



COMPANY PRESENTATION



www.posital.com

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FRABA GROUP - HISTORY



Founded by Franz Baumgartner in Cologne, Germany and originally specialized in mechanical relays.



1918



FRABA starts selling "brush" absolute rotary encoders.

1963

FRABA manufactures one of the first encoders based on optical measurement technology.



1973

The first Optical Safety Edges (OSE) are launched.



1994

The first foreign subsidiary opens up in Princeton, New Jersey, USA.



2000



POSITAL product portfolio expands to include industrial inclinometers.

2002

CONISTICS, FRABA's advanced manufacturing plant opens in Slubice, Poland. CONISTICS is tailored to produce small lot sizes in a wide range of configurations.

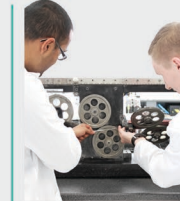


2006



FRABA's holding office opens in Heerlen, NL and product development cell, CENTITECH, moves to Aachen.

2011



We acquire wire-conditioning machinery and intellectual property from the Wiegand estate. This leads to a reliable supply of Wiegand wire which improves the manufacturing process and exceptional product quality.

2014



POSITAL launches the innovative magnetic kit encoders which are a battery free, built in solution for servomotors for real-time measurement of rotary position or speed.

2016

POSITAL launches the smallest multiturn absolute encoder



2019



The new factory in Malaysia opens which increases the manufacturing capacity for large-volume products

2022

1928



Being a pioneer in electric control systems, Mr. Baumgartner was able to grow to employ 90 highly trained specialists, producing relays for all of Europe.

1968



FRABA celebrates its 50-Year Anniversary. Mr. Baumgartner retires at the age of eighty, two nephews take over. FRABA employs 400 people now.

1993



Dr. Achim Leese, Christian Leese and Axel Wiemann take over the company. They restructure the company into a group of independent companies combined by a common Mission and Guiding Principles.

2001

FRABA introduces 2 new business units, **POSITAL** FRABA and **VITECTOR** FRABA. POSITAL which continues the encoder and position sensor business and VITECTOR which focuses on safety systems for the door and gate market.

2005



POSITAL launches a new line of magnetic multiturn encoders based on a Wiegand Wire Energy Harvesting Technology.

2009

The first Asian subsidiary opens in Singapore.

2013



High precision magnetic absolute and incremental encoders offered by POSITAL. POSITAL introduces a unique online product finder where users can select from more than 1 million sensors.

2015

The first Chinese subsidiary opens in Shanghai.



2017



0.5 Million Wiegand Components have been produced and shipped to customers all over the world.

2018

FRABA introduces 2 new business units: **UBITO** and **CODORMO**. FRABA celebrates its 100-Year Anniversary. We have expanded to over 220 employees, 7 locations and millions of product varieties available.

2021

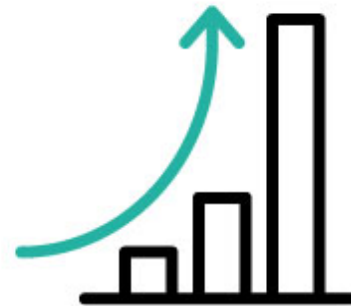
FRABA GROUP KEY FIGURES



1918
Established



400
Employees



46m Euro
Turnover



>70
Patents
Families



FRABA GROUP

Mission



Customer Perspective

- Everybody Works for the Customer, or Someone Who Does.

Market Leadership

- Focused on Small Markets We Always Aim to Be the Dominant Market Leader.

