

FRIWO

FRIWO – The New Power of E-Mobility

November, 2024

What sets FRIWO apart?

Investment Highlights

1. On the way to become a **leading e-mobility-supplier for two- and three-wheelers**
2. Established as a **mission-critical system provider with software and hardware expertise**
3. Expansion of **strong strategic position in Asian growth markets**
4. **High innovative** strength enables further technological developments
5. **Cost-efficient. flexible production structure** thanks to a global footprint
6. **High earnings and cash flow potential**

Supplier with global footprint and flexible cost-efficient production structure with focus on Asia

Locations

Headquarters: Ostbevern (GER)

Vietnam (3 production sites)

US (own sales office)

India joint venture: near New Delhi since 2022

Service company (for purchasing): China



~1,100 employees September 30, 2024;

Thereof currently in:

Germany: > 100

Vietnam: >1,000

> 1 billion

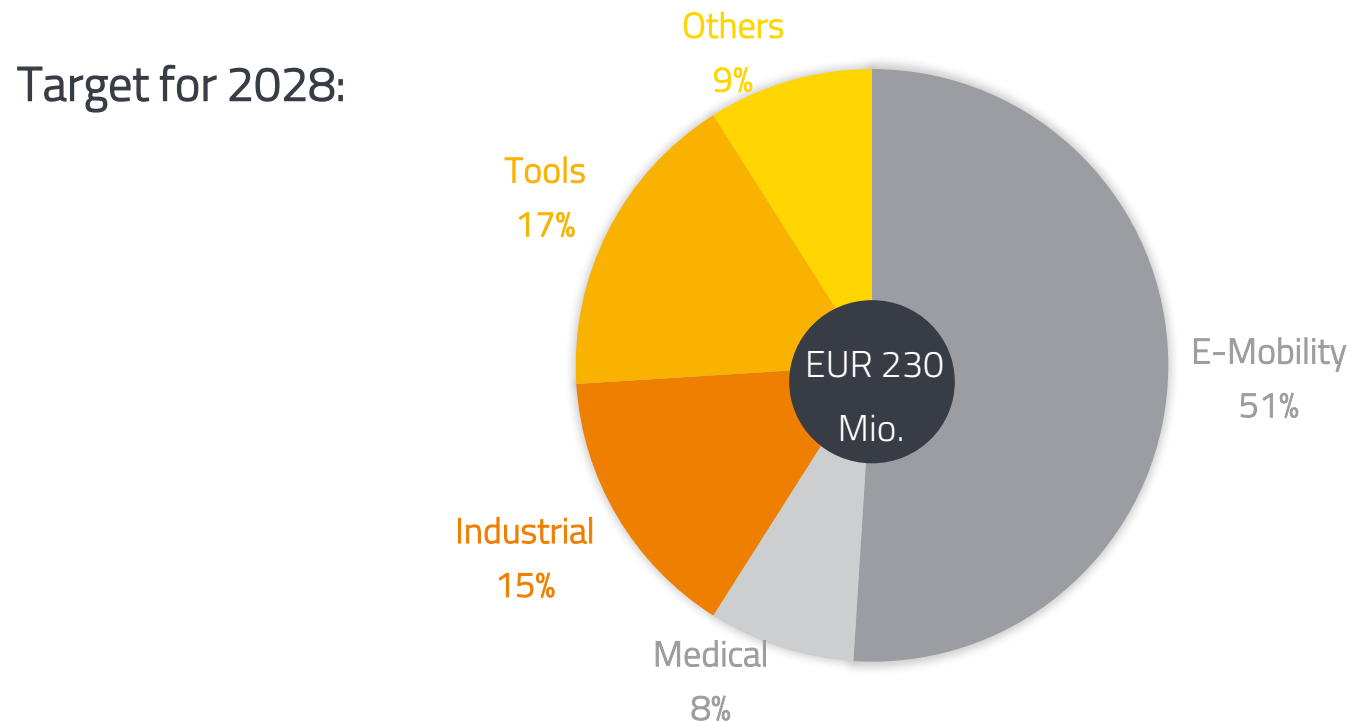
power supplies sold

