Appendix A: Overview of the Czech Republic's Most Automation-Relevant Industries and Common Automatable Applications

This appendix presents the Czech Republic's manufacturing industries ranked by their relevance for Danish automation technology suppliers, with particular emphasis on small and medium enterprise (SME) accessibility and alignment with Danish collaborative automation strengths.

The emphasis on SMEs as primary adopters of automation solutions using Danish technology is due to challenges associated with engaging larger companies, which often maintain established relationships with existing automation brands and suppliers. While these larger companies continue to represent a potential market for Danish technology, they are generally more difficult to access.

The ranking considers industry size, current automation gaps, SME market potential, workforce demographics, and compatibility with Danish technology solutions. While automotive represents the largest manufacturing sector by output, greater market opportunity exists in supporting industries with lower current adoption rates but substantial automation potential, particularly those serving as sub-suppliers to major sectors.

Top 10 Industries ranked by Danish Automation Relevance

Rank	Industry Sector	Current Robotization	Key Automatable Applications	Opportunity Assessment
1	**Fabricated Metal Products & Metalworking**	**Low**	Welding, palletizing, machine tending, surface finishing, material handling	**High** - Extensive SME base, low current automation, aging workforce
2	**General Engineering & Machinery**	**Low**	Palletizing, CNC tending, assembly, quality inspection, internal logistics	**High** - Diverse SME landscape, standardizable processes, clear ROI applications
3	**Plastics & Rubber Manufacturing**	**Low-Medium**	Injection molding tending, packaging, assembly, quality control, material handling	**Medium-High** - Mix of SMEs and larger plants, proven automation applications
4	**Food & Beverage**	**Low**	Packaging, palletizing, quality inspection, material handling, dispensing	**High** - Low current adoption, hygiene requirements favor automation, aging workforce

5	**Electronics & Electrical Equipment**	**Low-Medium**	Pick-and-place, assembly, testing, packaging, screwdriving	**Medium** - Mix of large and SME operations, precision requirements match Danish capabilities
6	**Chemicals & Pharmaceuticals**	**Medium**	Dispensing, packaging, material handling, quality control, clean room applications	**Medium** - Higher current adoption but specialized applications, regulatory compliance needs
7	**Woodworking & Furniture**	**Low**	Surface finishing, material handling, assembly, packaging, CNC tending	**Medium-High** - Traditional SME sector, manual processes, potential for collaborative solutions
8	**Transportation Equipment (Rail, Aerospace)**	**Medium**	Welding, assembly, surface finishing, quality inspection, material handling	**Medium** - Specialized applications, higher precision requirements, smaller volume
9	**Textile & Apparel Manufacturing**	**Low**	Material handling, packaging, quality inspection, automated cutting, assembly	**Medium** - Cost-sensitive sector, some manual processes remain, limited automation precedent
10	**Automotive Manufacturing**	**High**	Advanced assembly, specialized welding, quality systems, logistics automation	**Low-Medium** - High existing adoption, focus on Tier 2/3 suppliers rather than OEMs

Priority Industries (Ranks 1-3)

Fabricated Metal Products & Metalworking presents the strongest opportunity due to the combination of low current robotization, extensive SME presence, and applications that directly match Danish strengths in collaborative welding and material handling solutions. The aging workforce in arc welding creates urgent automation demand.

General Engineering & Machinery offers broad application potential across diverse SME operations, with palletizing, machine tending, and assembly representing standardizable automation opportunities that Danish suppliers can address with proven solutions.

Plastics & Rubber Manufacturing provides established automation pathways with injection molding tending, packaging, and assembly applications where collaborative robots can integrate safely alongside human workers.

Secondary Opportunities (Ranks 4-6)

Food & Beverage shows significant potential despite lower current adoption rates, driven by hygiene requirements, labor shortages, and applications well-suited to Danish collaborative automation approaches.

Electronics & Electrical Equipment presents precision applications matching Danish technological capabilities, though market penetration may be more challenging due to existing automation infrastructure.

Chemicals & Pharmaceuticals offers specialized applications requiring the safety and precision characteristics of Danish collaborative solutions, particularly in dispensing and clean room environments.

Supporting Industries (Ranks 7-10)

The remaining industries represent longer-term opportunities where Danish solutions may find specific niches, though market development requirements are higher and immediate potential more limited.

Market Context

This ranking provides strategic direction for market entry based on alignment between Czech manufacturing needs and Danish automation technology strengths.