International Scope

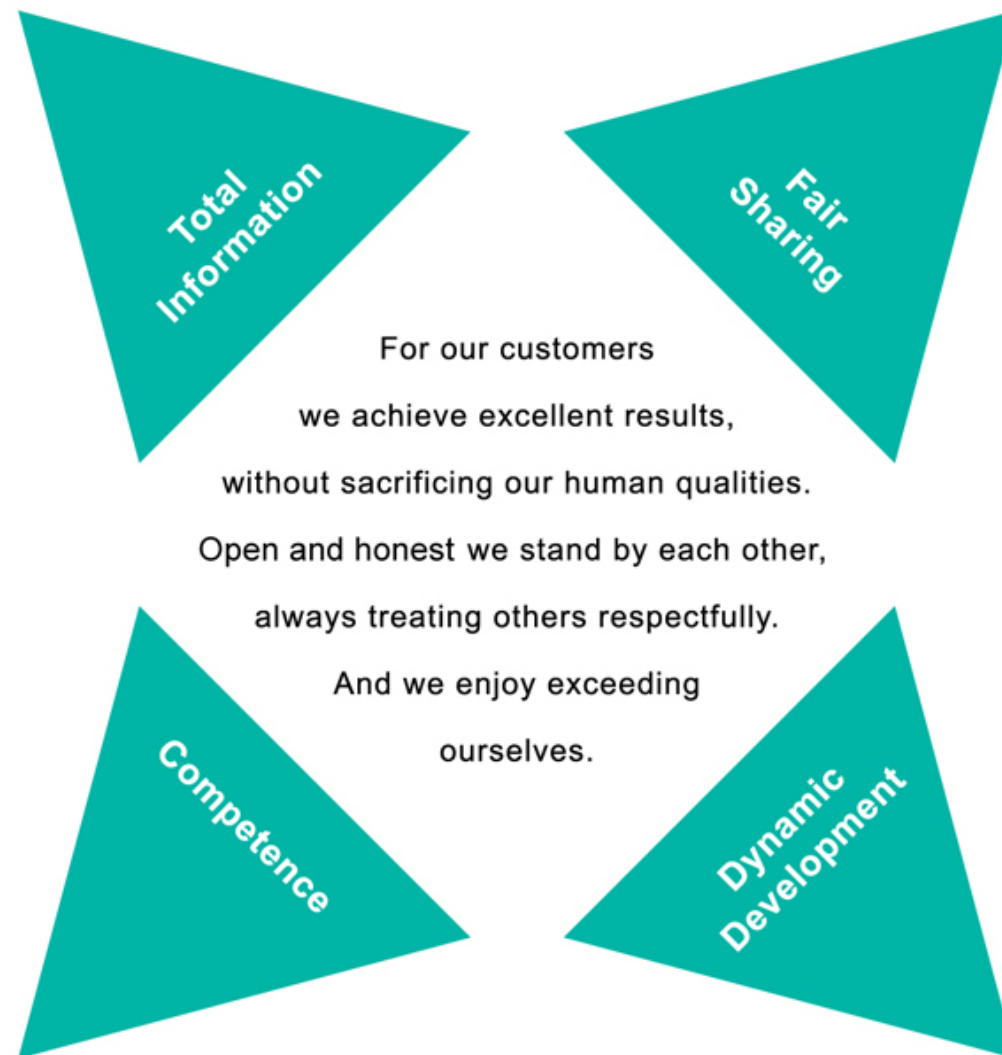
- Fraba Group Is Headquartered in Netherlands, With Multiple Branches in the Americas, Europe and Asia. Providing Premier Products and Excellent Technical Support to Customers Around the Globe.

Technology Transfer

- We Transfer Technologies From High Volume Industries and Tune Them for Industrial Automation Applications.

FRABA GROUP

Values



Competence

- Ideas, Knowledge, Energy, and Risk Taking (Not Titles or Positions) Are Our Drivers.

Total Information

- Share Information With All Our Business Partners.

Fair Sharing

- We Always Seek to Share Evenly, Material Things as Well as Feedback.

Dynamic Development

- All of Our Relationships - As Well as Our Thought Processes - Are Subject to Continuous Improvement.



FRABA GROUP Locations



250+ POSITAL Distributors Worldwide

POSITAL B.V. The Netherlands	FRABA Inc USA	福瑞博工业自动化（上海）有限公司 China	FRABA GmbH Germany	FRABA Pte Ltd Singapore
FRABA GmbH Germany (R&D)	FRABA S.R.L. Romania (R&D)	CONISTICS Sp. z o.o. Poland (Production)	FRABA SDN. BHD Malaysia (Production)	

POSITAL PRODUCT PORTFOLIO 1/2



IXARC

Incremental & Absolute Encoders

- Huge Variety (Over ~400K Versions Available)
- Optical & Magnetic Technology
- Up to 18 Bit Resolution/32768PPR
- Up to 32 Bit Revolutions
- Wide Range of Electrical Interfaces
- IP69K, 200g, 300N
- Hazardous Location (UL, ATEX, IECEx)



LINARIX

Draw Wire Sensors

- Range: 1m – 15m (3' - 49')
- Heavy Duty, Industrial and Commercial Versions
- 15+ Communication Interfaces, Incl. Fieldbus, Ethernet, SSI, Parallel, Analog, IO- Link
- Tilt and Linear Measurement in One Sensor (Combined with POSITAL Inclinometer)



TILTIX

Inclinometer Sensors

- Dynamic & Static Versions
- ATEX Versions - Zone 1 & 21
- Up to 360° Range
- Dual Axis up to +/- 90°
- Pitch & Roll up to 180 °
- 0.01° Resolution
- 0.1° / 0.3° Accuracy
- Up to IP69K Protected