> 5 million

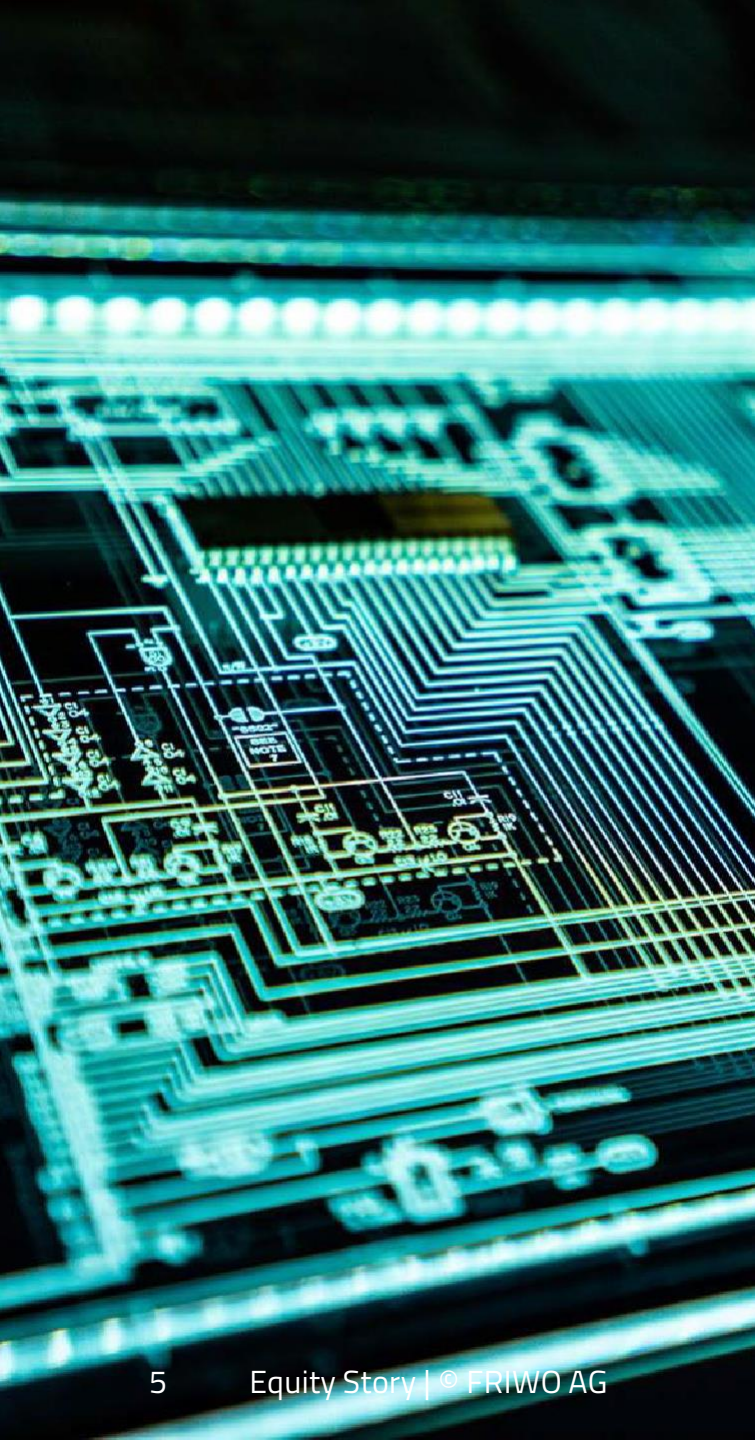
km completed by our battery packs

Successfully established on the market for over 50 years and with attractive customer groups.

FRIWO with great growth potentials and targeted leap in profitability – e-mobility characterizes all business areas



➔ Earnings turnaround with EBIT margin target > 10%



FRIWO system and service portfolio - Broadly diversified in high-tech applications

Drive systems

- Motor controls
- Service software
- Drive units
- Vehicle control units
- Displays
- Chargers
- Battery packs

Power supply system

- Power supply units
- Chargers
- Battery packs

E-mobility – Our Game Changer



- We are developing into a mission-critical system provider with software and hardware expertise
- The e-mobility sector is already successfully established as a supplier to well-known OEM customers



E-mobility – Europe's market leader in e-bike charging systems

High-tech e-mobility innovations in close coordination with existing Tier1 OEM customers.

