



Software Suite

v 1.4

Automation and Flow Control Technology

Introduction



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What?

- Software Suite is the unified platform developed by **ESA FLOW** to connect, supervise, manage and optimize industrial operations. It acts as the digital backbone of the plant, bridging automation systems, production managing through levels (L1–L2), data logging, and real-time supervision with smart insights.

When?

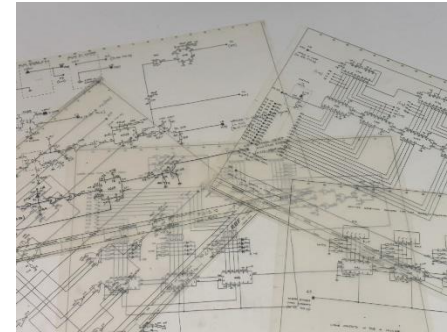
- Originally designed for **local machine-level managing and control**, Software Suite quickly evolved into the **digital core of the entire production site**, integrating L1 and L2 levels, automation systems, data collection, and 4.0 connectivity.

For Whom?

- Designed for Industry, **Software Suite** enables seamless communication between machines, operators, and enterprise systems (ERP/MES), while offering advanced tools such as OEE monitoring, predictive maintenance, and project tracking.

Keys

- Built around **real-world production needs from decades of experience in the field**, Software Suite offers to the Industry:
 - Centralized supervision of all machinery and lines
 - Direct integration with sensors, PLCs, and enterprise systems (ERP/MES)
 - A modular structure including **Level 2, OEE, Data Logger, Project Tracker, 4.0 Bridge**, and more
 - Scalable architecture tailored to customer plant's size and complexity
- Whether customer is managing a single line or a multi-site plant, Software Suite puts **full control** of the plant operations in customer's hands — from the shop floor to the boardroom.
- Each machine becomes part of a smart, **connected ecosystem designed to improve efficiency, traceability, and decision-making** — fully aligned with Industry 4.0 principles.



Module - Level 1

- SCADA supervising and control, from machine to whole plant
- PLC communication and commands
- PLC control for complete machine integration

Module - Level 2

- Machine Process Management
- Historical Data Management
- Machine Team & Shift Management
- Machine Reporting & Analysis
- Machine Data Tracking & Monitoring

Module - OEE Overall Equipment Effectiveness

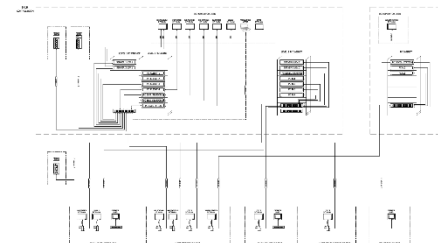
- Plant Machine Dashboards
- OEE analysis
- Performance, Availability, Quality analysis
- Operator, Shift and Teams Tracking analysis
- Historical Archive with Graphs and reportage

Module - Data Logger

- Cyclic logger of Specific Data in the machine or in the plant
- Acyclic logger of Specific Data based on action or event
- Tracking and Historical Archive of data
- Audit trail
- Energy Monitor and Track

Module - Reporting & Analytics

- Graphs, tables or custom reporting
- General or Advanced analysis based on the application