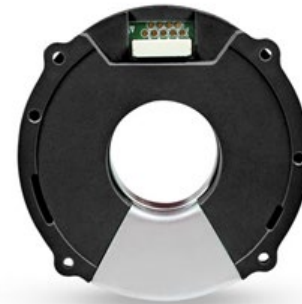
POSITAL PRODUCT PORTFOLIO 2/2



IXARC

Kit Encoders – On Axis

- No Battery – No Maintenance
- Up to 19 Bit Resolution / 1024 PPR
- Up to 40 Bit Revolutions
- Open Source Interface: BiSS C; BiSS Line; SSI and Others
- Compact Size: 36mm Diameter, 22mm



IXARC

Hollow Shaft Kit Encoder

- Wiegand Multiturn Technology: No Gear - No Battery
- Up to 19 Bit Resolution
- No Calibration Needed
- 30 / 50mm Inner Diameter
- Slim Design With Just 17.8 mm Thickness
- Open Source Interface: BiSS-C; SSI



Accessories

- Connectors and Cables
- Couplings
- Measuring Wheels
- Draw Wire Adapters
- Mounting Brackets and Adapter Flanges
- Counter & Display Modules
- Configuration and Interface Modules
- Explosion Proof Accessories
- Clamping Rings

OTHER FRABA BRANDS



Wiegand Technology

Key Benefits

- > No External Power Required – No Batteries
- > No Contact Measurement – No Wear and Tear
- > Speed Independent – Generates Same Amount of Energy at Any Speed
- > Energy Harvesting & Wireless Solutions
- > Counting Systems with Energy Harvesting Logic ASIC & Wiegand Sensor.

Product Portfolio

- > UBIPULS - Reliable, Individually Tested Wiegand Sensors and Energy Harvesters From 170nJ to 10μJ
- > UBIWIRE- High-Quality Wiegand Wire on Reel or Pre-Cut Ready for Customer Application
- > UBICYCL - Counting Systems with Energy Harvesting Logic ASIC & Wiegand sensors
- > UBI4IoT – Energy Harvesting Wireless Solutions. Contactless, Battery-Less, Wireless Event-Triggered Sensing

- > Website: [UBITO](https://www.ubito.com)

POSITAL INDUSTRIES – PRODUCTION MACHINERY



Packing

- Simplified Wiring with IXARC Rotary Encoders.
- Cost-Effective Solution
- Stainless Steel Housing for Durability.
- Provides Precise Feedback and Reliability at High Speeds.



Textile & Plastic

- IXARC Absolute Encoders and LINARIX Linear Sensors Facilitate Faster Changes
- Reduced Downtime and Increased Efficiency
- Reliable Positioning Even in Hot and Humid Areas



Food & Beverage

- Use of IXARC Rotary Encoders and LINARIX Linear Sensors Support Efficient and Hygienic Food Packaging
- Stainless Steel Version with Chemical Resistance
- Facilitates Accurate Process Monitoring

POSITAL INDUSTRIES – MATERIAL HANDLING



Automated Storage & Retrieval System

- IXARC Rotary Encoders and LINARIX Linear Sensors Used for Positioning
- Enables Precise Vertical and Horizontal Positioning
- Accurate Monitoring of Arms



Forklift

- TILTIX Inclinometers and LINARIX Linear Sensors Ensure Safety and Precise Load Positioning
- Simple Communication with Analog Interfaces
- Programmable Measurement by the User



Hoist, Gantry and Port Cranes

- IXARC Rotary Encoders, LINARIX Linear Sensors and TILTIX Inclinomater Used Ensure Safety and Precise Positioning
- Use Stainless Steel Versions with Chemical Resistance
- Ensures Accurate Process Monitoring

POSITAL INDUSTRIES – MOBILE AUTOMATION



Construction Machines

- IXARC Encoders Installed in Critical Components for Precise Feedback
- Enables Accurate Control, Improved Efficiency, and Enhanced Safety
- Sensors Optimize Acceleration and Deceleration
- Facilitates Accurate Navigation and Guidance



Cranes

- IXARC Redundant Encoders Offer Redundant Measurement and Easy Integration
- Sensors Designed for High Levels of Shock and Vibration
- Enhances Accuracy and Safety



Mining

- Certified Sensors Designed Specifically for Explosive Environments
- IXARC Encoders, LINARIX Linear Sensors and TILTIX Inclinator with ATEX and IECEx Certified Available
- Ensures Precise Positioning and Leveling while Maintaining Safety

POSITAL INDUSTRIES – DRIVES AND ROBOTICS AUTOMATION



Driving and Steering System

- IXARC and KIT Encoders Offer Practical Solutions
- Suitable for Both New and Retrofit Steering Systems
- Ensures Form, Fit, Signal Functionality, and Performance Requirements are Met



Handling System

- LINARIX Sensors Offer Precise Lifting Position Sensing
- TILTIX Inclinometers Provide Accurate Platform Tilt Measurement.
- Enhances Safety and Efficiency in Mobile Platform Operations