- We supply 50% of the largest manufacturers of e-bike drive systems with battery chargers
- Already delivered >3 Mio. e-bike chargers of highest quality
- Number 1 position in Europe – Strong focus on Germany, Austria and Switzerland
- International expansion to:
 - India
 - North America
 - Australia
 - Rest of Europe



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Unlocking the huge e-mobility potential for motorized two- and three-wheelers in India

Total market potential = ~30 mio. units p.a. in 2027

- Expected increase in electric drive share to 15% by 2027
- Target market share UNO MINDA / FRIWO of 30% for electrically powered vehicles
- Expected average revenue ~500 USD per vehicle

Increased regulation drives dynamic growth

- Extensive state e-mobility promotion
 - New expanded FAME III funding program to be initiated in the fourth quarter of 2024
- Potential ban on internal combustion engines <250cm³
- Additional potential from India's neighboring countries



Unlocking the huge e-mobility potential for motorized two- and three-wheelers in India

- JV with Indian UNO MINDA (16,000 employees at 74 production sites worldwide)
 - Share of FRIWO at 49.9 percent
 - Participation of UNO MINDA in FRIWO (~5%)
 - Aiming for market leadership in e-mobility segment for two- and three-wheelers in India. Expansion into neighboring countries planned
 - Production start in June 2023. currently ramping up production
- Supply of well-known Indian and Japanese manufacturers - orders and commitments of several hundred million euros already received
- First license income for FRIWO technology from business year 2024/25. high growth potential in subsequent years
- UNO MINDA has an established production, marketing & distribution network



Additional e-mobility potential in Southeast Asia is gradually being tapped

Regional focus on Vietnam, Indonesia and Thailand

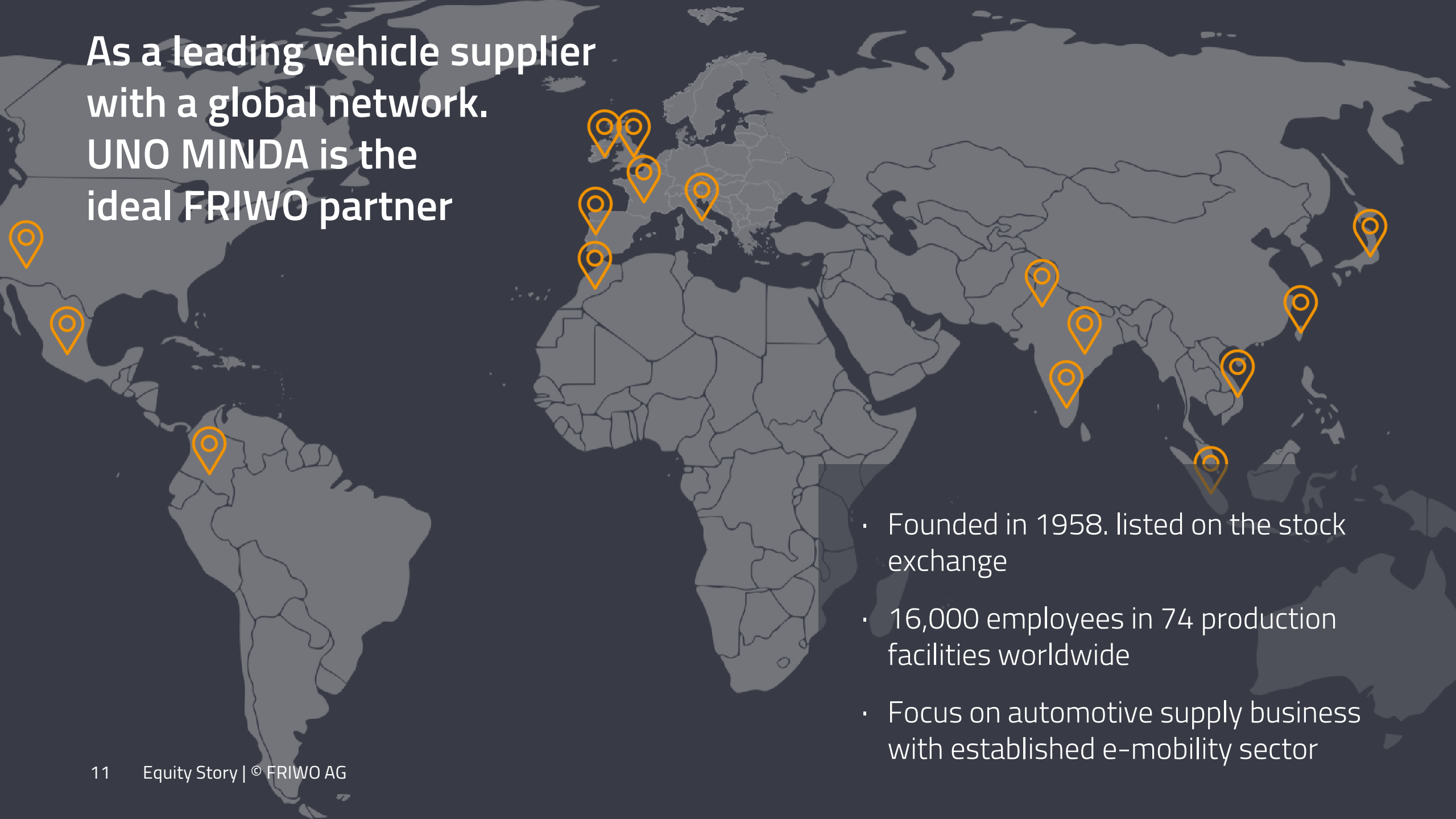
- Rising population and demand for two- and three-wheel drives
- Vietnam is already one of the top 5 countries in the world for electric drives for two-wheelers thanks to e-mobility funding programs
- Markets in Indonesia and Thailand are facing a growth spurt due to upcoming regulatory ambitions for e-mobility