Key Market Indicators:

- Czech Republic ranks with 207 robot units per 10,000 employees in 2023, approaching the EU average of 219 units (IFR 2024)
- This represents significant growth from 101 units in 2016 (IFR 2017), indicating sustained automation adoption over seven years
- Overall adoption is 25% above expected rate when adjusted for wage levels (ITIF 2022), indicating other factors beyond labor cost savings drive automation decisions
- Czech Republic faces 264,000 job vacancies with labor shortages affecting about one-fifth of employers (EURES 2024)
- Manufacturing employs 30.9% of the workforce while representing 20% of GDP (EURES 2024, World Bank 2024)

The ranking emphasizes industries where Danish collaborative automation solutions can achieve meaningful market penetration through SME-focused approaches, prioritizing metalworking and general engineering based on market opportunity alignment with Danish technological strengths.

Appendix B: Application Priority Alignment: Danish Supply vs. Czech Demand

The table compares ten automation applications from two perspectives: Danish supply strengths (left column) and Czech automation potential (right column). Danish rankings reflect mature solutions, established ecosystems, and proven deployment capabilities. Czech rankings consider opportunity size, adoption likelihood, and local integrator availability.

The comparison reveals strong alignment in high-priority applications like palletizing, welding, and screwdriving - the most promising areas for targeted export efforts.

Methodology and Data Foundation

This analysis uses HowToRobot platform data covering 361 Danish robot and automation companies (September 2025). Filtering for the ten priority applications yields 222 relevant technology suppliers and integrators.

Across the 222, we conducted targeted evaluation to validate Danish supply strength across all application areas, identifying representative companies with technical capability and B2B partnership interest. Through this process, we identified 28 suppliers that collectively confirm strong Danish capabilities across all ten areas. These companies collectively demonstrate verified technological leadership, proven deployment records, and established international expansion approaches, successfully validating our assessment of Danish supply strength.

Czech Integration Ecosystem Validation

HowToRobot market data confirms 146+ automation integrator companies operating across the ten priority applications in Czech Republic. This integrator population validates sufficient local implementation capacity for meaningful Danish technology adoption, addressing the critical requirement for local partners capable of system design, installation, and support.

Supply-Demand Alignment Analysis

As part of the overview, 28 specific Danish solutions have been identified and included for overview. To learn more about each technology, click the company names below which link directly to a relevant product with each supplier.

Danish Automation Applications (by supply strength)		Czech Automation Needs (by automation potential)
1. Material Handling & Palletizing ***Key OEMs:*** *EasyRobotics – CESTEK - EGATECH*	→	**1. End-of-Line & Palletizing**
2. Welding ***Key OEMs*****:** Migatronic - Smooth Robotics – Inrotech	→	**2. Automated Screwdriving & Assembly**
3. Automated Screwdriving & Assembly ***Key OEMs:*** *Spin Robotics – OnRobot*	→	**3. Arc Welding of Metals**
4. Collaborative Robots & General Purpose Automation Kits ***Examples:*** *Universal Robots – Kassow Robots - OnRobot*	*	**4. Internal Logistics**
5. Machine Tending ***Key OEMs:*** *EasyRobotics – SCAPE – Made4CNC*	→	**5. Machine Tending**
6. Mobile Robots for Internal Logistics ***Key OEMs:*** *MiR - Capra Robotics - Robotize*	→	**6. Packaging & Kitting**
7. Vision-Guided Quality Inspection & Bin-Picking ***Key OEMs:*** *Scape technologies – Nordbo - Trivision*	→	**7. Quality Inspection & Testing**
8. Dispensing & Gluing ***Key OEMs:*** *Aim Robotics – VETACS*	→	**8. Dispensing & Gluing**
9. Surface Finishing ***Key OEMs:*** *Nordbo – Flex-Trim - OnRobot*	→	**9. Surface Finishing**
10. Painting & Coating ***Key OEMs:*** *Nordbo – Ventherm - Clemco*	→	**10. Painting & Coating**

***** *Collaborative Robots & General purpose Automation kits apply to all categories of Automation needs.*

Strategic Implications

The strong correlation between Danish supply strengths and Czech automation priorities validates the strategic focus on these ten applications. Multiple Danish suppliers in most categories, combined with adequate Czech integration capacity, indicate realistic potential for meaningful market penetration.

