



The unique industrial IIoT System



Just **ONE** powerful hard- & software for any:



Industrial device &
equipment



Application &
industry



Deployment
volume

Intech[®]
Instruments

MONITOR • CONTROL • AUTOMATE • CONSOLIDATE

ezeio® - The world's only true multi-disciplinary Industrial IoT system

Monitor, control, automate & consolidate any type of remote industrial devices, equipment & systems. From connecting sensors to automating entire applications. Future-proof throughout.



HASSLE-FREE

Despite its complexity the ezeio® System is highly user-friendly throughout all aspects of the system and its use in real world applications.

Secure-by-design

- built on best-in-class & secure remote connectivity
- applies industrial hardened security from the 1st second of use without burden to the user

End-to-end system

- requires no additional hard- or software components for the remote monitoring, control and automation of ind. equipment
- combines I/O units, edge computing architecture, data logging, communication & system features in one SKU

Future-proof architecture

- utilizes newest hard- & software architecture
- broad and powerful features
- multi-disciplinary support for equipment and applications integration

Highly scalable

- capable of seamlessly handling hundred thousands of sensors and industrial equipment
- the system was designed with scalability, redundancy and ease-of-use in mind
- everything is managed remotely through a centralized hub and automatically synchronized



MULTI-DISCIPLINARY

The single ezeio® System gives multi-disciplinary support on the equipment and application level. It handles multi-purpose challenges for remote industrial equipment, application zones and systems. It's the only standard IIoT which can handle non-standardized industrial applications.

Equipment integration

- equipment and unit agnostic through normalizing all inputs and outputs
- allows to standardize the integration and handling of all connected devices
- first proven standard IIoT system for non-standardized industrial applications

System functionality

- standalone remote devices and industrial equipment can be monitored, controlled and automated
- various types of equipment can be freely consolidated to application zones
- designed to handle multi-purpose applications with the same system

Deployment consolidation

- equipment & applications are getting virtually consolidated
- user has the full flexibility to change or modify the setup
- allows a unique, seamless and automated bottom-up aggregation of equipment to application
- adding additional devices and equipment do not add more complexity to the applications



ADDED VALUE

Count on eze System for maintaining compliance, increasing productivity and quality as well for creating growth and expansion. The ezeio® System helps to make a real difference to your business by taking an innovative and sustainable approach.

Security & compliance

Sustaining the status quo by i.e.

- managing the environmental & legal compliance
- controlling access to assets

Productivity & quality improvements

Cost Reduction by i.e.

- improving operational efficiency
- managing the Asset Performance (APM)
- Increasing the uptime, cash flow & asset utilization

Growth & Expansion

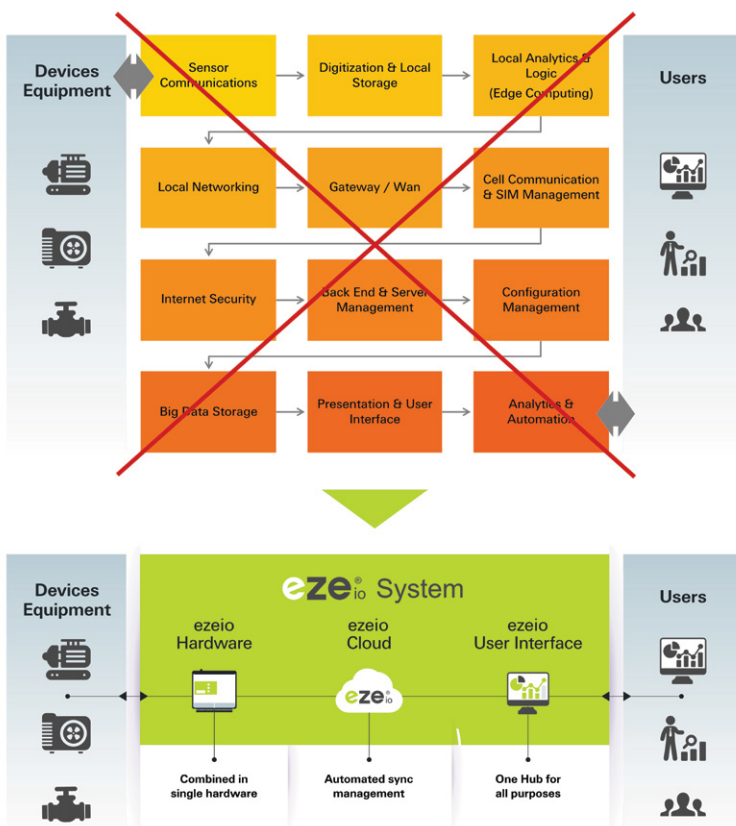
Revenue generation by i.e.

- upgrading existing products
- changing business models of existing products
- Creating new business & service models, such as
- selling a "Products" as a service (PaaS)
- selling power vs. renting generator
- selling indoor climate

Embedded system, made for people, designed for the internet

Converting a highly complex undertaking into a simple and easy to use end-to-end system

Making IIoT cost-effective, seamless and scalable is not easy. eze System designed its entire ezeio[®] from scratch, specifically for the internet and minimized any variables and risks for its users. The fundamentals were set by creating a single embedded hardware and software system which requires no additional components for its use. All it's needed are sensors, actuators or devices which should be connected and an internet access. The ezeio[®] is a closed system but open on "front" (inputs/outputs) and at the "back" (UI, API). This is truly end-to-end and just requires three seamless interacting components, the ezeio[®] Hardware, Cloud and User Interface.

