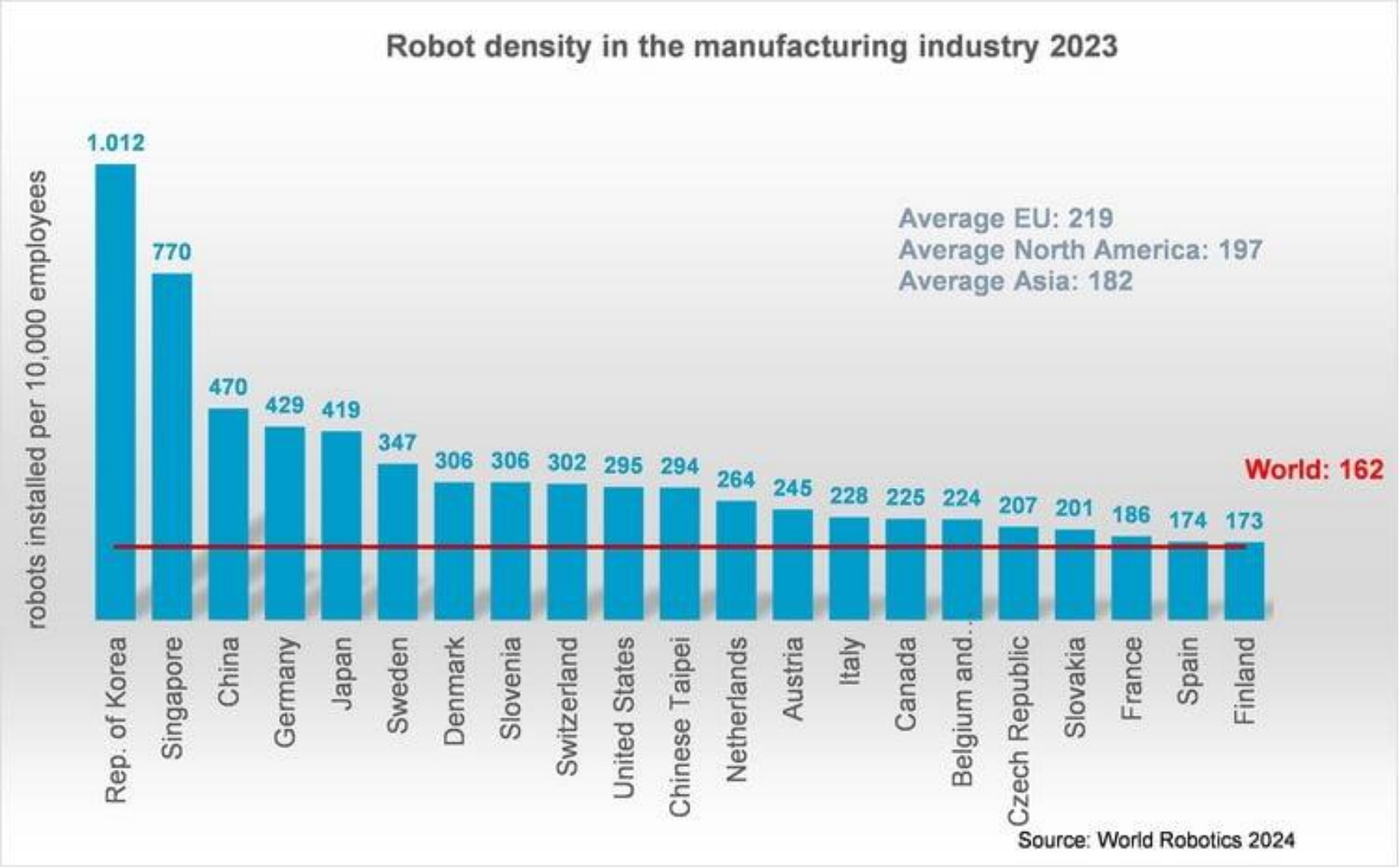
Priemyselná robotika



Priemyselná robotika



Priemyselná robotika



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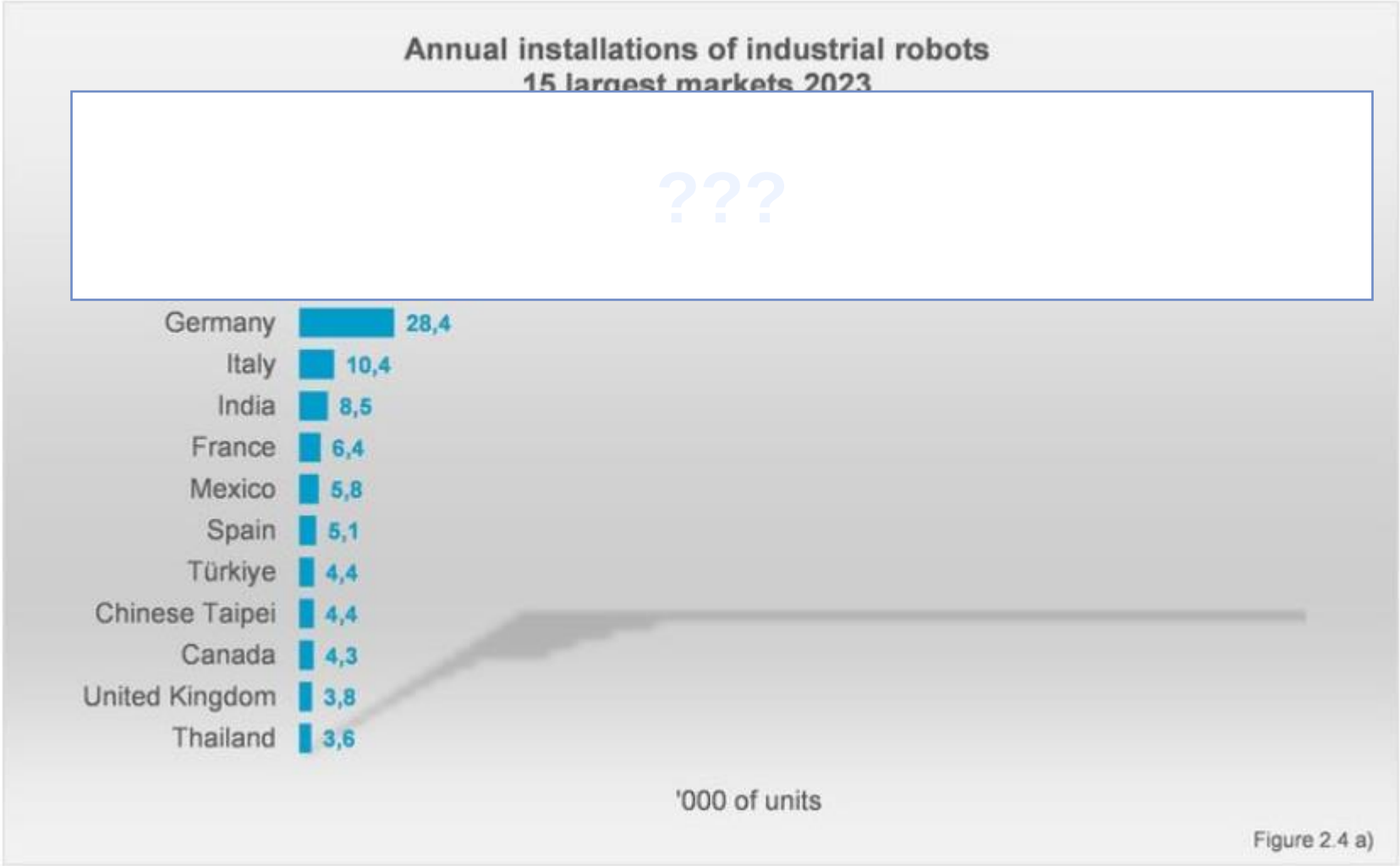

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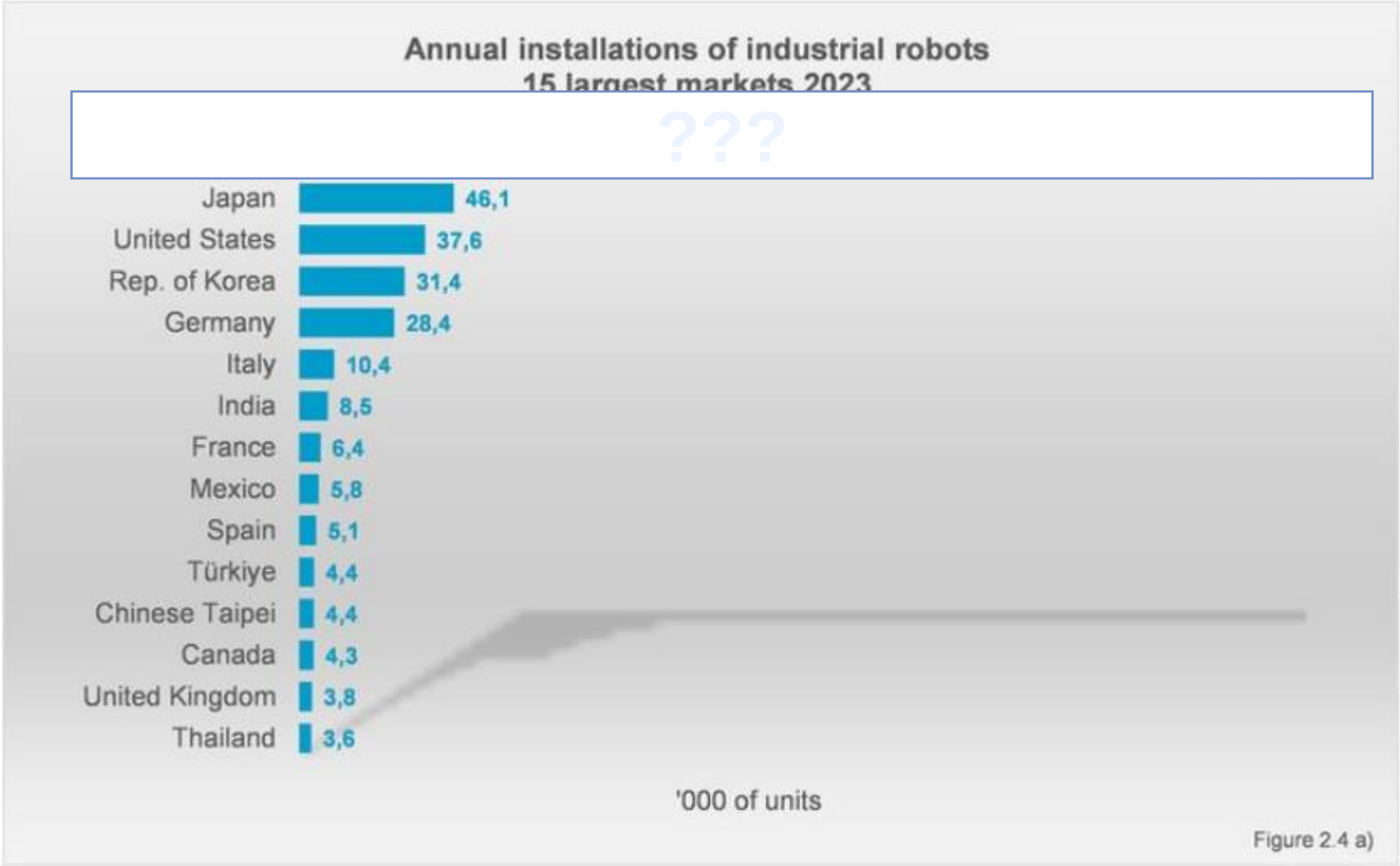