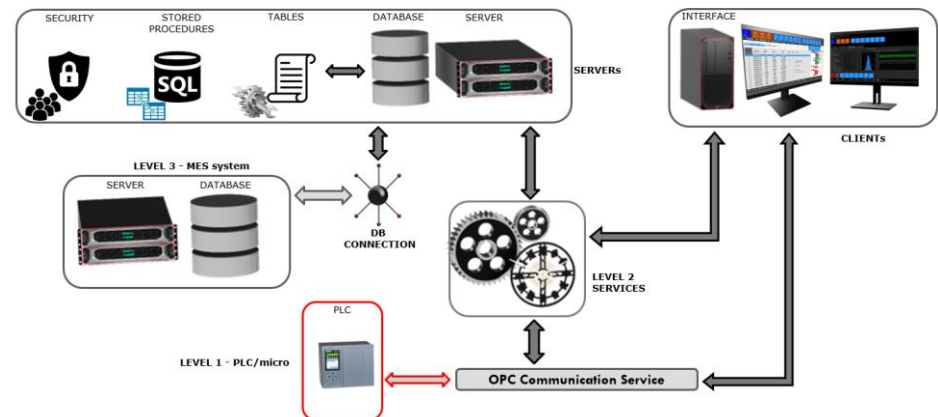
Software EcoSystem



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□ **Module – Connections**

- Level 1 communications with PLC, Scada, custom low machine level automation
- Level 2 communications between machines
- Level 3 communications
 - EPR connections
 - MES connections
 - Company or Corporate management software
- OPC-UA / OPC-DA Industrial Protocols
- File based & Messaging System
 - TCP-IP protocols
 - REST APIs protocols
 - SQL based database connection
 - Oracle database connection
 - CSV/XML/JSON file exchange
- Custom Protocol Communications
- IoT & Cloud Connectivity
 - MQTT, WebSocket, Azure/AWS
- Human Interfaces
 - HMI data bridging
 - Email/SMS notifications
- Industrial standard machines
 - Industrial printers (Zebra)
 - Industrial Weighters
 - Industrial custom machines
 - CCTV monitoring cameras



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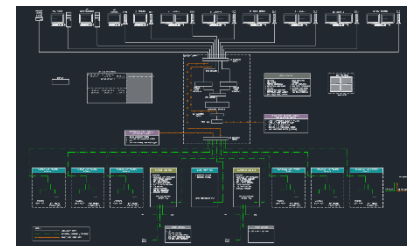
Your partner in flow control

Software EcoSystem



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- **Module - Project Tracker**
 - Workforce management by project/job order
 - Personnel scheduling and reporting by task or project
- **Module - Quality system**
 - Material Defect Analysis, Graphs and reporting
 - Preventive Maintenance
 - Integrated Checklists & Inspections
 - Real-time Quality Alerts of Limit Issues or Deviations
 - Dashboard & Reporting
- **Module - Machine Learning**
 - Predictive Maintenance
 - AI integration (automation anomaly detections)
 - Closed-Loop Algorithm for Production Optimization
 - Closed-Loop Algorithm for Quality Improvement
- **Module - MES lite**
 - Plant Production Order Tracking
 - Plant Workflow and Line Monitoring
 - Traceability
 - Operator Interface / HMI Layer
 - KPI Monitoring
 - Reporting
- **Module - Industry 4.0 Ready**
- **Module - HA**
 - High Availability Ready
 - Redundant Solutions Ready



Hardware EcoSystem



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Stand-alone Physical Workstations