Stepper Motors

- IXARC Multiturn Kit Encoders Offer a Compact and Cost-effective Solution for Upgrading Stepper Motors to Advanced Servo Systems
- Stepper Servo Motors Require Encoder Feedback for Controlled Rotation
- Ensure Precise Positioning and Improved Performance

POSITAL INDUSTRIES - OTHERS



Solar Energy

- IXARC Encoders and TILTIX Inclinometers Ideal for Single and Two-axis Tracking Systems
- Optimized Solar Panel Orientation
- Ensures Optimized Solar Panel Orientation and Maintains Position Even After Power Loss



Wind Energy

- IXARC Absolute Encoders Ensure Reliable Positioning
- IXARC Incremental Encoders, Ideal for Speed Control Systems
- Available With Various Interfaces and Mechanical Models for Easy Integration.



MRI and CT Scanner

- LINARIX Linear Sensors Track Patient Table Positions Accurately
- For Complex Applications Like Fluoroscopy, Radiography Tables, or Surgical C-Arms, IXARC Absolute Rotary Encoders Provide Precise Positioning
- Simple Installation and Easy Calibration Ensure Accuracy for Both Patients and Scanners

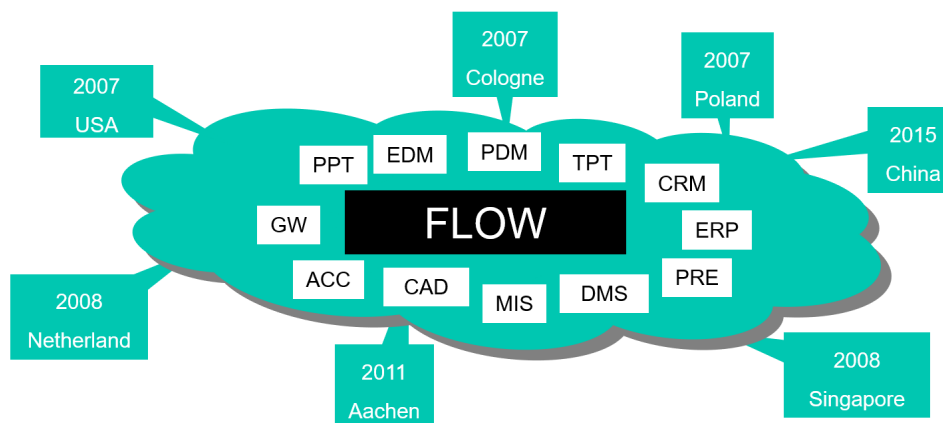
More Industries Information Available at www.posital.com

POSITAL BUSINESS STRATEGY

Built To Order Production System – IT System In The Cloud



- > “Mass Customization” (For Machinery Market)
- > Huge Variety of Products (>1 Million In Online Product Finder)
- > Modular Product Portfolio – Interconnected Digital Product Specifications
- > Built to Order Production System
- > Most Products Ship Within 5 Days
- > One Global PDM/ERP System in the Cloud for Design, Manufacturing and Marketing
- > Test Equipment Connected to Cloud
- > Video Based Manufacturing Instructions in the Cloud – No Language!



POSITAL BUSINESS STRATEGY

Access To A Huge Variety Of Solutions

Overview Of
Selected Requirements

Products > Rotary Encoders > IXARC Product Finder

Send as Email Save as PDF Print

Type Key Quickfinder

Refine Search

- × Communication Interface: CANopen
- × Revolution: 13 bit (8192 rev)
- × Resolution: 12 bit (4096 Steps; 0.088°)
- × Protection Class: ≥ IP64 / IP65
- × Material: Aluminum / Steel
- × Flange Diameter: ø 36 mm (ø 1.42")
- × Shaft Diameter: ø 6 mm (ø 0.24")
- × Connection Type: Radial 2 m

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Communication Interface

- ☐ Analog
- ☒ CAN / DeviceNet / J1939
 - ☐ CANiit
 - ☒ CANopen
 - ☐ CANopen Safety
 - ☐ DeviceNet
 - ☐ SAE J1939
- ☐ Modbus+Ethernet TCP
- ☐ Parallel
- ☐ Powerlink / EtherCAT
- ☐ Profibus DP / Interbus
- ☐ Profinet IO / EtherNet IP
- ☐ SSI / SSI + Incremental

Shortlisted Products

Results (2)