Priemyselná robotika

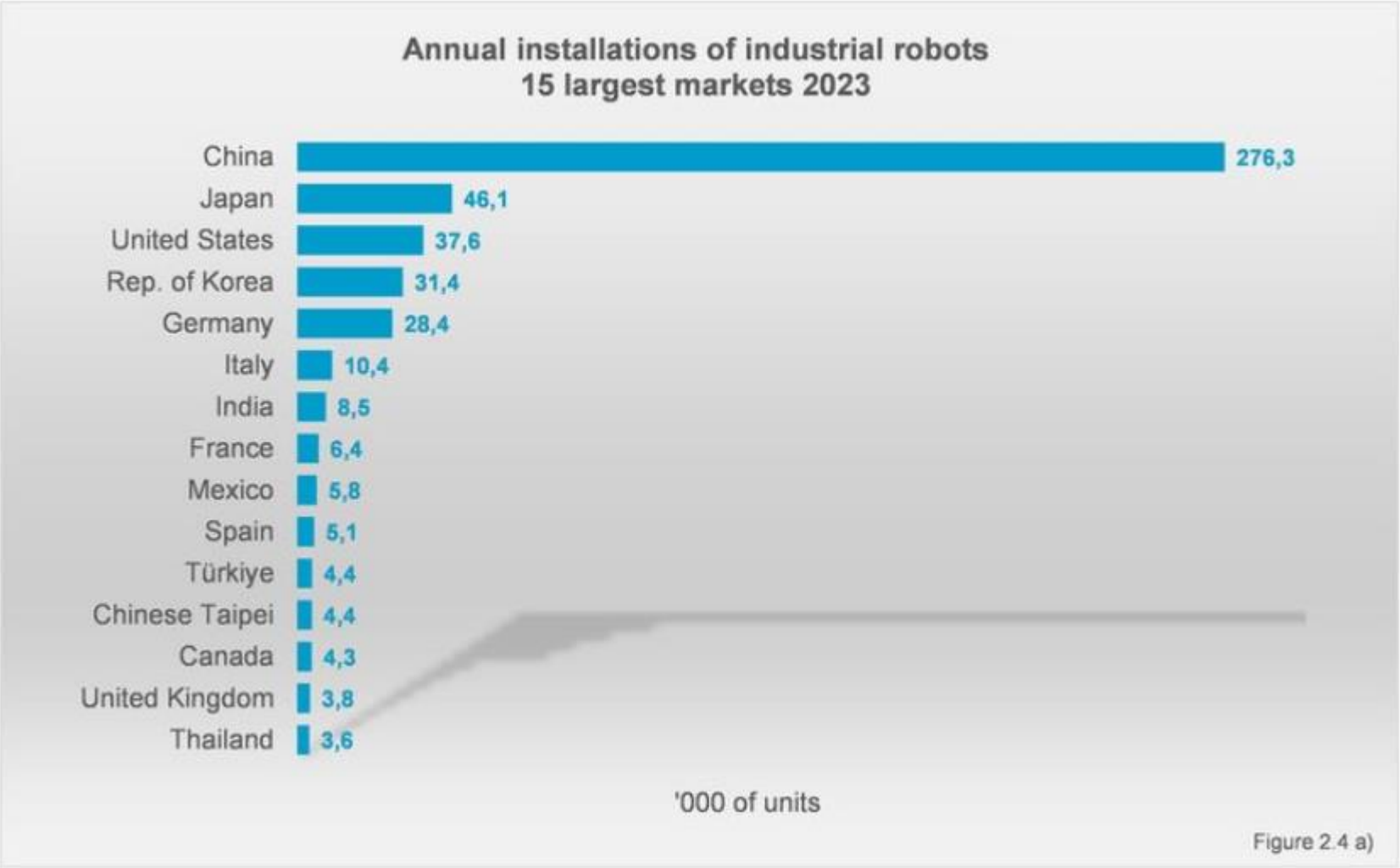


Figure 2.4 a)

Servisná robotika

Professional service robots:

- 2018: 271,100 units, +61%
- 2019: 361,300 units, +33%
- 2020: 495,500 units, +41%
- 2021: 700,100 units, +41%
- 2022: 1,019,300 units, +41%

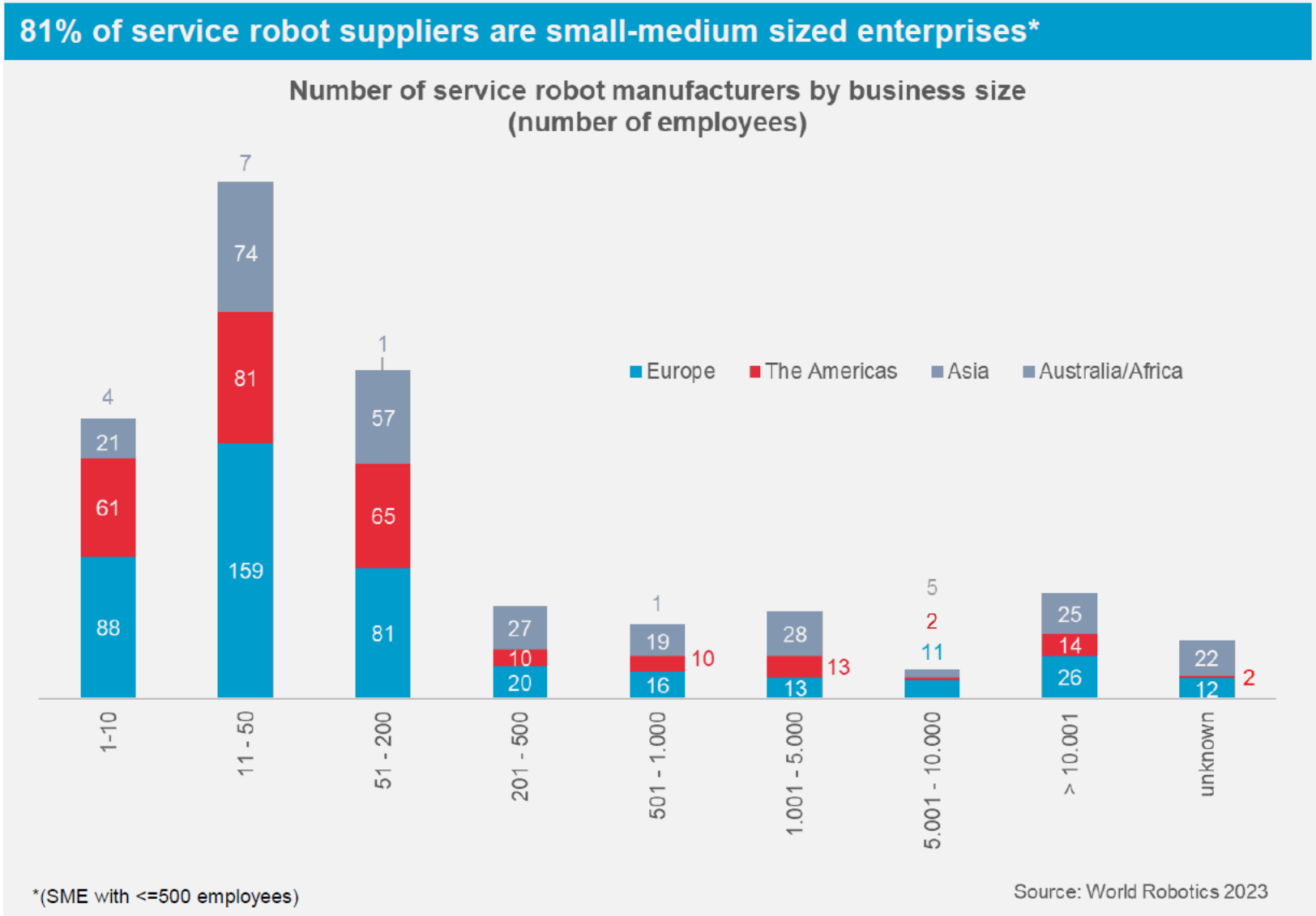
Service robots for domestic/household tasks:

- 2018: 16.3 million units, +59%
- 2019: 22.1 million units, +35%
- 2020: 30.4 million units, +40%
- 2021: 42.7 million units, +40%
- 2022: 61.1 million units, +40%

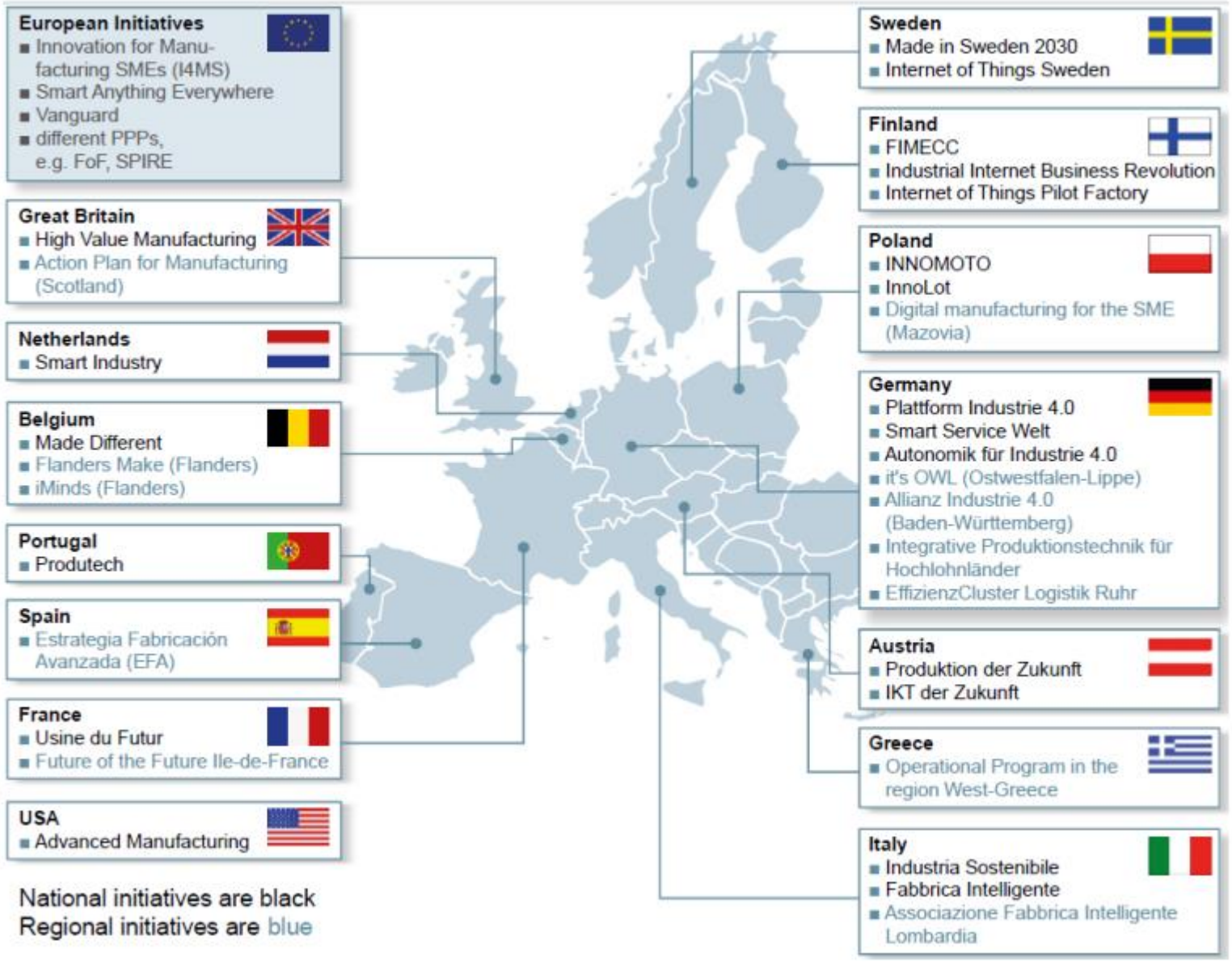
Service robots for entertainment:

- 2018: 4.1 million units, +8%
- 2019: 4.5 million units, +10%
- 2020: 4.9 million units, +10%
- 2021: 5.4 million units, +10%
- 2022: 5.9 million units, +10%

Servisná robotika



Podpora v Európe



Východiská rozvoja

TECHNICKÁ UNIVERZITA V KOŠICIACH

STU

UNIVERZITA KOMENSKÉHO V BRATISLAVE

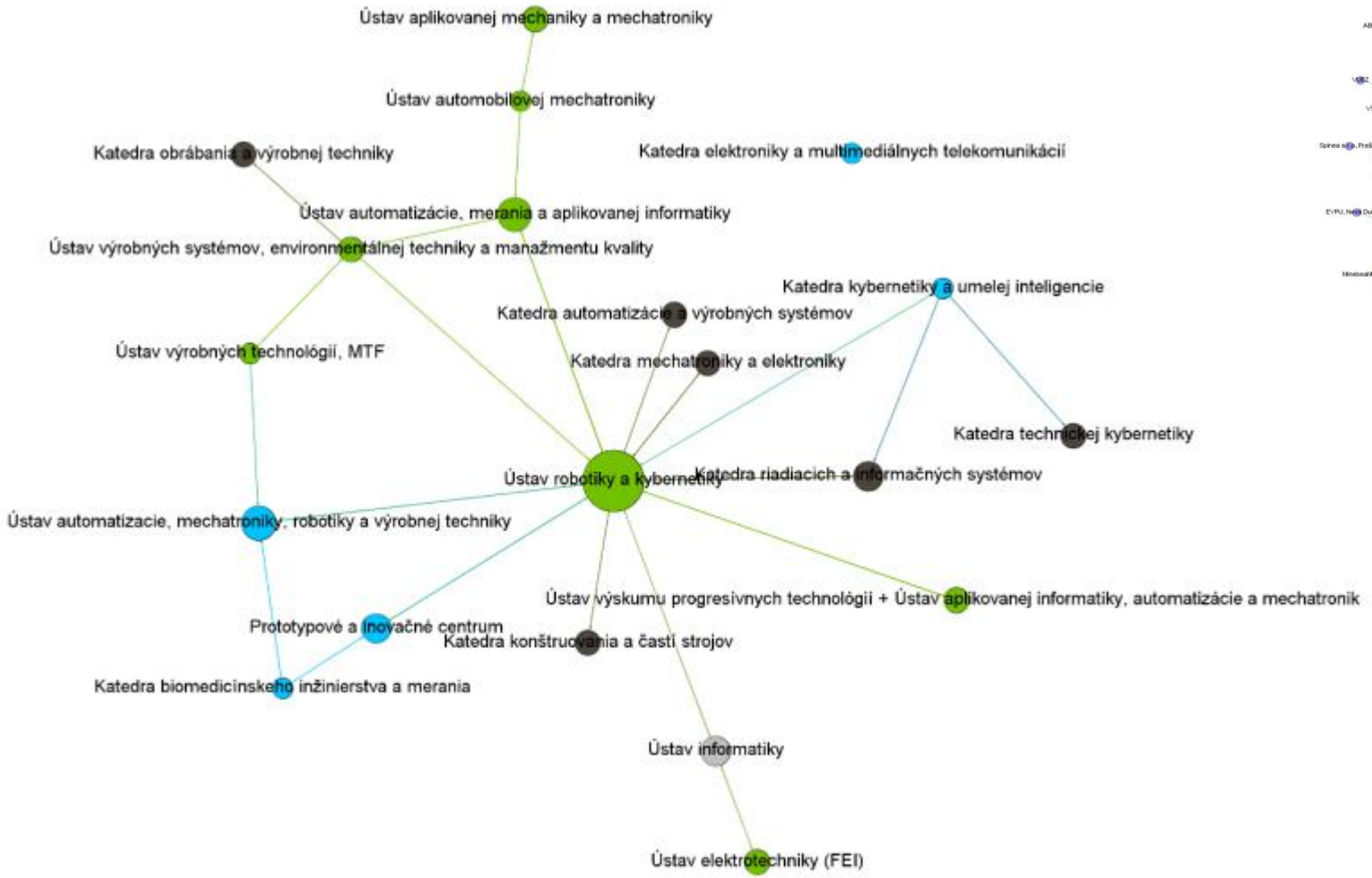
ŽILINSKÁ UNIVERZITA V ŽILINE

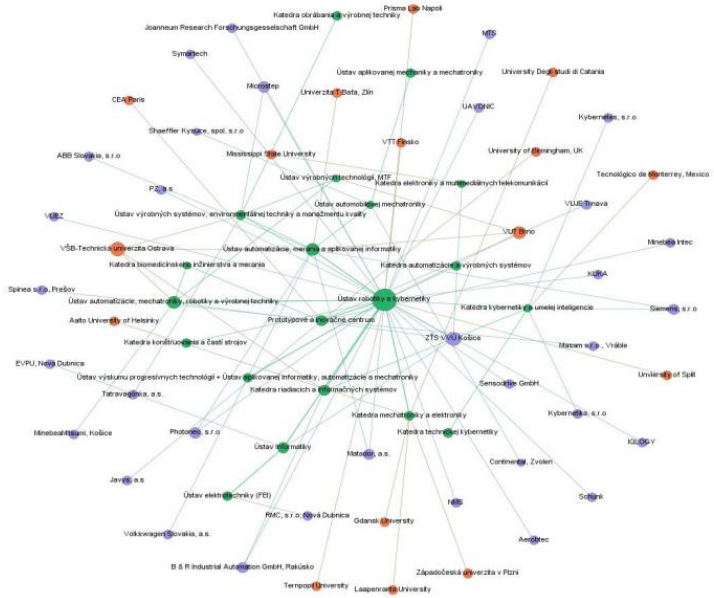
TECHNICKÁ UNIVERZITA VO ZVOLENE

SPU
Slovenská poľnohospodárska univerzita v Nitre

VAIA

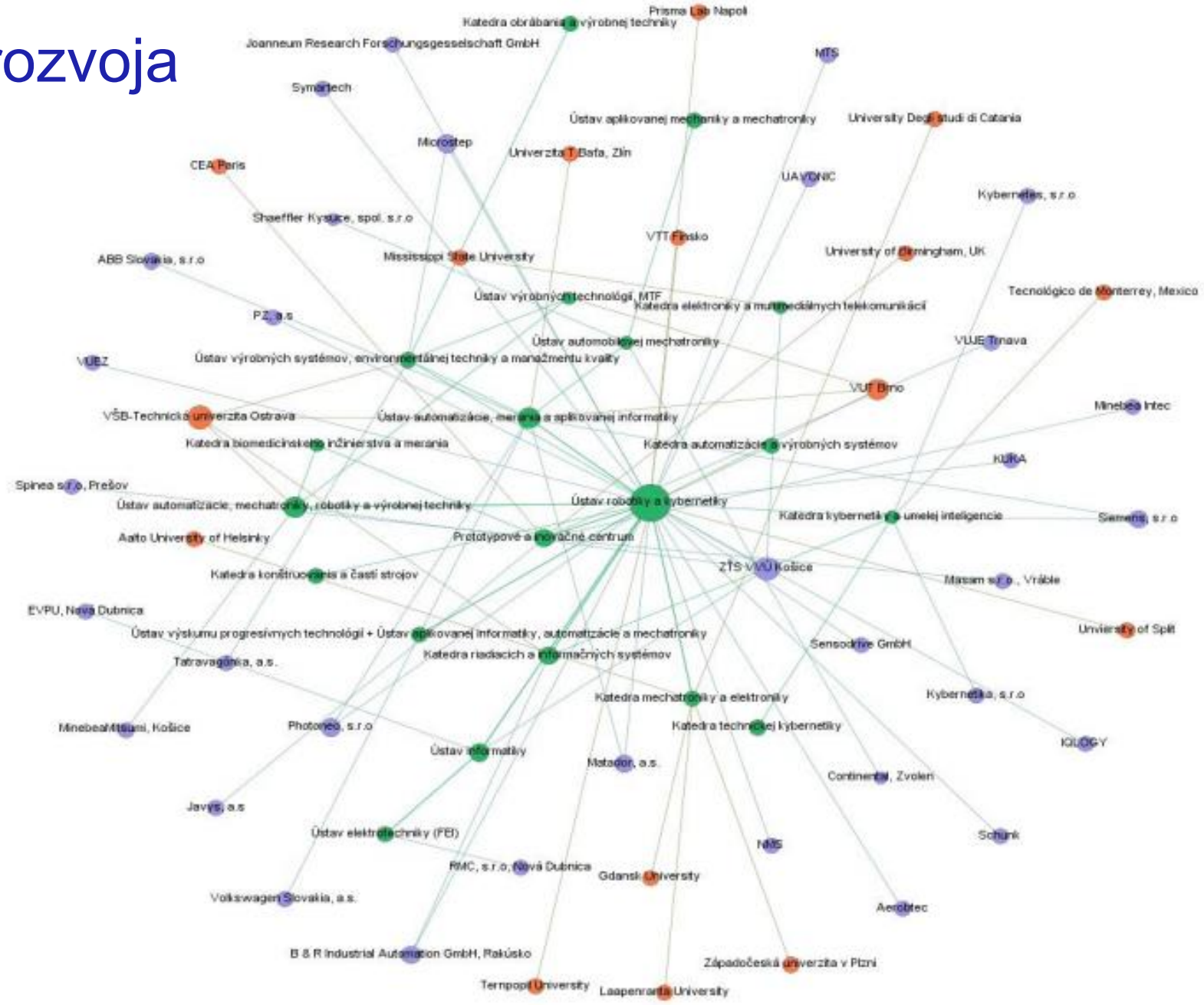
Východiská rozvoja





Modrá farba – Technická univerzita v Košiciach, Zelená farba – Slovenská technická univerzita v Bratislave,
Tmavo sivá farba – Žilinská univerzita v Žiline, Svetlo sivá – SAV

Východiská rozvoja



Odporúčania

- Opatrenia procesného charakteru (7)
- Opatrenia v oblasti infraštruktúry (4)
- Opatrenia podpory motivácie (5)
- Opatrenia v oblasti finančnej podpory (8)
- Opatrenia v oblasti budovania značky a propagácie (2)
- Opatrenia podpory komercializácie (5)
- Opatrenia v oblasti vzdelávania (5)

Odporúčania

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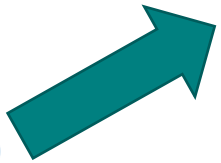


- Optimalizácia systému grantovej podpory
- Implementácia mechanizmov podpory VaV atraktívnych pre podniky a verejné VaV organizácie
- Zjednodušené vykazovanie výdavkov
- Umožnenie financovania projektových pracovníkov prostredníctvom grantov
- Podpora zapájania do medzinárodných projektov
- Zmena systému hodnotenia projektov so zameraním na kvalitu
- Tvorba finančných nástrojov pre VaV

- Tvorba komplexného mechanizmu podporujúceho rozvoj start up a spin off firiem
- Podpora akademického rastu aj počas podnikania
- Podpora ochrany duševného vlastníctva
- Podpora zavádzania technológií v podnikoch
- Zabezpečiť manažérske vzdelávanie vedeckých pracovníkov

ABY
SLOVENSKO
INOVOVALO

vaia.gov.sk

European Commission

Presentation on Key Project Deliverables

General objective of the project

The **general objective** of this service contract is to contribute to institutional, administrative and growth-sustaining structural reforms in Slovakia, in line with Article 3 of the TSI Regulation. The **specific objective** of this service contract is:

- to assist national authorities in improving their capacity to design, develop and implement reforms;
- to assist national authorities in improving their capacity to prepare, amend, implement and revise recovery and resilience plans under Regulation (EU) 2021/241, in line with Article 4 of the TSI Regulation.