Advanced discussions regarding the initiation of partnerships with regional two- and three-wheeler manufacturers

- First orders expected for 2025

Production planned together with local partners and suppliers from Southeast Asia

As a leading vehicle supplier
with a global network,
UNO MINDA is the
ideal FRIWO partner

- 
- A dark grey world map with orange location pins indicating production facilities. The pins are distributed across North America, South America, Europe, Africa, India, Southeast Asia, and East Asia.
- Founded in 1958, listed on the stock exchange
 - 16,000 employees in 74 production facilities worldwide
 - Focus on automotive supply business with established e-mobility sector

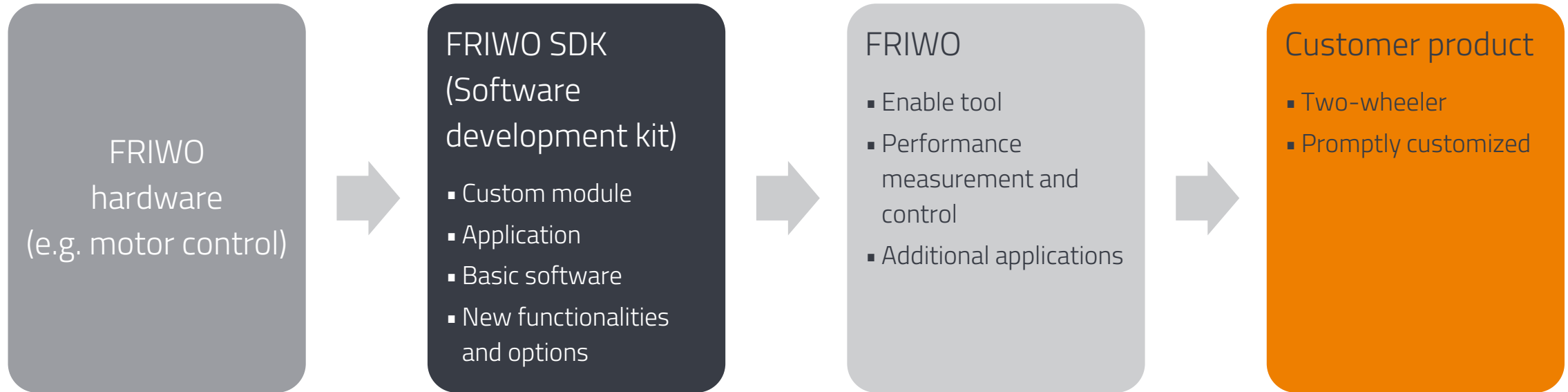
E-mobility - e-drives: the future growth engine