Communication Interface	Accuracy (Technology)	Certificate	Protection Class	Mechanical	Revolution	Resolution	Connection Type	Material	Remarks
CANopen	± 0.36° (Magnetic)	CE / UL	IP64 / IP65	Solid Shaft ø36 mm Synchro ø6 mm Shaft	Multiturn 13 bit (8192 rev)	12 bit (4096 Steps; 0.088°)	Cable Radial 2 m	Aluminum / Steel	0.36° accuracy
CANopen	± 0.36° (Magnetic)	CE / UL	IP64 / IP65	Blind Hollow Shaft ø36 mm Hub ø6 mm	Multiturn 13 bit (8192 rev)	12 bit (4096 Steps; 0.088°)	Cable Radial 2 m	Aluminum / Steel	0.36° accuracy

Detailed Datasheet With One Click

Products > Rotary Encoders > IXARC Product Finder

IXARC Rotary Encoder

MCD-CA00B-1312-R060-2RW



Interface

Interface	CANopen
Profile	DS-406
Programming Functions	Resolution, preset, 2 limit switches, 8 CAMS, baud rate, CAN-identifier, bootloader, transmission modes: polled, cyclic, sync

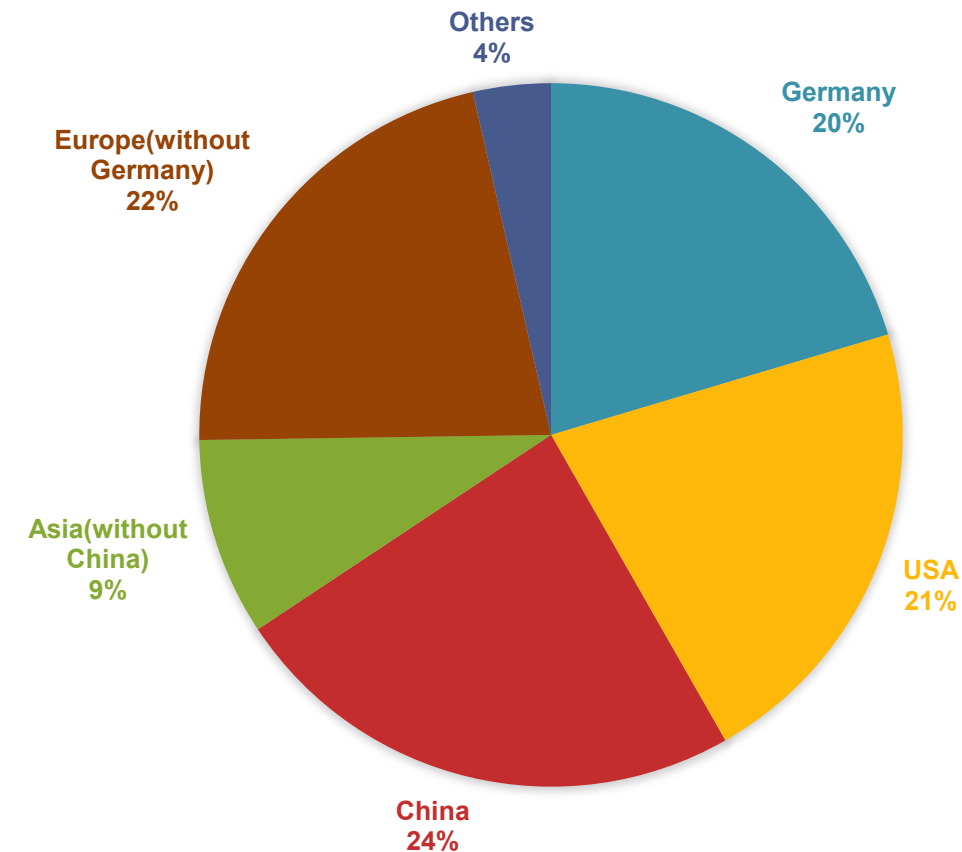
- > Fully Digitized Product Finder Connected to It System in the Cloud
- > No Expert Knowledge Required for Selection
- > Specific Data Sheet for Every Article
- > Pricing and Real Time Availability Included (Login Required)
- > ERP Interface for Real Time Delivery Information
- > 11 Different Languages Available
- > Accessible From Any Device With Internet Connection