Applications with perfect alignment (ranks 1-3) represent immediate opportunities where Danish suppliers can leverage existing technological advantages. Secondary applications (ranks 4-7) present medium-term opportunities requiring targeted market development. Applications 8-10 remain relevant but represent more niche markets with lower expected export volumes. The 146+ Czech integrators across these applications provide confidence that partnership development efforts will find receptive local partners with relevant capabilities and customer access.

Appendix C: Expert Evaluation and Estimation of Market Potential for Danish Automation Technologies in Czech Republic

This appendix presents an evaluation of the potential for matching Danish automation technologies across the 10 application areas under consideration with Czech end users through local Czech integrators.

Executive summary: *The Czech automation market presents a substantial opportunity with total addressable market potential across the 10 application areas of at least €31-55 million over 3-5 years. Danish technologies could realistically capture 8-12% of this market (at least €2.5-6.6 million) based on competitive advantages in collaborative automation and SME-accessible solutions, provided suppliers commit to sustained market development efforts and manage to establish effective and lasting partnerships.*

The Czech automation market for applications matching the 10 prioritized Danish technology strengths represents **at least €31-55 million over the next 3-5 years**.

Market Sizing Rationale:

- **Target SME population**: 6,764 companies (10-249 employees) with 295,187 total employees in our chosen primary manufacturing industries of interest[1] (Eurostat 2023)
- **Current robot density baseline**: 207 robots per 10,000 employees (2023), equivalent to at least 6,110 robots across the target SME population
- **Historical growth trajectory**: Czech Republic's robot density grew from 101 to 207 robots per 10,000 employees (IFR 2017-2023), representing 12.6% compound annual growth
- **Conservative growth assumption**: 6.3% annual growth (half of historical trajectory) to account for market maturation and economic uncertainties, ensuring our projections represent conservative minimum estimates
- **Additional systems required**: At least 1,223 systems (3-year scenario) to 2,197 systems (5-year scenario) to maintain robot density growth alignment
- **Average Danish export value**: €25,000 per system, reflecting realistic mix of components and complete solutions
- **Market calculation**: At least 1,223-2,197 additional systems × €25,000 = at least €31-55 million total market potential

[1] Primary manufacturing industries: Manufacture of food products, Manufacture of beverages, Manufacture of rubber and plastic products, Manufacture of fabricated metal products except machinery and equipment, Manufacture of computer electronic and optical products, Manufacture of electrical equipment, and Manufacture of machinery and equipment n.e.c.

This conservative market assessment assumes continued economic growth, sustained labor market tightness, and normal business investment cycles in Czech manufacturing. The estimates represent minimum values as they do not account for likely increases in the number of companies and employees in the target industries over the projection period.

The actual value of exported Danish technology will vary significantly depending on the nature of the solution. Complete turnkey automation systems from Danish suppliers may represent €40-60,000 in export value, while specialized end-of-arm tools and components typically range from €3-15,000. This assessment reflects a realistic mix where approximately 60% of solutions involve component exports and 40% represent more comprehensive system deliveries, excluding local integration and installation costs performed by Czech partners.

Danish Technology Market Capture Potential

Danish automation technologies face substantial competition from established emerging suppliers who dominate traditional industrial robotics markets. However, Danish strengths in collaborative robotics and user-friendly automation create specific competitive advantages.

Danish Competitive Position:

- **Collaborative robotics leadership**: Universal Robots pioneered the cobot market with continued innovation from Danish suppliers
- **SME accessibility**: Danish solutions emphasize plug-and-play deployment suitable for smaller manufacturers
- **Safety and flexibility**: Collaborative design enables integration without extensive safety infrastructure
- **Proven technology maturity**: High technology readiness levels reduce deployment risk

Realistic Market Capture Assessment: Based on competitive dynamics, integration ecosystem capabilities, and Danish technology advantages, **Danish suppliers could realistically capture at least 8-12% of the addressable automation market** over 3-5 years.

Applied to market sizing: At least €2.5-6.6 million potential over 3-5 years

This capture rate reflects competitive uncertainty while acknowledging Danish advantages in collaborative automation and represents a conservative estimate of market potential.

Key Success Dependencies:

- Sustained commitment from Danish suppliers to Czech market development
- Successful training and partnerships with Czech integrators
- Achievement of reference installations demonstrating Danish technology advantages
- Maintenance of technological leadership in collaborative automation