Manufacture CarbonIQ

Your Path to Green Manufacturing

Carbon Footprint Management Platform for Manufacturing

Eurogia – Call 24
Burcu Musaoglu

About Siskon

- Established in 1997

- Locations
  - Headquarters: Izmir, Türkiye
  - Offices: Estonia, Romania

- Team: 75+

- Industrial Software Project Experience

- International Project Experience
  - 4 major international projects
  - 39 countries, 53 factories

- In Turkey's Top 10 for Highest Software Export Revenue

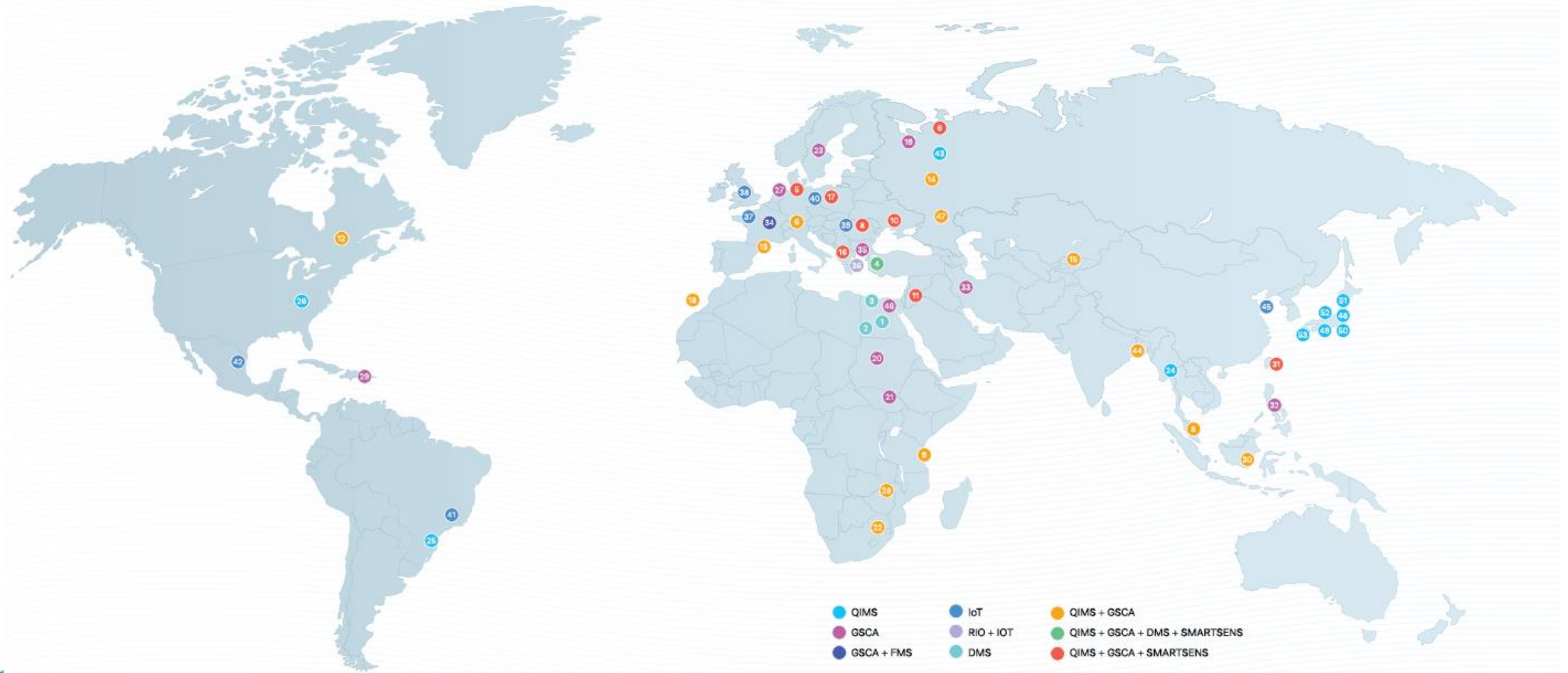**BECKHOFF**

UNIVERSAL ROBOTS
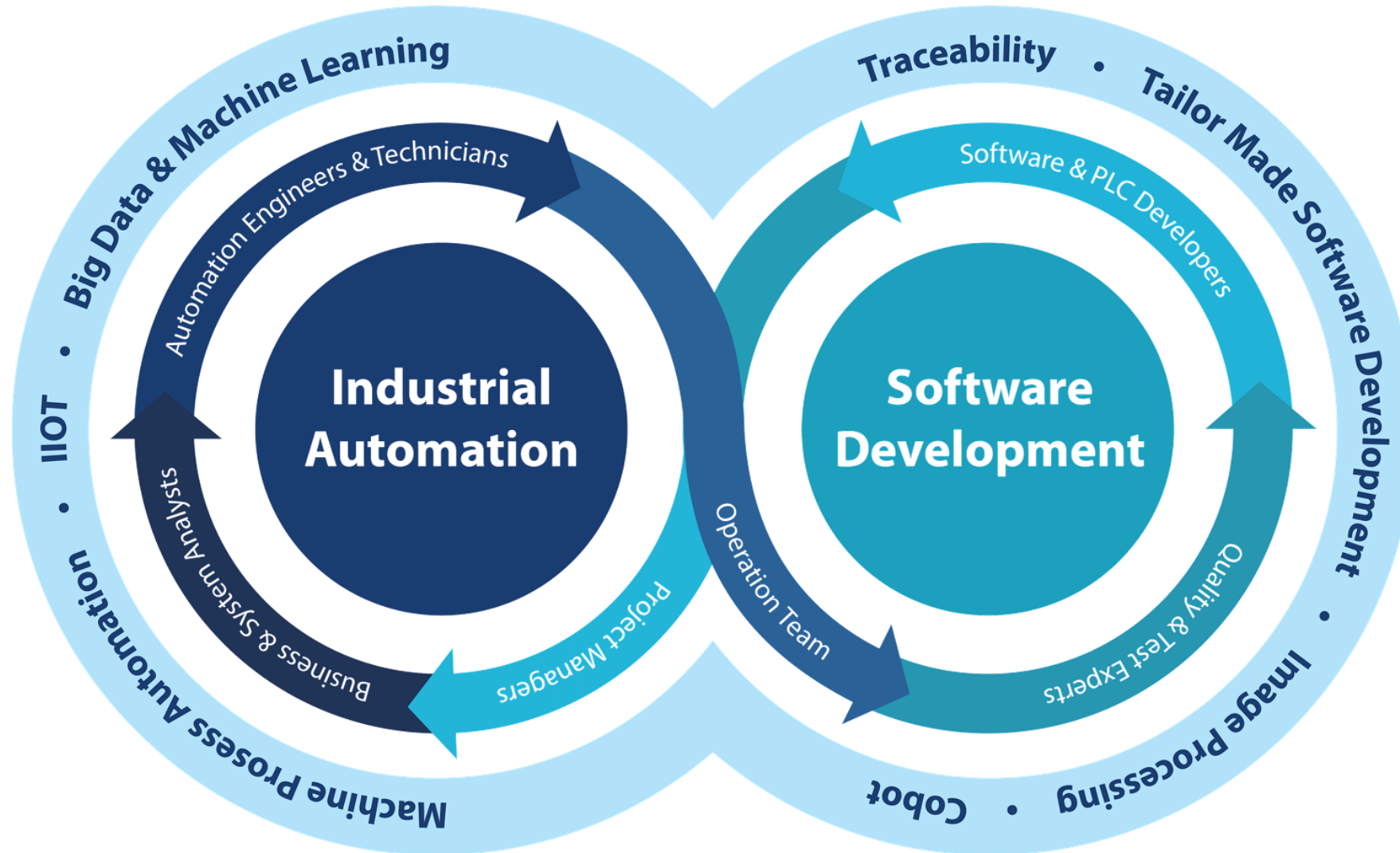
SICK

markem·imaje
a DOVER company

Microsoft

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Software & Automation

International Projects

Our Expertise Areas

Our Team

- Core Team
  - 53% ⇨ 8+ years experience
  - 57% ⇨ BSc
  - 15% ⇨ MSc

- Global Presence
  - Estonia, Germany, Netherlands, Philippines
    Poland, Romania, Türkiye, United Kingdom

- Progress in National R&D Projects:
  - 5 projects completed
  - 1 project in progress
  - 1 project in evaluation

Project Idea

Objective

Developing a comprehensive and forward-thinking platform for carbon footprint management, aiding manufacturing companies in compliance with environmental regulations.