Technical Support Instrument

Supporting reforms in 27 Member States

The Technical Support Instrument (TSI) is the EU's main instrument for providing tailor-made technical expertise to Member States to support the design and implementation of reforms. It is a demand-driven tool that does not require co-financing and plays a key role in enhancing the resilience of Member States' economies and societies. The TSI contributes to sustainable, inclusive growth and supports recovery from the COVID-19 crisis.

Covers all stages of the reform process: preparation, design, development, and implementation

Encompasses a broad range of policy areas, including climate action, digital transition, and health

Offers strategic and legal advice, analytical support, capacity building, and on-the-ground expertise

Supports the preparation and implementation of national Recovery and Resilience Plans (RRPs)

PPMI

- Leading European research and policy analysis centre based in Lithuania
- Policy analysis, evaluation services and public management consulting to EU institutions/agencies
- 100+ full-time researchers, data scientists and consultants across 23 countries.
- A part of Kantar Public Group from July 2023, which was renamed to Verian Group

Relevant experience from the "Roadmap for the integration of the Lithuanian industry into European value chains“ project

One stop shop source for company and technology data in EU and globally

PPMI data scientists created the RDI database, go-to source for technology data to European Commission

Led a large FWC Supporting assessment and monitoring of industrial research, innovation, and technologies for DG RTD

Industrial Performance Assessment: Approach to Data Collection

- Company information
- Products, trademarks
- Technologies
- Real-time data updates
- Size, age, turnover
- Patent data
- Industrial and value chain positioning
- AI-powered search

- Social media (LinkedIn, Facebook, Twitter)
- Company websites
- LLM & NLP techniques
- PATSTAT

Company data from Milda.ai

Data sources

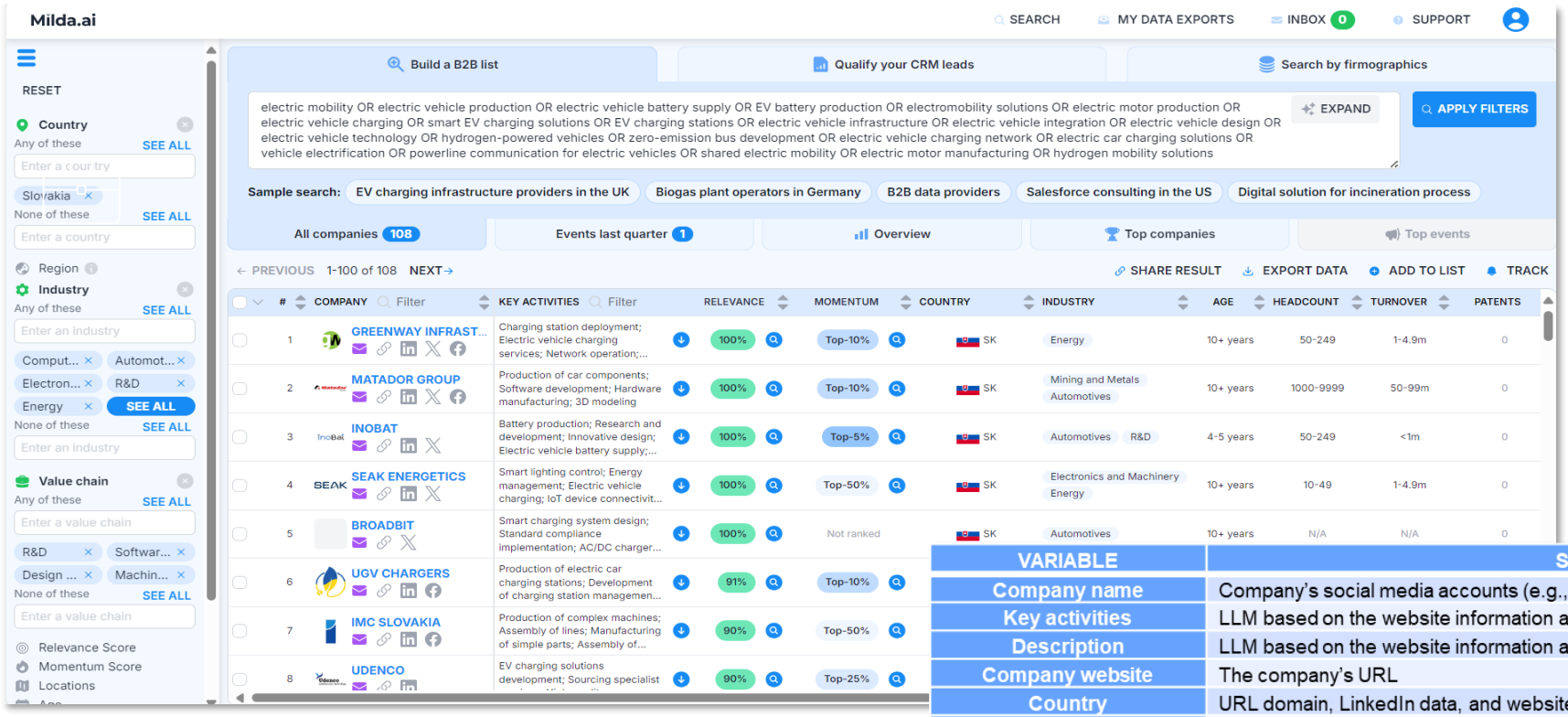
- Researchers' names
- Institutional affiliation
- Contact information
- Publications

- Recent publication activity (2019 onwards)
- Technological relevance (5+ related publications)
- Applied sciences universities

Researchers' data from Open Alex

Selection criteria

Approach to Data Collection: company data collection with Milda.ai



VARIABLE	SOURCE
Company name	Company's social media accounts (e.g., LinkedIn, Facebook, Twitter) OR landing page
Key activities	LLM based on the website information about products and services
Description	LLM based on the website information about products and services
Company website	The company's URL
Country	URL domain, LinkedIn data, and website information predicted by LLMs
Locations	Company's website
Patents	PATSTAT
Industries	LinkedIn data AND website information predicted by LLM
Age	LinkedIn data AND website information predicted by LLM
Headcount	LinkedIn data AND website information predicted by LLM
Turnover	Company's website information predicted by LLM
Total number of products	Company's website
Value chain positions	LLM

Validation with experts

- Regular check-ins with VAIA
- Monthly progress reports and meetings
- Systematic and ad hoc communication

Internal validation

- Stakeholder workshops for deliverable feedback
- Validation of preliminary findings by experts
- Final conference sharing project outcomes

External validation

Workshop | 7 Feb 2025 | VAIA, Bratislava

European Commission

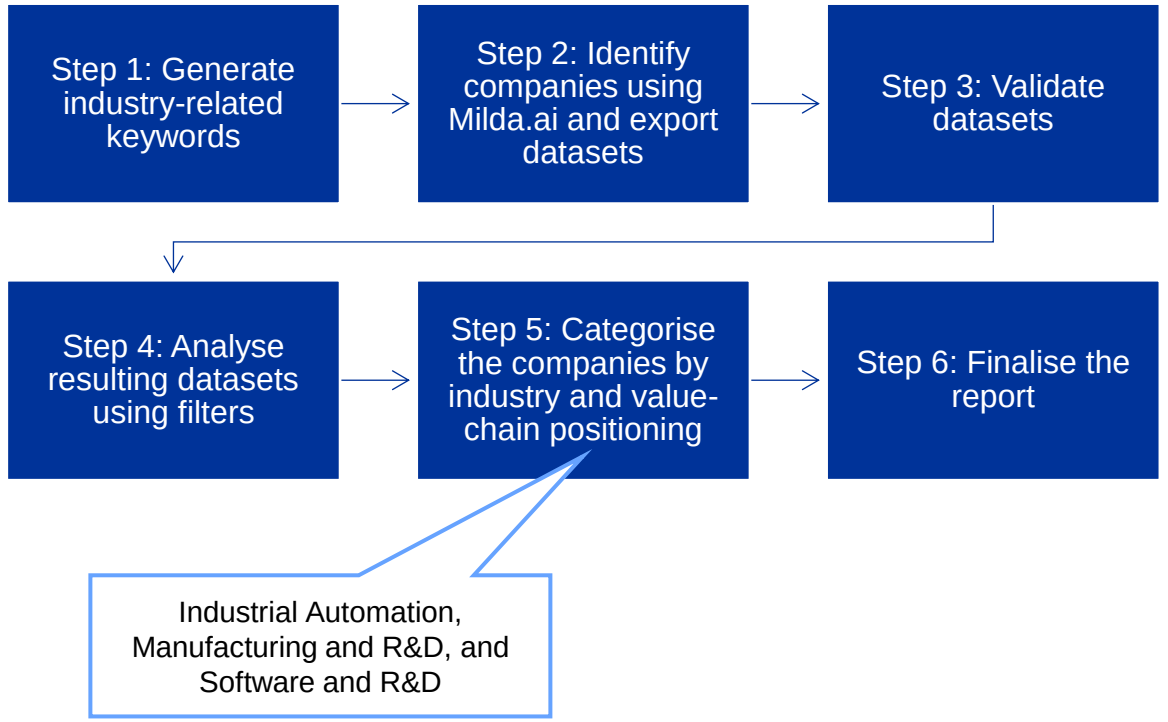
D3: Horizontal Pilot

Extensive report on the Slovak industrial automation & robotisation ecosystem

Objective & Methodological Approach

- **Main Objective:** Assess Slovakia's **Industrial Automation and Robotisation ecosystem**, identify growth areas, and position its performance within the regional Visegrád context.
- **Data source:** Milda.ai identified 2,463 Slovak companies using keywords based on expert research and AI input (ChatGPT).
- Analysis: Companies were assessed by size, age, industry, and operations.

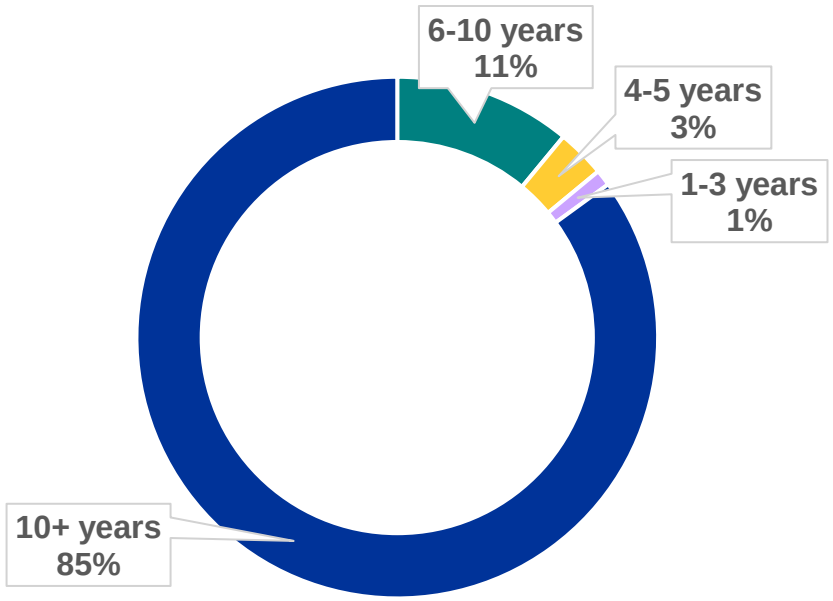
<u>Data-driven</u> approach to industry scoping

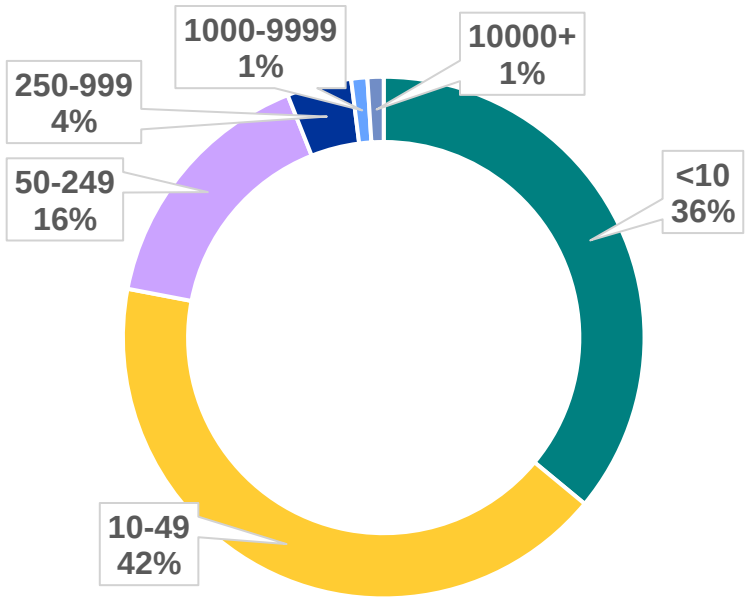


The ecosystem is dominated by mature small and medium-sized companies

Established players dominate the market. Potential challenges to scaling up.