POSITAL BUSINESS STRATEGY

Balanced Global Distribution of Business and Management



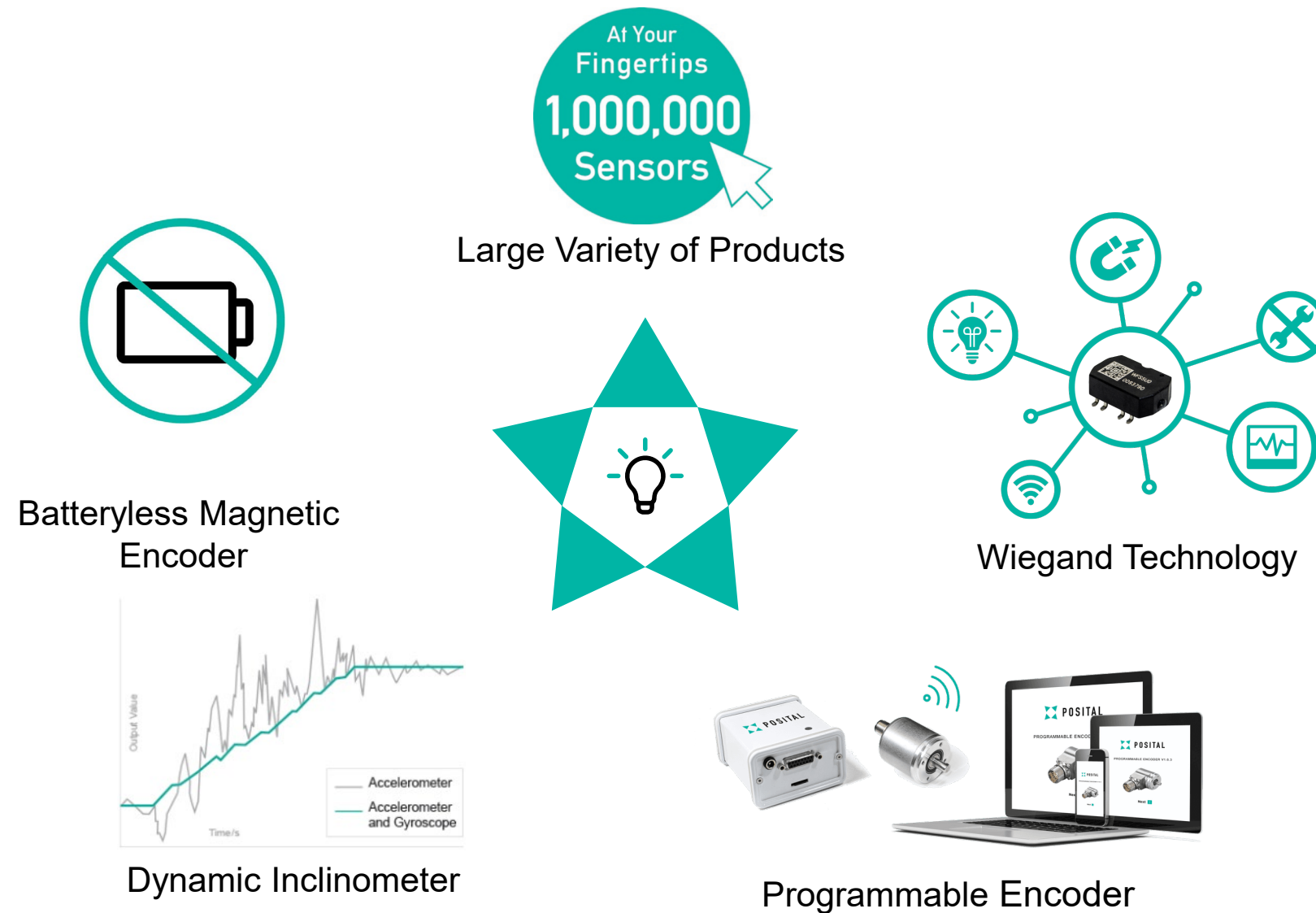
FRABA POSITAL Is the Only Encoder Company in the World With These Organizational Attributes:

- > Multiple Layers of Experienced Staff in All Three Regions.
- > Decision-Making Authority Is Not Consolidated in HQ; But Indigenous to All Three Regions.
- > Cloud-Based ERP Systems Easily Collaborates and Leverages Work Content in All Three Regions.