Key Problems

- Stricter Regulations
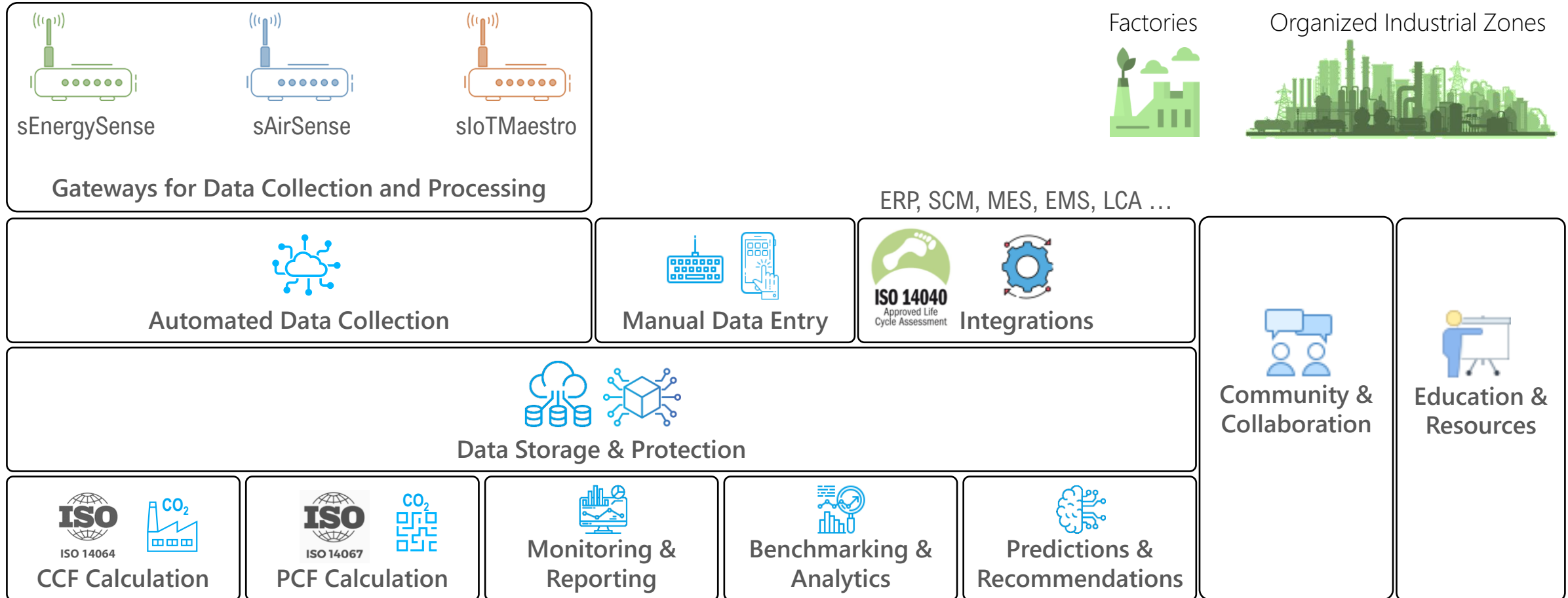- Supply Chain Complexity
- Rising Costs and Competitive Pressure

Proposed Solution

- End-to-End Carbon Footprint Management
- Reliable Data Collection and Integration Services
- Secure Data Storage for Transparency
- Predictive Insights and Improvement Recommendations with AI
- Continuous Monitoring and Compliant Reporting

Components of the Solution

Eurogia 2030
Manufacture CarbonIQ

sEnergySense   **sAirSense**   **sIoTMaestro**

Gateways for Data Collection and Processing

Factories   Organized Industrial Zones

ERP, SCM, MES, EMS, LCA …

Automated Data Collection

Manual Data Entry

ISO 14040 Approved Life Cycle Assessment   **Integrations**

Community & Collaboration

Education & Resources

Data Storage & Protection

ISO 14064 **CCF Calculation**

ISO 14067 **PCF Calculation**

Monitoring & Reporting

Benchmarking & Analytics

Predictions & Recommendations

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Gateways for Data Collection and Processing

(1) sEnergySense
Gateway for Energy Consumption Metrics

- 3 Phase Voltage
- Current
- CosPhi
- Active/Reactive Consumption

(2) sAirSense
Gateway for Air Quality Metrics

- Temperature
- Pressure
- Light
- Noise
- Oxygen (optional)
- Carbon dioxide (optional)
- Nitrogen dioxide (optional)