- Future global expansion thanks to **e-drives system expertise**
 - Horizontal and vertical expansion
 - Development of new customer groups through high added value via system approach for **software and hardware**
 - Big data and services
 - Batterie management system (BMS)
 - Motor control unit (MCU)
 - Battery packs
 - Geographic expansion into Asian growth markets



Innovative e-drives system offering – own software as a differentiator

The new FRIWO ecosystem: System offering opens up new sales dimensions and customer groups



 **New scalable business model through** combination of basic, monthly and per use services

FRIWO Systems

Offer of digitally controllable power supply and drive solutions

Example: e-scooter

- 1 – Display
- 2 – Vehicle control unit
- 3 – Driving unit
- 4 – Motor control
- 5 – Battery
- 6 – Charger
- 7 – Service software

Innovations in the pipeline:

- E-bike motherboards
- On-board-charger
- Options for automotive





E-mobility innovations enable a broad new range of applications

The e-mobility startup Brekr combines design expertise with e-mobility innovation

Goal: Development of an innovative e-mobility vehicle with maximum driving comfort

Extensive support from FRIWO:

- Technical support for the efficient drivetrain (2.500 - 4.000 watts)
- Design of a powerful battery for maximum capacity (2.0 kWh Li-Ion)
- Support with system integration
- Optimization and adaptation of the system components to the vehicle



Power Technology (I): Tools – Intelligent charging systems for tools and garden equipment

- We supply the largest manufacturers of robotic lawnmowers, power tools, garden tools and hedge trimmers with e-mobility charging systems
- Product range among others: Charging electronics, rechargeable batteries, battery charger





Power Technology (II): Medical – Mobility and digitalization for medical technology

- Some of the largest medical technology, infusion pump and incubation device manufacturers rely on FRIWO's e-mobility expertise
- High-margin business with established sales channels
- Product range: Technically leading high-end power supply units for laboratory equipment and medical technology power supplies

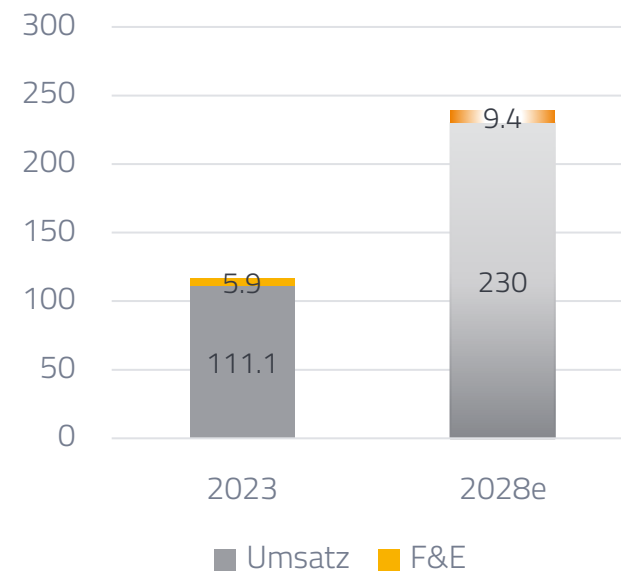




Focus on innovations to open up new fields of application

- Number of R&D employees increased by >50% in 3 years
 - 59 employees in 2019; 91 employees at the end of 2023
 - EUR 5.9 million expenditure for R&D in 2023
- Increasing focus on software development
- In-house FRIWO laboratory for qualification & verification and in-house approval department
- State-of-the-art development tools
- Extensive DIN ISO certifications