Analysed companies by age and headcount

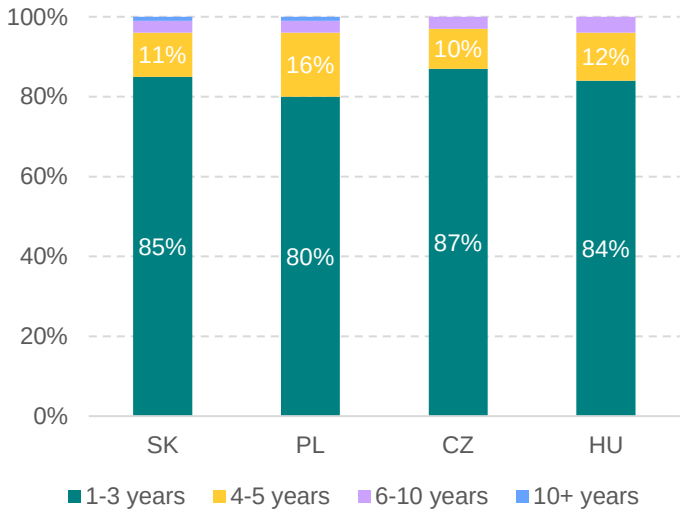


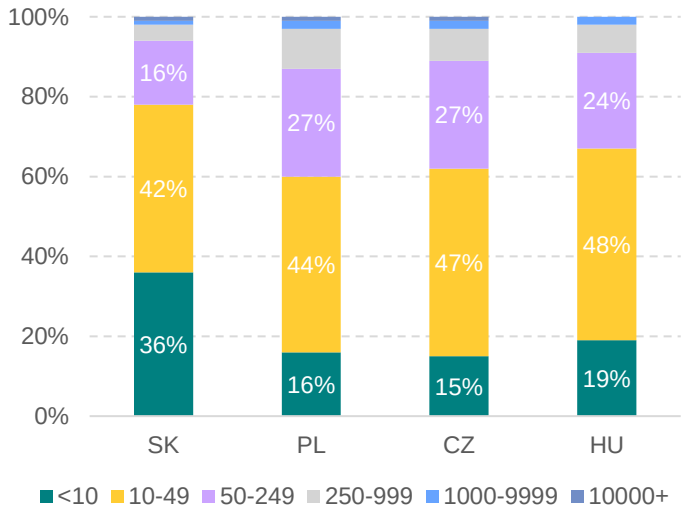


Slovakia in Visegrád context

Visegrád region is dominated by mature SMEs

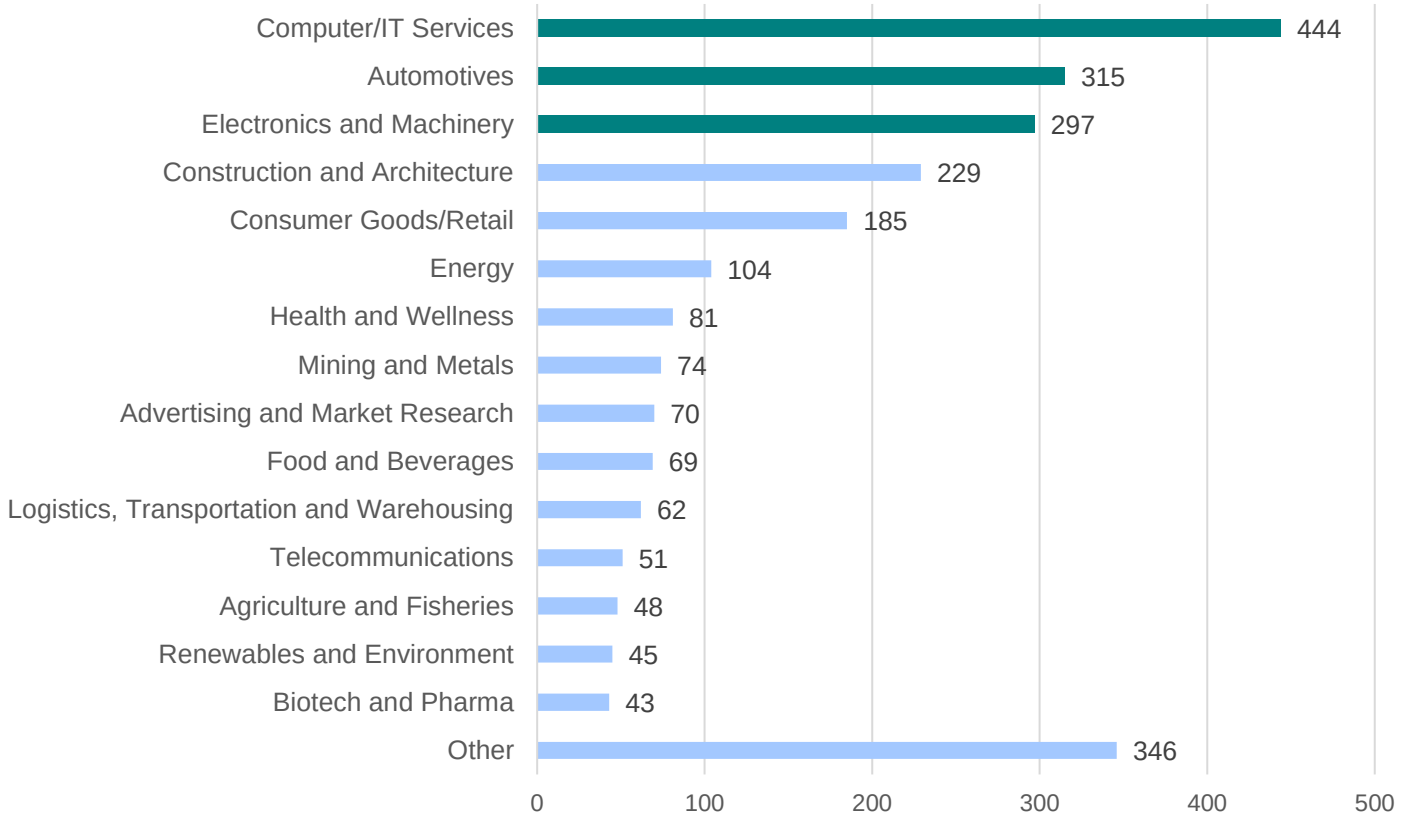
Analysed Visegrád companies by age and headcount





Value chain positioning

Key industries leading innovation are Computer/IT, Automotive, and Electronics and Machinery