(3) sIoTMaestro
IoT Gateway for Smart Data Processing

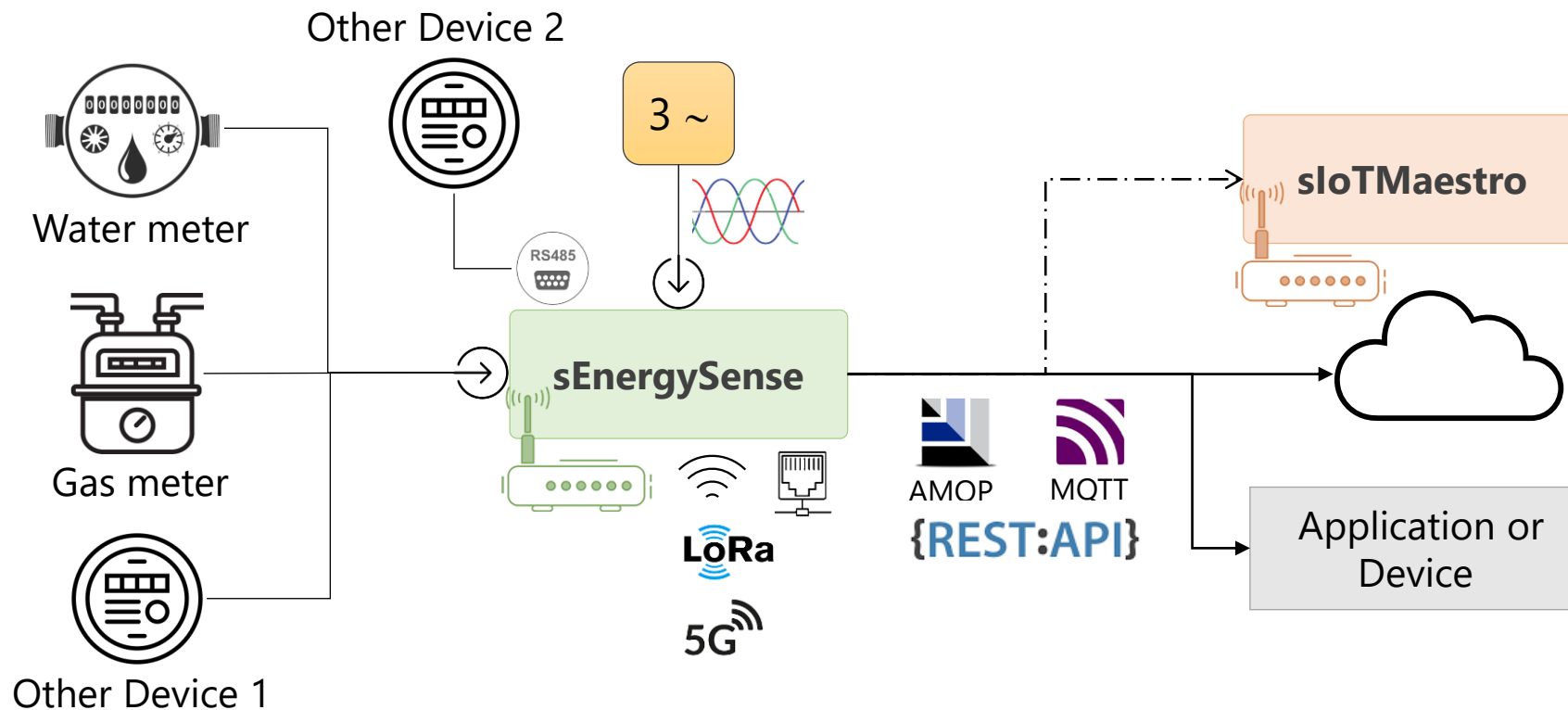Drivers for:
- Siemens
- Beckhoff
- Modbus
- OPC DA/UA