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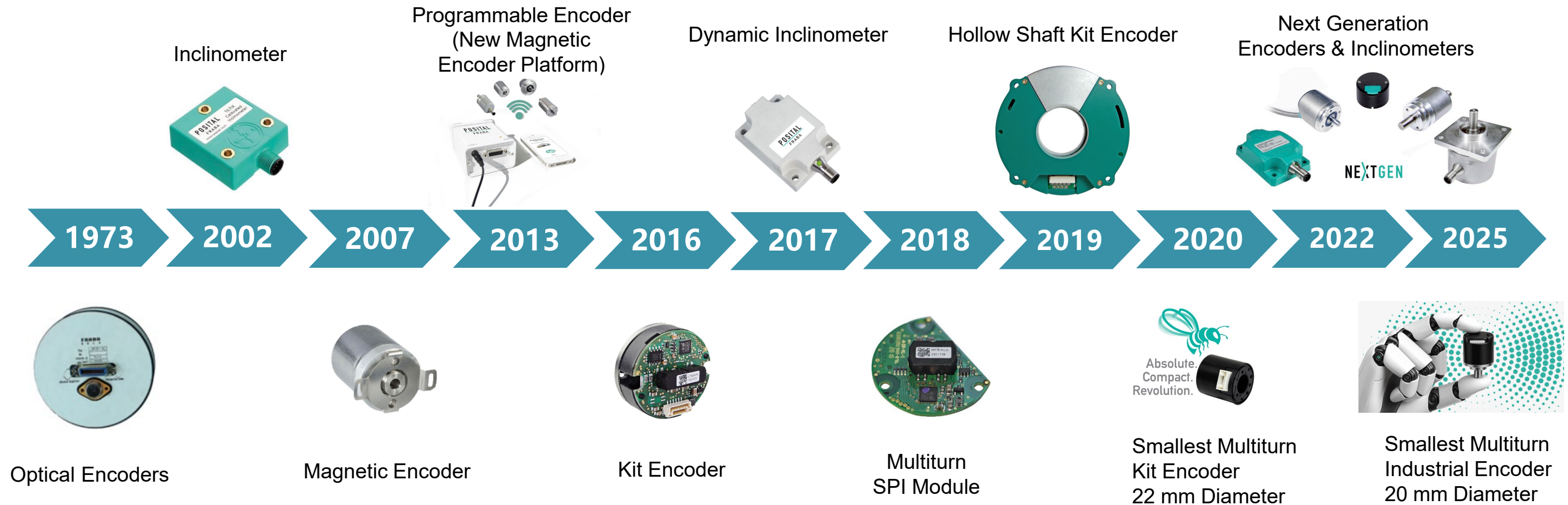
POSITAL BUSINESS STRATEGY

Technology and Product Innovation



POSITAL BUSINESS STRATEGY

A History of Innovation





POSITAL BUSINESS STRATEGY

Global Market Leader In Encoders With Fieldbus or Ethernet

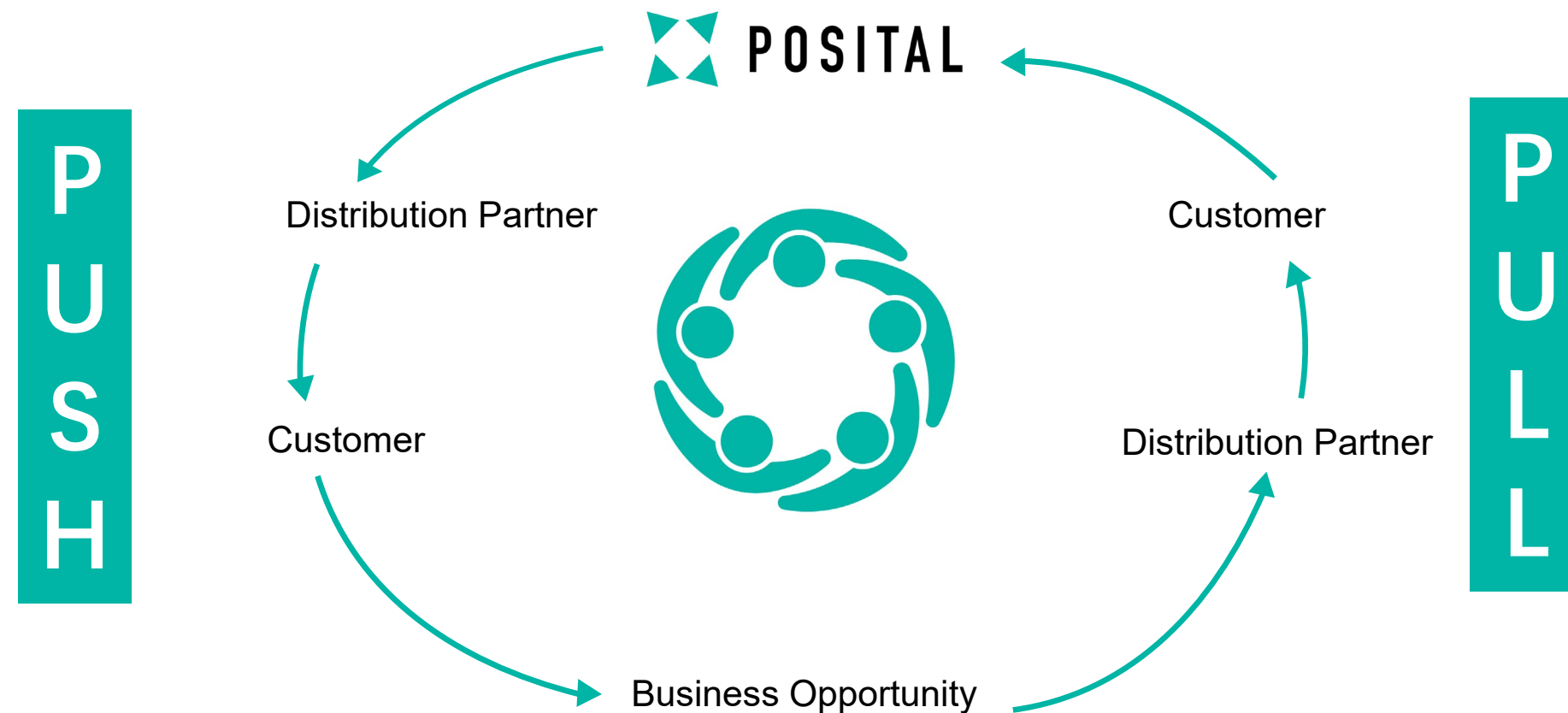


50% of Business with “Label Partner”