Virtual environments

Server – Client Architectures

Redundant Architectures

HA High Availability Solutions

All-in-one devices

Industrial Hardware Systems

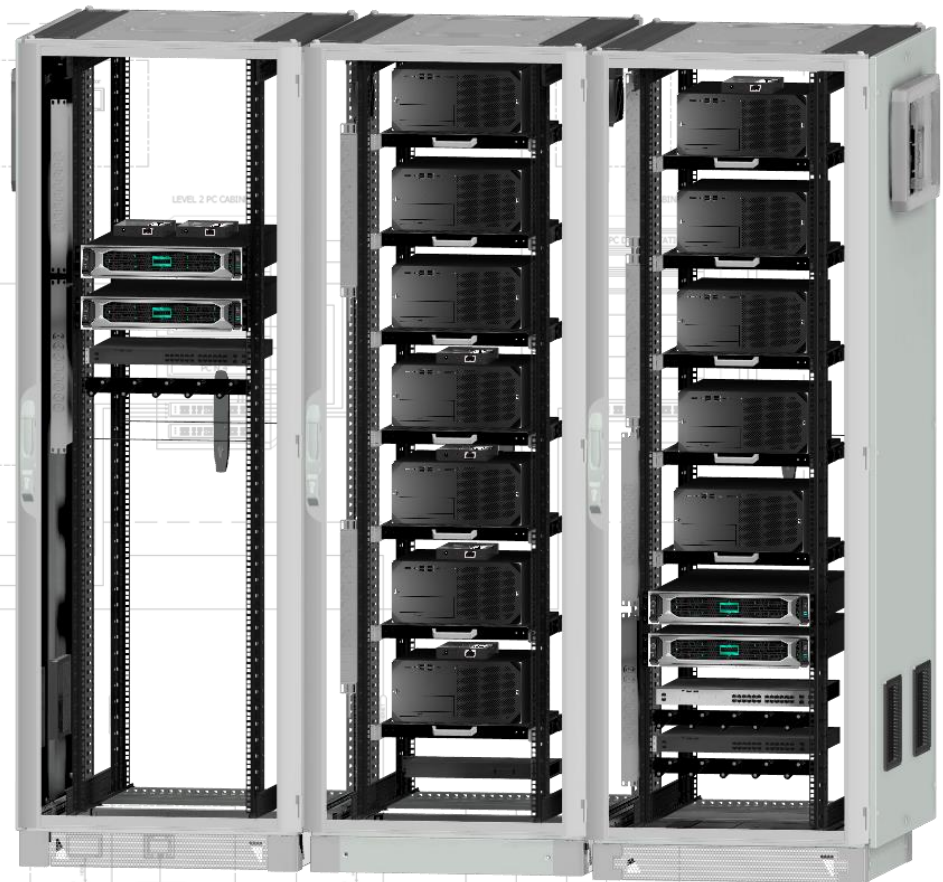
Heavy Duty Environments

Hardware Scalability solutions

Remoting Solutions

Multiple and Remoted Screen Solutions

Web Based Systems



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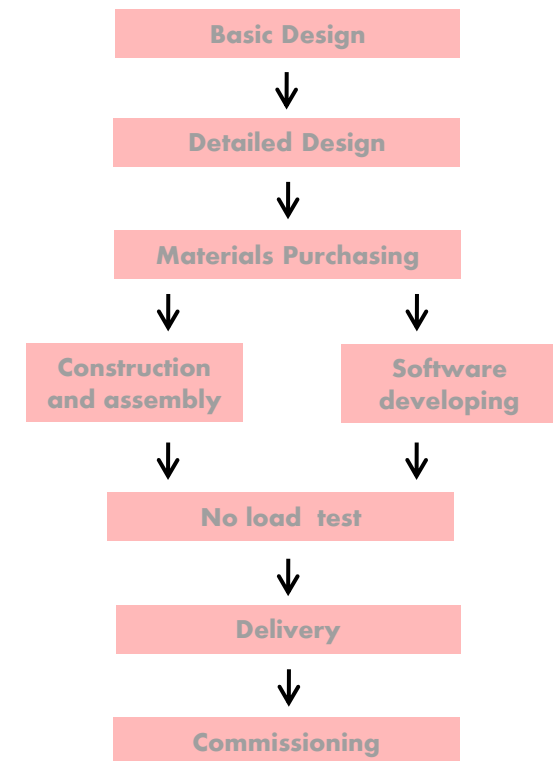
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Explore Further...