18% Computer/IT Services

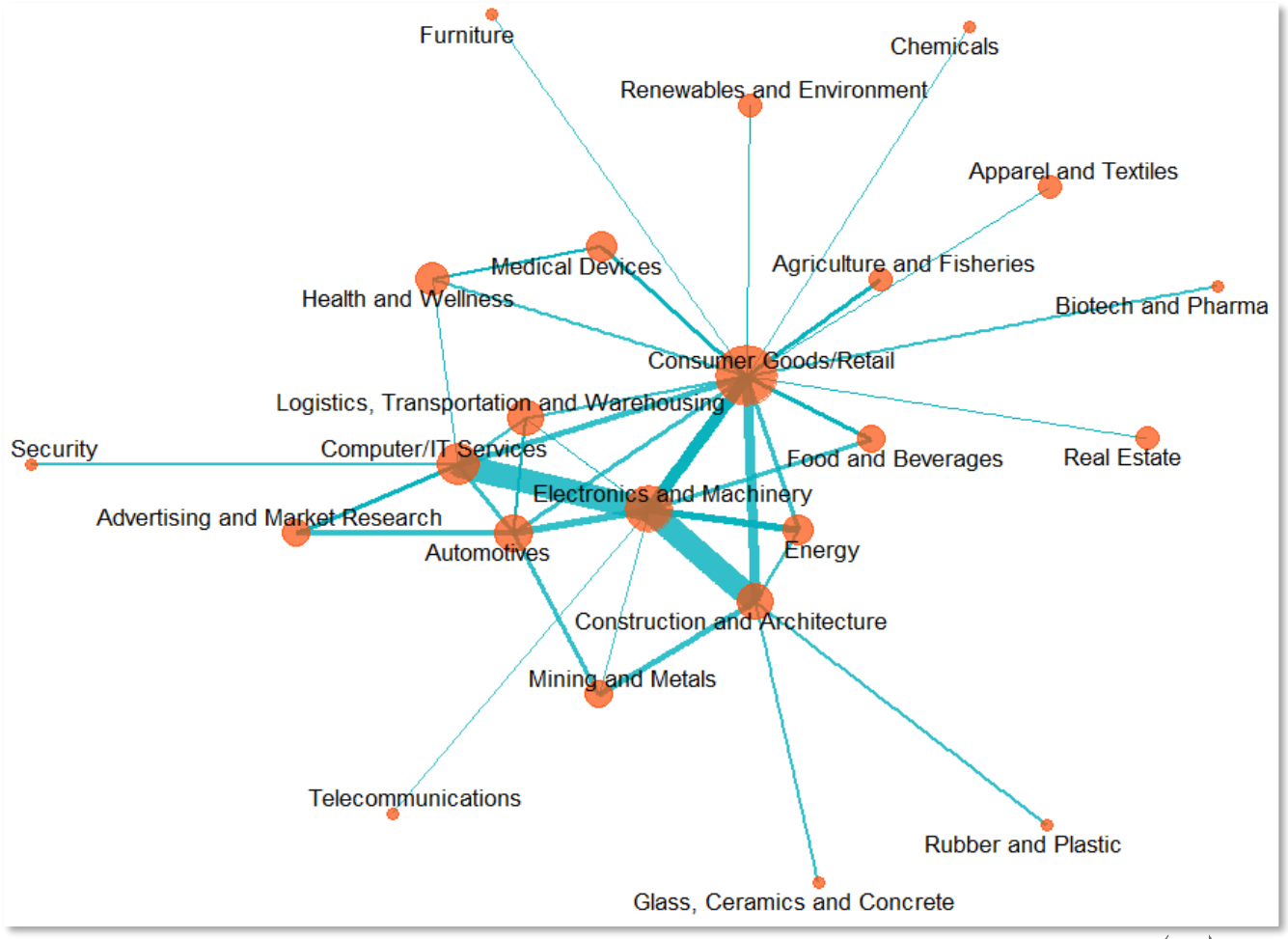
13% Automotives

12% Electronics and Machinery

Value chain positioning

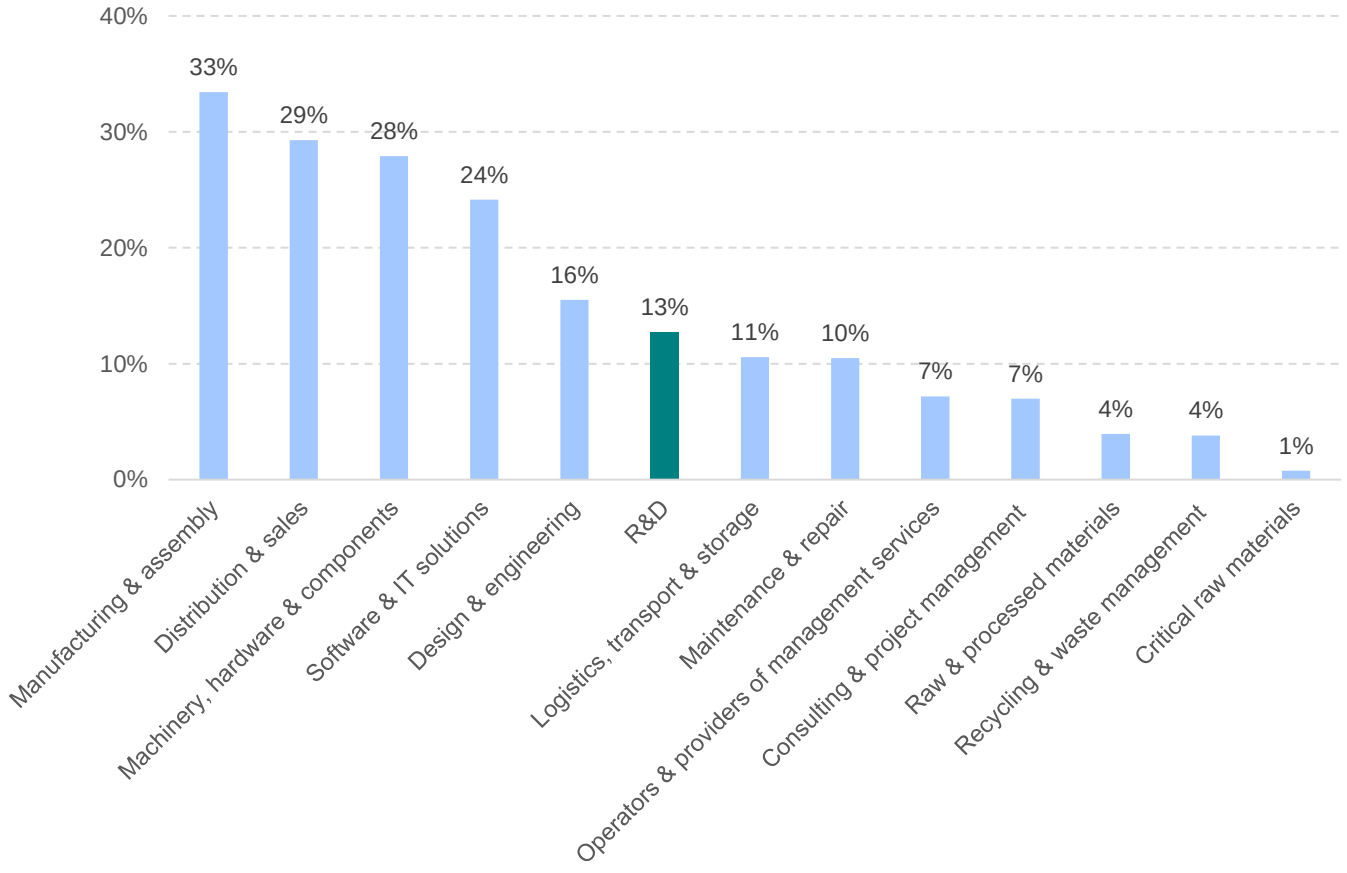
Industrial connectivity within the ecosystem

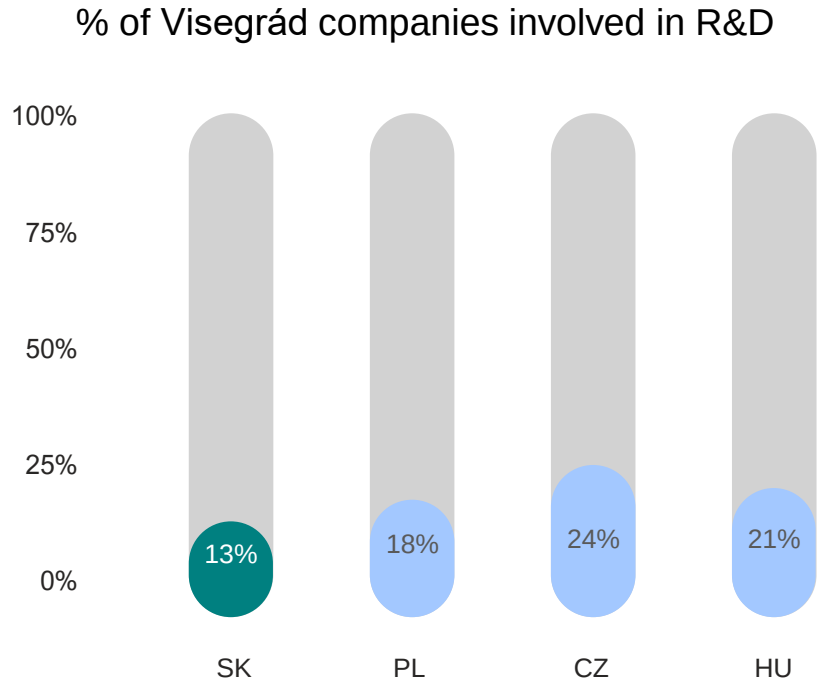
- Consumer Goods/Retail – central driver of technology adoption
- Electronics & Machinery – leading innovation and R&D
- Computer/IT Services – enabler of digital transformation
- Security (incl. Defence) – connector for cross-sector innovation
- Biotech & Pharma, and Renewables - growth sectors with innovation potential



Value chain positioning

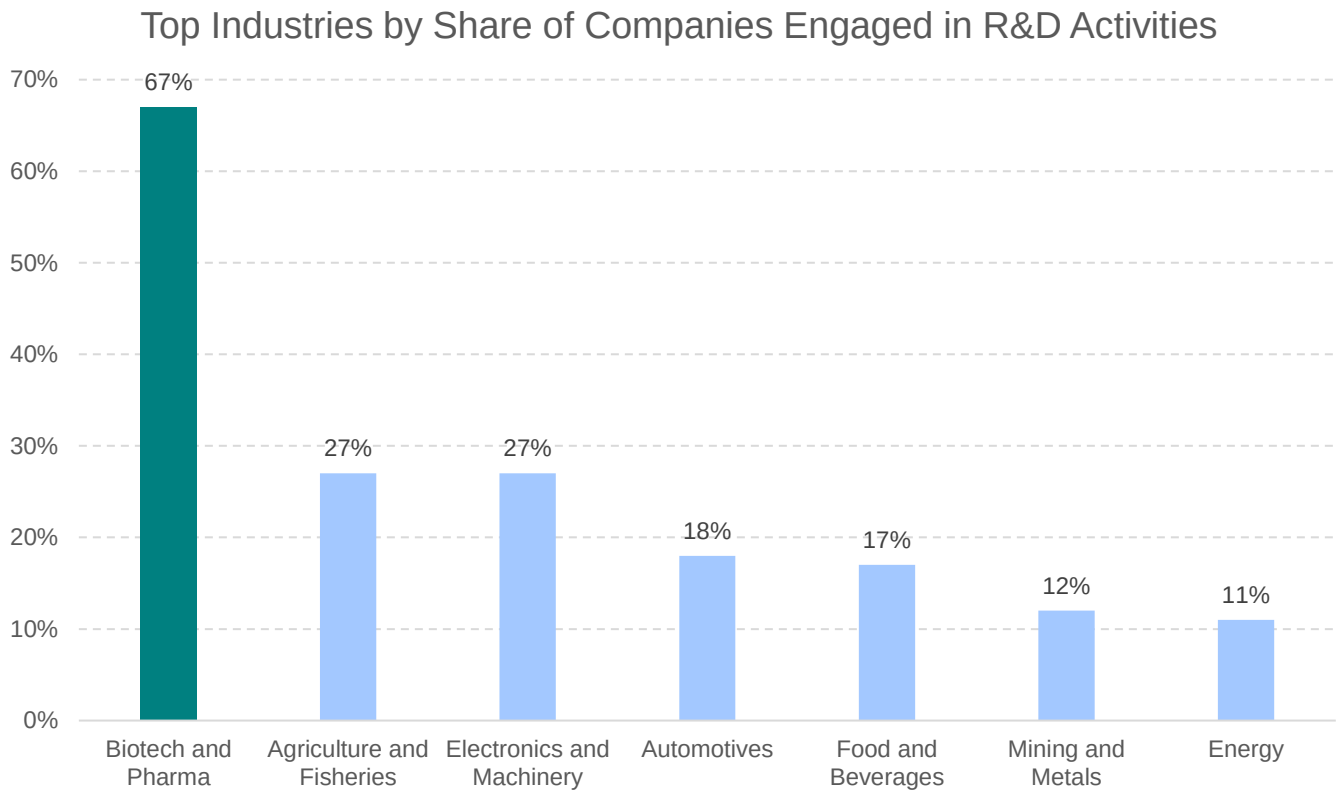
Enhancing Slovakia's innovation performance through increased R&D participation





Value chain positioning

Biotech and Pharma is an industry with growth potential and the highest share of involvement in R&D



High value-added clusters

High value-added clusters

291

Manufacturing and R&D

185

Industrial automation

64

Software developing and R&D

High value-added clusters

The main contribution of this report: identifying multifaceted clusters driving automation, digitalisation, and innovation