POSITAL BUSINESS STRATEGY

Distribution Focused Business



250+ POSITAL Distributors Worldwide

POSITAL BUSINESS STRATEGY

What POSITAL Offers



Webshop, Pricing, Knowledge Base, Certificate

- Online Pricing and Webshop Access for Purchase Orders
- Discount on List Price, and Special Prices for Registered Customer Projects
- Access to Online Knowledge Base

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Sales & Support

- Leads From POSITAL
- Access to Online Training Tools & Certified Program
- Samples (Project Based)
- Periodic Business Reports From POSITAL

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Sales & Marketing, Web Plugin

- Comarketing Event (Online/Offline)
- Printed Marketing Documents

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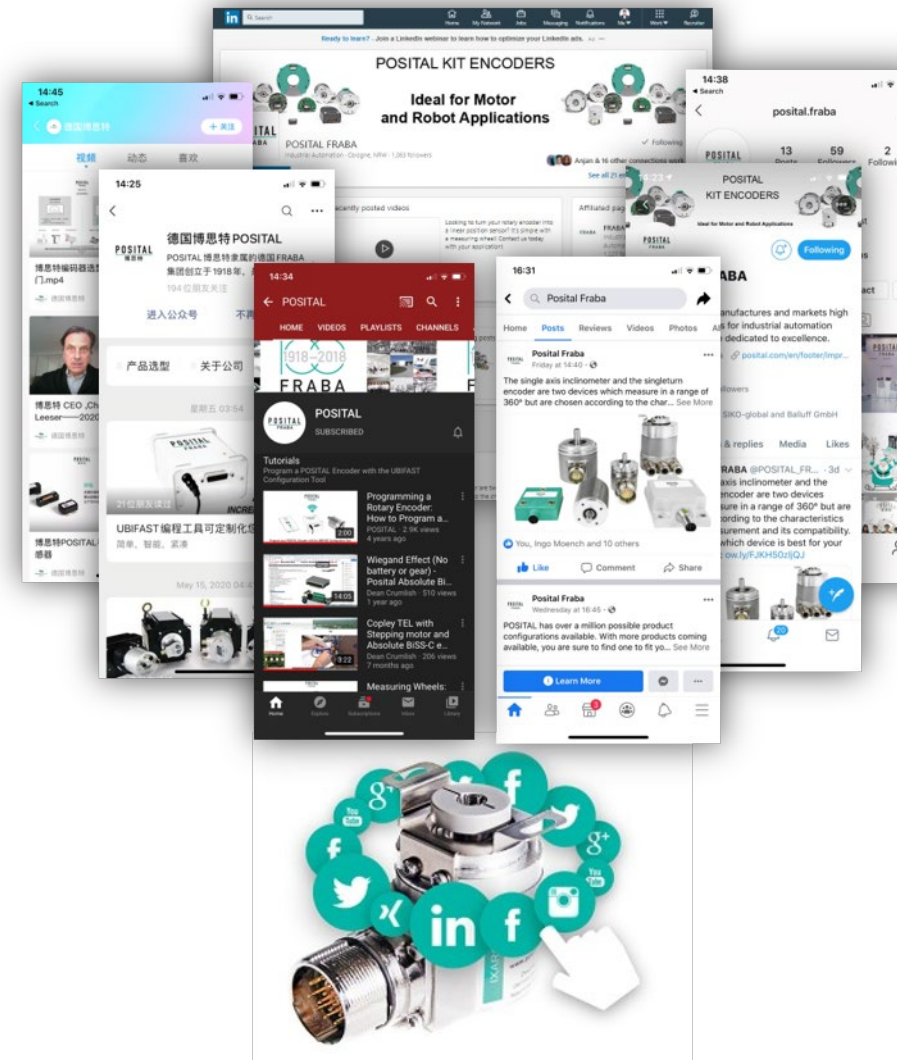
POSITAL BUSINESS STRATEGY

Global Marketing Presence



Every Year

More Than 30 Shows Worldwide



Every Week

Many Posts on All Major Social Media Channels

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Every Month

Press Releases on Major Websites/Magazines



Thank you very much for your time and interest.
We look forward to accomplishing much together in the months and years ahead!