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- Module - Level 1
- Module - Level 2
- Module - OEE Overall Equipment Effectiveness
- Module - Data Logger
- Module - Reporting & Analytics
- Module – Connections
- Module - Project Tracker
- Module - Quality system
- Module - Machine Learning
- Module - MES lite
- Module - Industry 4.0 Ready
- Module - HA

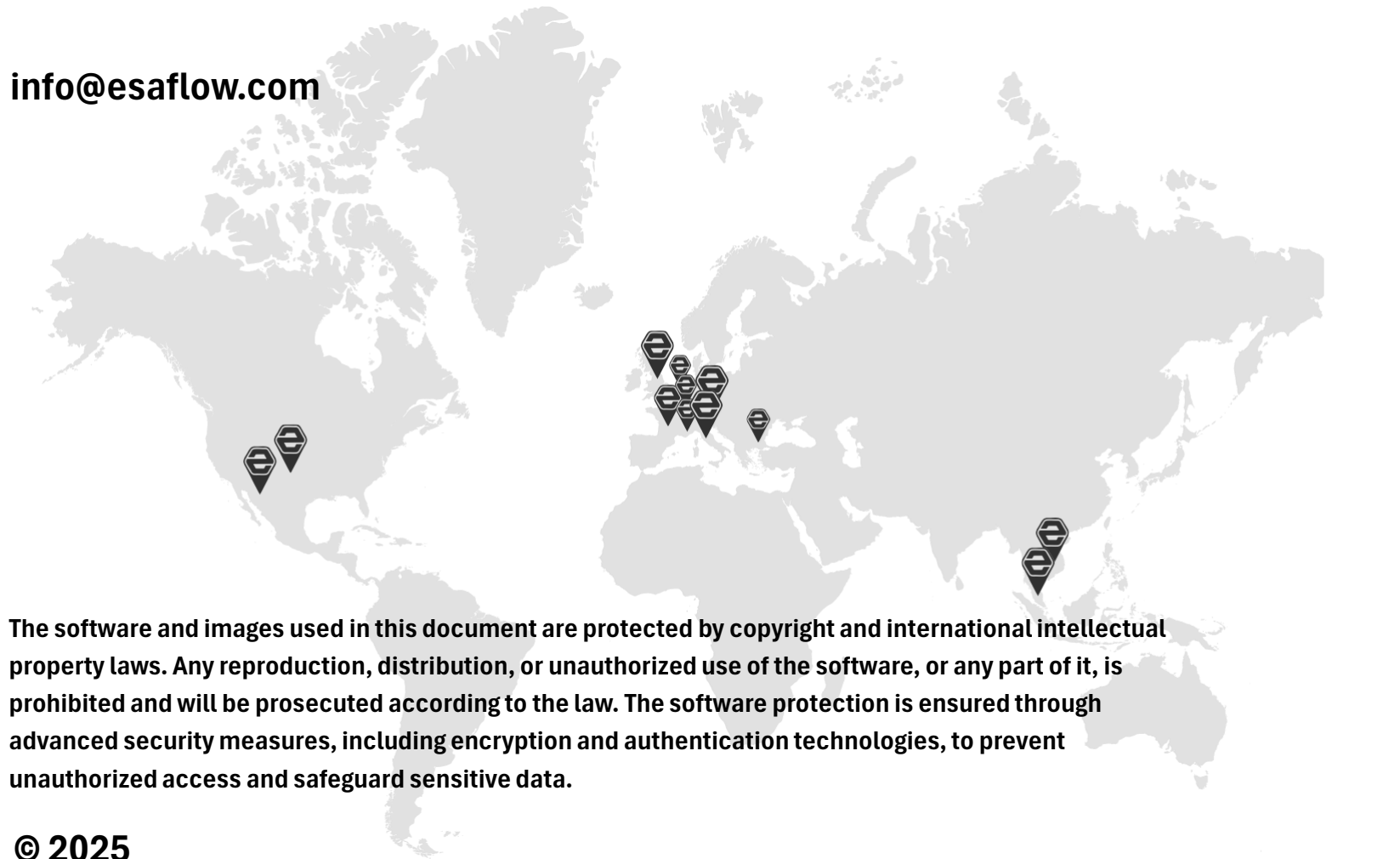


Contacts



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info@esaflow.com

A light gray world map is centered on the page. It features several black location pins, each containing a white stylized 'e' logo. The pins are located in North America (two in the US, one in Mexico), Europe (a cluster of five in Western Europe and one in Eastern Europe), and Asia (two in Southeast Asia).