Manufacturing and R&D

Industrial automation

Software developing and R&D

European Commission

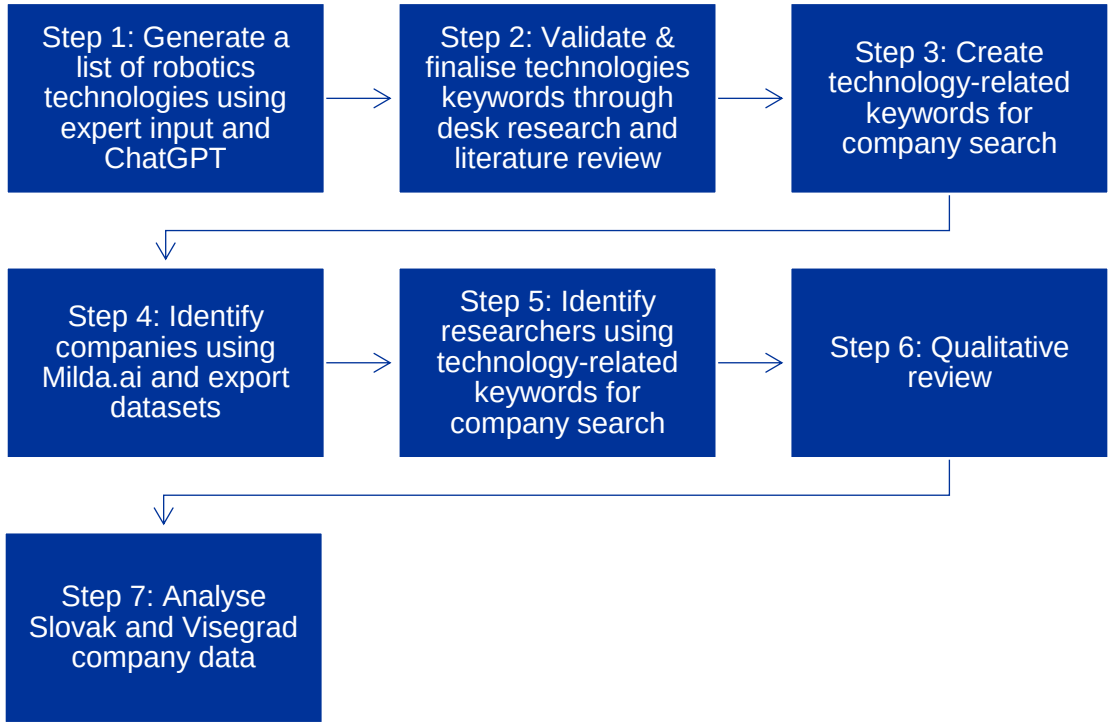
D3: Vertical Pilot

Vertical industry pilot of robotisation in Slovakia

Objective & Methodological Approach

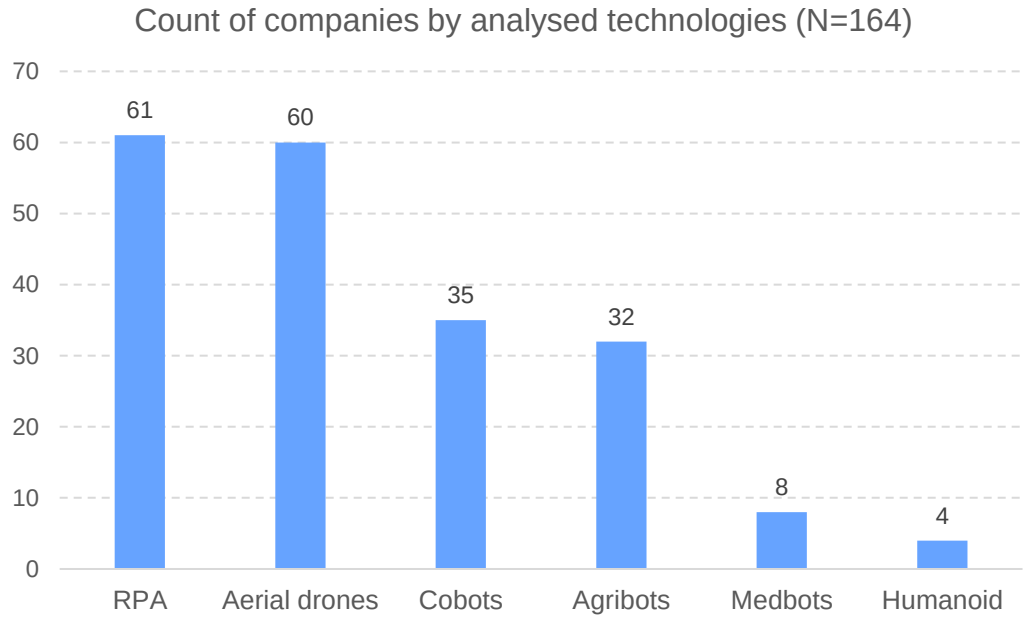
- **Main Objective:** Identify Slovakia's strategic positioning in **preselected** **cutting-edge robotic technologies**.
- **Data source:** Milda.ai identified 165 Slovak companies using keywords based on expert research and AI input (ChatGPT); 147 researchers were identified using OpenAlex.
- **Analysis:** Companies were assessed by size, age, industry, and operations; researchers were analysed based on their technology-related publication count.

Expert-driven approach to industry scoping



Overview of identified Slovak companies in robotics

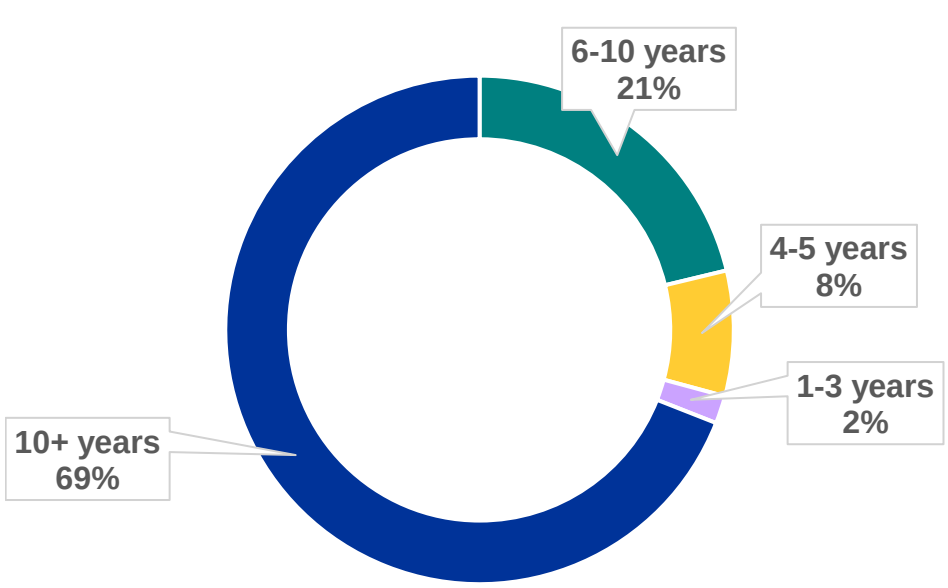
- Robotic Process Automation
- Aerial Drones
- Collaborative Robots
- Agricultural Robots
- Medical Robots
- Humanoid Robots

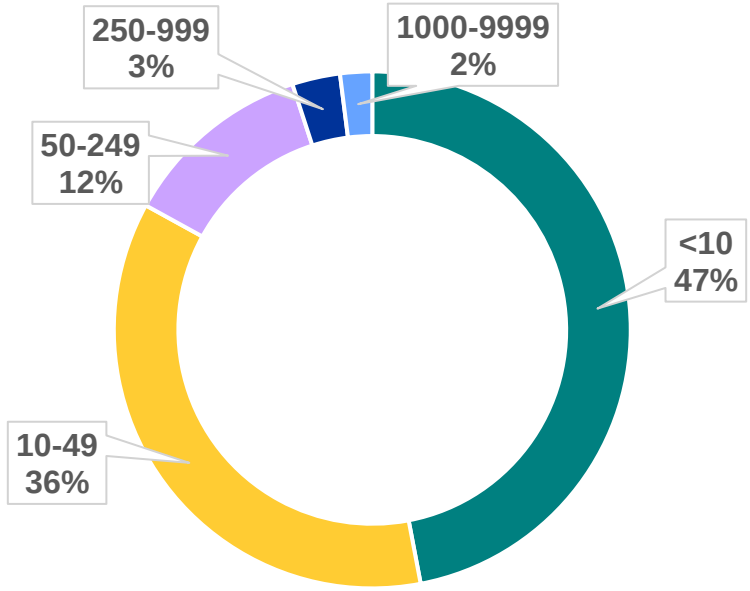


The analysed companies are predominantly mature small and medium-sized

Established players dominate the market. Potential challenges to scaling up.

Analysed companies by age and headcount



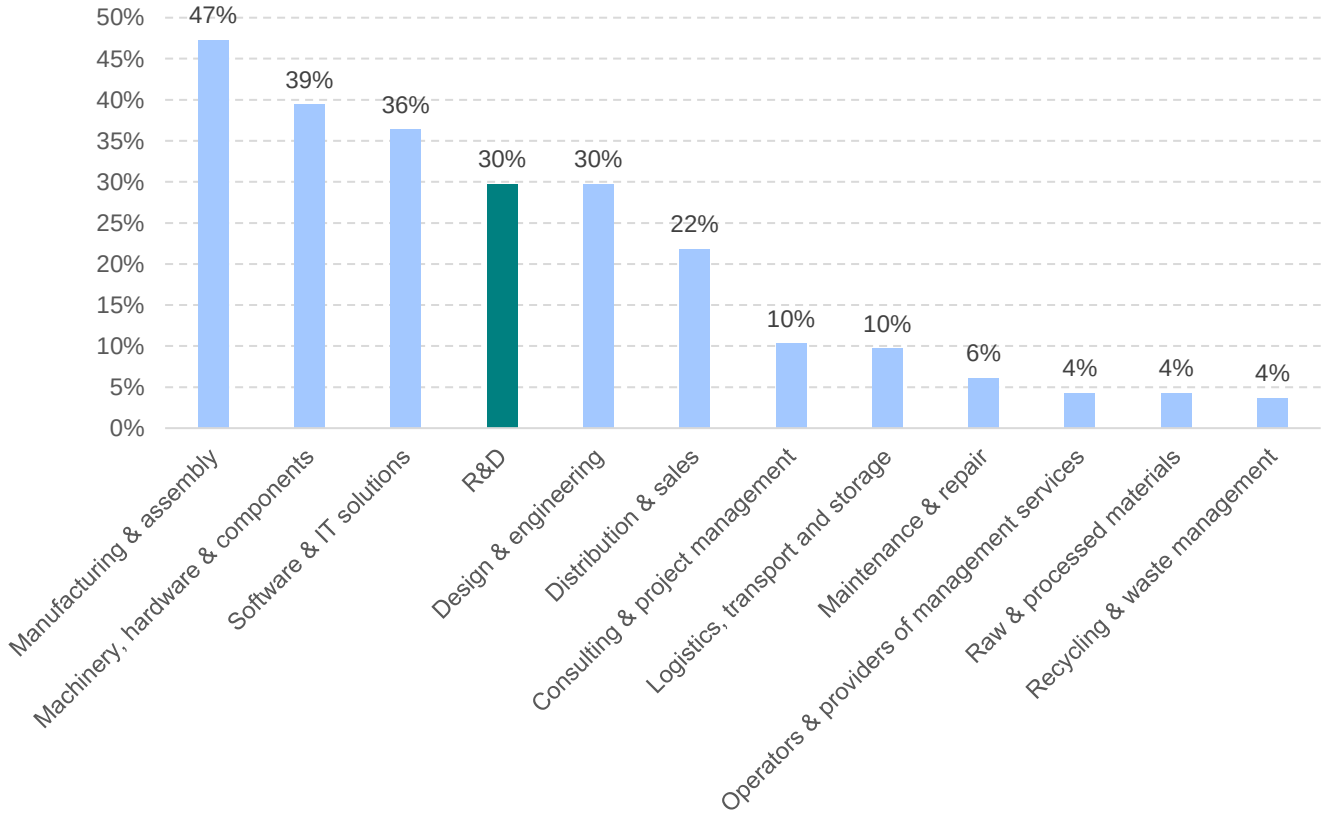


Value chain positioning

Key industries

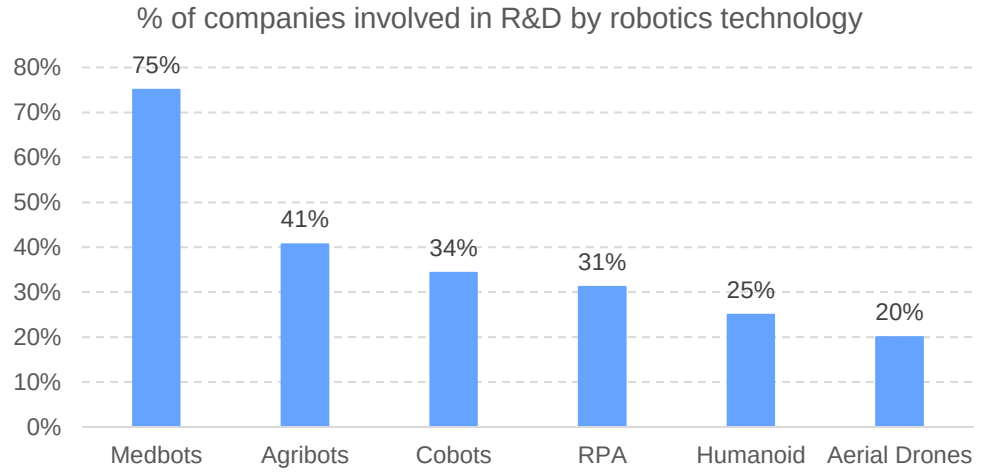
- 24% Electronics and Machinery
- 22% Computer/IT Services
- 12% Agriculture and Fisheries
- 11% Automotives