R&D expenditure



Weak demand for e-mobility in Europe continues, return to operating profit zone in Q3 thanks to high cost efficiency

- Continued weak demand in Europe, particularly in the E-mobility segment - Expected stabilisation in the 2nd half of the year not to the extent hoped for. Solid development in the Medical segment
 - Sales after nine months fall to EUR 64.4 million (9M 2023: EUR 89.5 million)
 - EBIT at EUR -2.9 million (3M 2023: EUR -2.3 million) - Q3 2024: EUR +0.1 million (Q3 2023: EUR -0.7 million)
 - Slump in sales cushioned by greatly improved cost efficiency, e.g. for site optimisation in Ostbevern and Vietnam
 - Equity ratio at 10.1%

Outlook for 2024 (status: November 2024):

- Group sales between 90 and 95 million euros
- Low loss in Group EBIT - Operating break-even point in the 3rd quarter reached as announced
- Stable financial situation thanks to the extension of the existing financing framework achieved last year – close coordination with the principal banks



Vision 2030

- Leveraging the high global growth potentials:
 - Return to sustainably profitable growth targeted for subsequent years
 - Planned triple-digit million euro turnover from Asia to lead to high license income
 - FRIWO supplies technology for over 10 million vehicles p.a.
 - Regional growth: Asia. North America. EU
 - Expansion of innovative strength
 - Expansion of value creation via new product offerings / areas of operation
 - Development of new customer groups
 - Greater cost efficiency thanks to optimization of the global production network and more automation
 - Expansion of distribution channels:
 - E-commerce. webshop. partnerships (90% direct sales to date)

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Back-up

Massive slump in demand for e-bikes in Europe weighs on Group figures for 2023

- **Group sales** fall to EUR 111.1 million in 2023, slightly above forecast
- **Earnings development** in line with expectations burdened by decline in sales. Structural adjustments, upfront costs for Indian joint venture and negative currency effects
- **Order development** suffers from weak demand in the e-mobility sector
- **Joint venture in India** for e-mobility successfully launched; very high demand underlines enormous future potential
- **Equity ratio** at 17.1%

In million Euro	2023	2022
Revenue	111.1	184.9
Earnings before interest and taxes (EBIT)	-7.4	4.3
Earnings before taxes (PBT)	-11.1	1.8
Earnings after taxes	-11.1	0.5
Order book	49.6	83.6
Order intake	80.7	156.2
	12/31/2023	12/31/2022
Balance sheet total	74.3	105.0
Equity	12.7	24.9
Equity ratio in percent	17.1	23.7
Employees (as at reporting date)	1.701	2.501

3rd quarter of 2024 does not bring the hoped-for turnaround - Nevertheless, operating break-even point reached

- **Declines in sales and orders** primarily in e-mobility, but also in Tools and Industrial; Medical with positive development
- **EBIT decline** slowed substantially thanks to high cost flexibility and adjustment of production structures in Ostbevern and Vietnam
- **Joint venture in India** for e-mobility continues to grow dynamically. Doubling of sales in financial year 2024/25 (31 March), no licence fees yet but with significant start-up costs
- **Equity ratio** falls to 10.1%

In million Euro	9M 2024	9M 2023
Revenue	64.4	89.5
Earnings before interest and taxes (EBIT)	-2.9	-2.3
Earnings before taxes (PBT)	-5.5	-4.9
Earnings after taxes	-5.7	-5.3
Order book	46.8	54.5
Order intake	67.2	63.9
	09/30/2024	12/31/2023
Balance sheet total	66.9	74.3
Equity	6.8	12.7
Equity ratio in percent	10.1	17.1
Employees (as at reporting date)	1,138	1,701

Contact and financial calendar

Contact Investor Relations and Media

FRIWO AG
Ina Klassen
+49 (0) 2532 81 869
ir@friwo.com

Peter Dietz
+49 (0) 69 97 12 47 33
dietz@gfd-finanzkommunikation.de

Financial calendar

04/24/2024	Publication annual report & FY-results 2024
05/08/2025	Press release Q1 2025
06/05/2025	Annual general meeting
08/14/2025	Half-year report 2025
11/06/2025	Press release Q3 2025