Data Processing Engines:
- Validation Engine
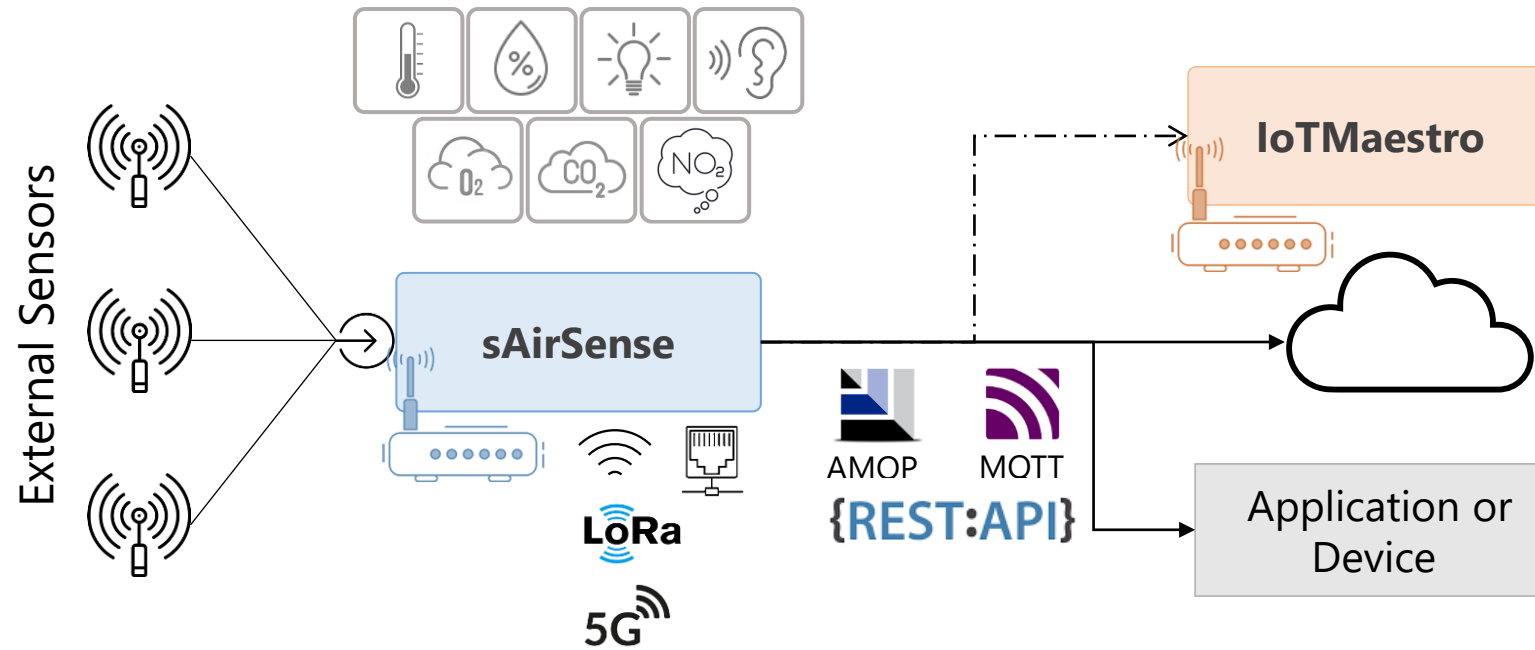- Filtering Engine
- Formula Engine

Energy Measures

Air Quality Measures

Innovative Features

- Gateways for Data Collection and Processing

- Advanced Data Analytics

- Carbon Sequestration Calculations

- AI-Driven Recommendations

- Blockchain for Transparency

- Quantifying Scope 3 Emissions

- Life Cycle Assessment (LCA) Enhancement

- Environmental Impact Forecasting

- Behavioral Science Integration

- Customizable Carbon Accounting Standards

Business Impacts

- Ensuring compliance with environmental regulations

- Tracking progress of sustainability goals

- Identifying opportunities for energy savings and process improvements leading to cost savings

- Enhancing reputation/brand image by demonstrating commitment to sustainability and environmental responsibility.

- Identifying emissions hotspots within the supply chain and for improving the whole process

- Gaining competitive advantage by attracting environmentally conscious customers and partners

- Using the data insights and analytics for enabling data-driven decision-making and strategies

- Enhancing investor/stakeholder relations by providing transparent and verifiable data

- Triggering more eco-friendly product designs and innovation

- Fostering stronger relationships with the manufacturing community

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Partners and Expertise

Partners Involved

- Siskon Industrial Automation Systems, Türkiye
- Research Ecosystems, Türkiye
- GTech, Türkiye
- Grupo Erre, Portugal

Missing Partner(s)

- Partners for Pilot Application (Industry, SMEs)

Missing Expertise

- Carbon Footprint Calculation
- ISO-14064, 14067, 14040 (CCF, PCF, LCA)
- Carbon Offset Market Integrations
- UX and UI Design
- Behavioral Science and Gamification
- Content Creation, Curriculum Development

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