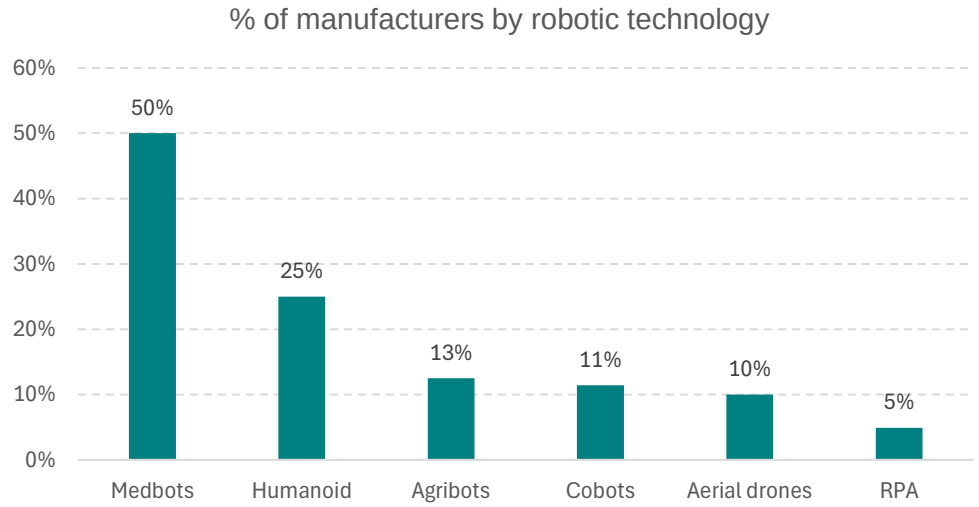
Shares of Slovak companies involved in specific key operational activities

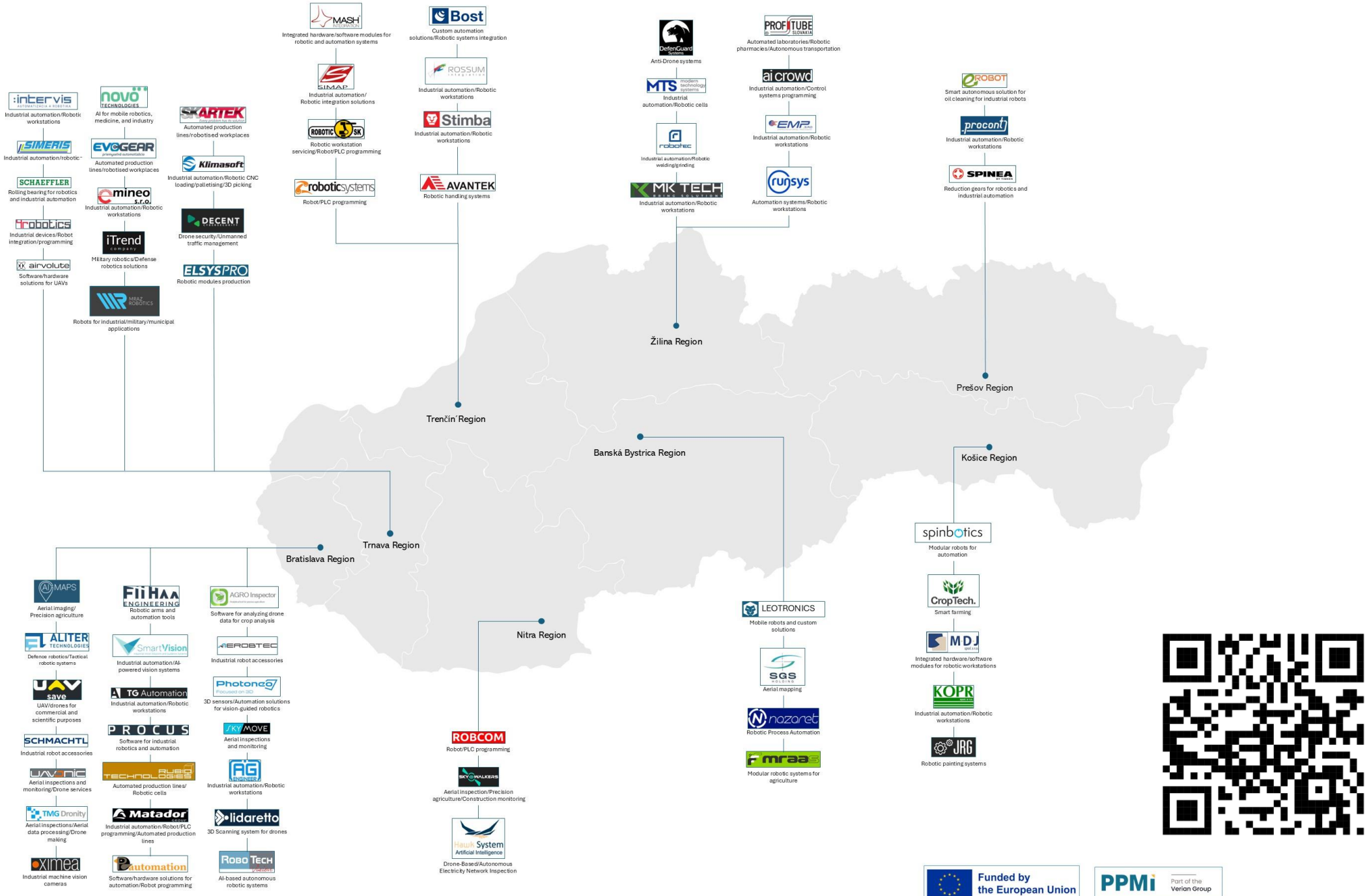


Overview of the Slovak positioning within the cutting-edge robotics technologies

Cutting-edge technology	No of Slovak companies	No of Slovak researchers
Robotic Process Automation	61	14
Aerial Drones	60	67
Collaborative Robots	35	70
Agricultural Robotics	32	7
Medical Robotics	8	25
Humanoid Robotics	4	65






MASH
Integrated hardware/software modules for robotic and automation systems
SIMAP
Industrial automation/ Robotic integration solutions
ROBOTIC SK
Robotic workstation servicing/Robot/PLC programming
roboticsystems
Robot/PLC programming
Bost
Custom automation solutions/Robotic systems integration
ROSSUM
Industrial automation/Robotic workstations
Stimba
Industrial automation/Robotic workstations
AVANTEK
Robotic handling systems
DefenGuard Systems
Anti-Drone systems
MTS modern technology systems
Industrial automation/Robotic cells
robotec
Industrial automation/Robotic welding/grinding
MK TECH
Industrial automation/Robotic workstations
PROFITUBE SLOVAKIA
Automated laboratories/Robotic pharmacies/Autonomous transportation
ai crowd
Industrial automation/Control systems programming
EMP
Industrial automation/Robotic workstations
runsys
Automation systems/Robotic workstations
EROBOT
Smart autonomous solution for oil cleaning for industrial robots
procont
Industrial automation/Robotic workstations
SPINEA
Reduction gears for robotics and industrial automation
:intervis
Industrial automation/Robotic workstations
SIMERIS
Industrial automation/robotic
SCHAEFFLER
Rolling bearing for robotics and industrial automation
4robotics
Industrial devices/Robot integration/programming
airvolute
Software/hardware solutions for UAVs
novo TECHNOLOGIES
AI for mobile robotics, medicine, and industry
EVOGEAR
Automated production lines/robotised workplaces
mineo s.r.o.
Industrial automation/Robotic workstations
iTrend company
Military robotics/Defense robotics solutions
MRAZ ROBOTICS
Robots for industrial/military/municipal applications
SKARTEK
Automated production lines/robotised workplaces
Klimasoft
Industrial automation/Robotic CNC loading/palletising/3D picking
DECENT
Drone security/Unmanned traffic management
ELSYSPRO
Robotic modules production
Žilina Region
Prešov Region
Trenčín´Region
Banská Bystrica Region
Košice Region
Trnava Region
Bratislava Region
Nitra Region
AI MAPS
Aerial imaging/ Precision agriculture
ALITER TECHNOLOGIES
Defence robotics/Tactical robotic systems
UAV save
UAV/drones for commercial and scientific purposes
SCHMACHTL
Industrial robot accessories
UAVNIC
Aerial inspections and monitoring/Drone services
TMG Dronity
Aerial inspections/Aerial data processing/Drone making
ximea
Industrial machine vision cameras
FIIHAA ENGINEERING
Robotic arms and automation tools
SmartVision
Industrial automation/AI-powered vision systems
TG Automation
Industrial automation/Robotic workstations
PROCUS
Software for industrial robotics and automation
RUBIO TECHNOLOGIES
Automated production lines/ Robotic cells
Matador
Industrial automation/Robot/PLC programming/Automated production lines
automation
Software/hardware solutions for automation/Robot programming
AGRO Inspector
Software for analyzing drone data for crop analysis
AEROBTEC
Industrial robot accessories
Photonea
3D sensors/Automation solutions for vision-guided robotics
SKYMOVE
Aerial inspections and monitoring
AG ENGINEERS
Industrial automation/Robotic workstations
lidaretto
3D Scanning system for drones
ROBO TECH
AI-based autonomous robotic systems
ROBCOM
Robot/PLC programming
SKYWALKERS
Aerial inspection/Precision agriculture/Construction monitoring
Hawk System Artificial Intelligence
Drone-Based/Autonomous Electricity Network Inspection
LEOTRONICS
Mobile robots and custom solutions
SGS
Aerial mapping
nazaret
Robotic Process Automation
mraas
Modular robotic systems for agriculture
spinbotics
Modular robots for automation
CropTech.
Smart farming
MDJ
Integrated hardware/software modules for robotic workstations
KOPR
Industrial automation/Robotic workstations
JRG
Robotic painting systems
Funded by the European Union
PPMi
Part of the Verian Group

European Commission

Coffee break (10:30-10:50)

European Commission

Panel Discussion: Is Robotisation a Horizontal Priority for Slovakia?

Introduction by František Duchoň

European Robotics Forum 2025

- robotika v armádnych aplikáciách
- humanoidné roboty (ohrozenie Čínou, 5 % pracovnej sily vo fabrikách, 40 mil. takýchto robotov)
- AI modely využiteľné aj v priemysle
- využitie ROS2 v priemysle

European Robotics Forum 2025

- vývoj brzdí v EÚ často až nezmyselná byrokratická záťaž a prílišné trvanie na pravidlách (v autobuse Vás ľudia viac postláčajú ako kolaboratívne aplikácie robotov)

- Európa produkuje viac publikácii v robotike ako USA a Čína
- výzvou je však transfer týchto technológií a škálovanie

- keynote speach – prof. Fox (NVIDIA) – RobotGPT, Sim2Real (inflexný bod robotiky)

European Robotics Forum 2025

- servisná robotika
- povinnosť byť riadené s ľudským supervízorom (meška legislatíva)
- napr. 4 kosačky s ľudským supervízorom napriek nezaznamenaným kritickým situáciám (opäť brzdíme pokrok skrz legislatívu)

- len dvaja slovenskí zástupcovia – TUKE a NCR!

European Commission

Conclusions and general Q&A

European Commission

Thank you for your participation!

Thank you

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