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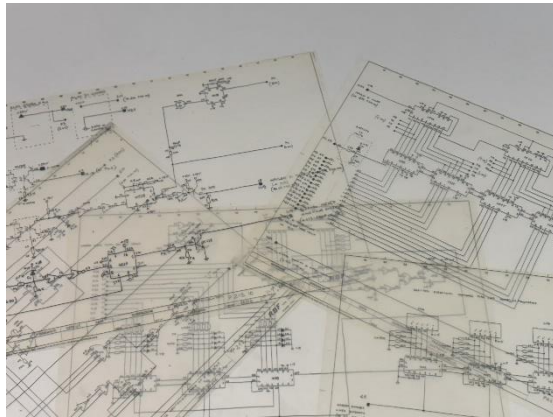
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Pillars

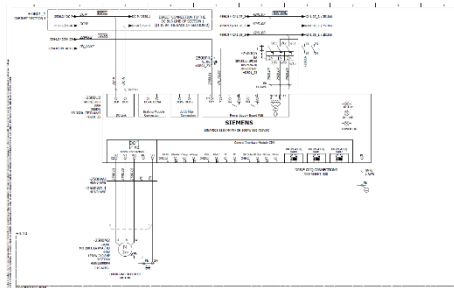


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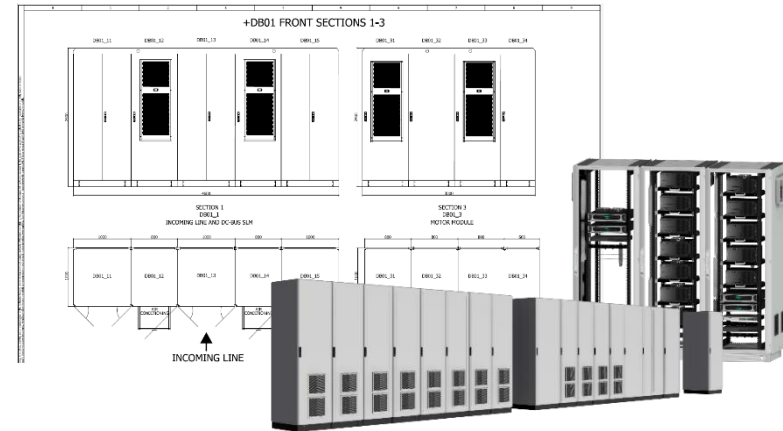
experience



design



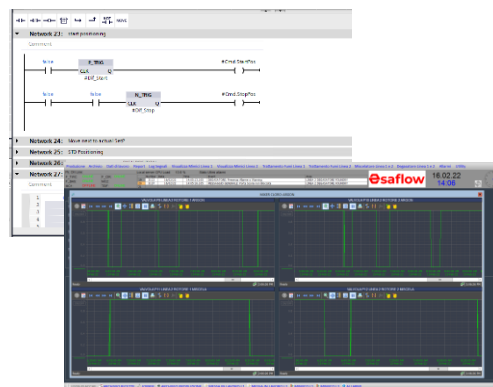
engineering



production



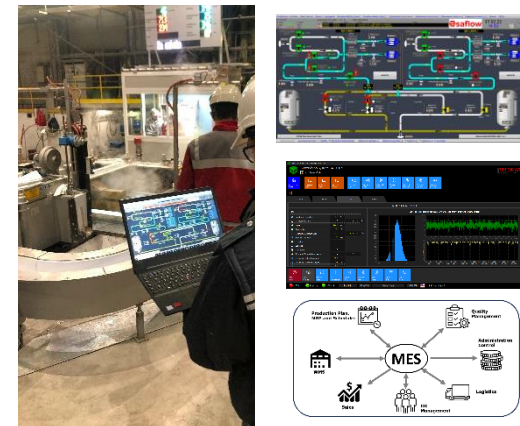
developing



testing



commissioning



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