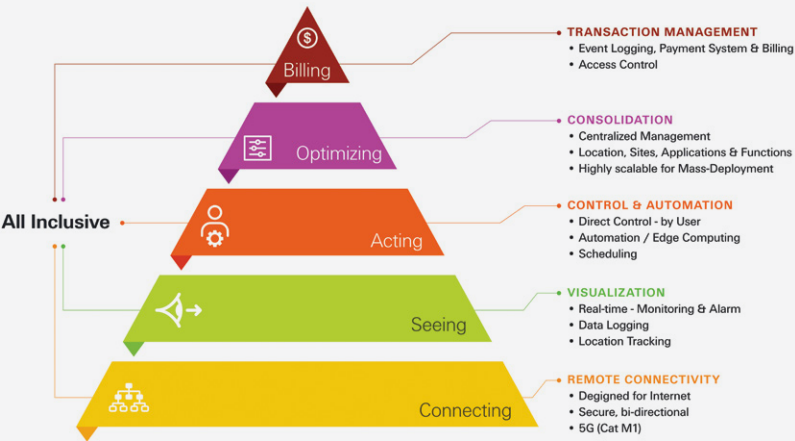


End-to-end ezeio[®] System architecture

Complete, generic but highly customizable & multi-disciplinary



All-inclusive System Functionality





ezeio® edge computing hardware

When intelligence & robustness move to the edge

Robustness and reliability is key for industrial applications. There is no excuse for losing data, sluggish speed and lack of scalability. eze System mastered its IIoT system by moving the processing and control of power to where it's needed the most, at the edge of the equipment and source of data. Data gets automatically logged and processed on the equipment level which optimizes the data communication and processing. It ensures that the local system is still functioning without loss of data even when the internet is interrupted. The ezeio's entire core functionality is built around edge and supported by cloud computing. Robustness, reliability and scalability are therefore guaranteed.

Processing power where it's needed – at the edge of the equipment & source of data:



**TOP-NOTCH
RELIABILITY**



**AUTONOMOUS
OPERATION**



**HIGHLY EFFICIENT
COMMUNICATION**

ezeEDGE - The core architecture for entire ezeio® functionality



Monitoring



Control



Automation



Transactions

Your key benefits

- Robust & Reliable Operation independent from Internet
- No Loss of Data due Intermittent Connectivity
- Optimized Data Communication & Processing
- Speed & Faster Response time
- Higher Security due to distributed processing & data
- Local Control & Automation not just Monitoring
- Affordable & Scalable Deployment
- Greater Flexibility

MONITOR • CONTROL • AUTOMATE • CONSOLIDATE

Advanced value creation through embedded analytics & AI

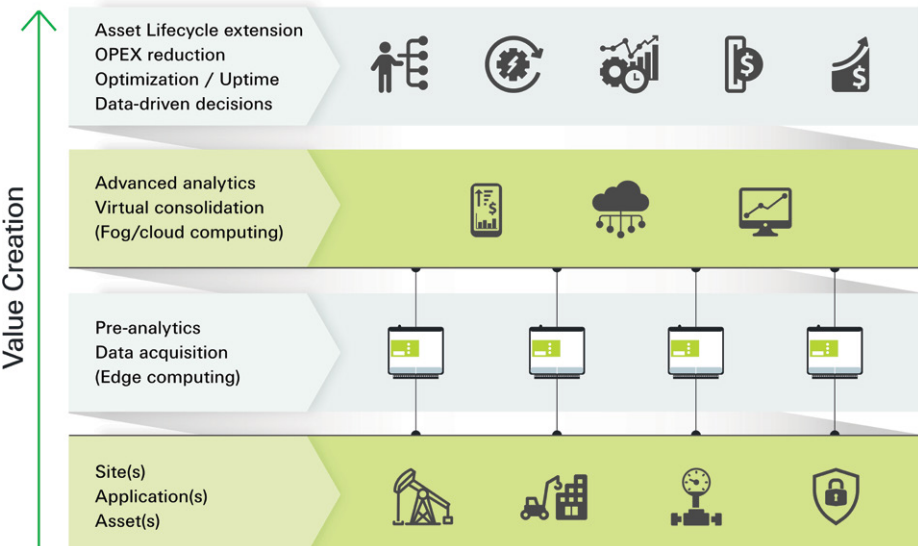
When intelligence & robustness move to the edge

The ezeio® ensures that the system reliability is based on data processing and control at the “edge” of the industrial equipment. More complex industrial applications require usually additional computing power away from the “edge”. The data aggregation and analytics for such applications can therefore be embedded in the ezeio® Cloud and are working closely together with the edge devices (ezeio® Hardware). In this way data can reliably be processed and communicated back the ezeio® Hardware for execution. Scheduling events for example are getting stored on the ezeio® Hardware so that they can be initiated even when the internet communication is intermitted. This hand-in-hand process makes the system extremely powerful and gives a new dimension to any application automation.



Distributing the computing power where it's needed the most

Making the system extremely powerful and lean, scalable and most important affordable.

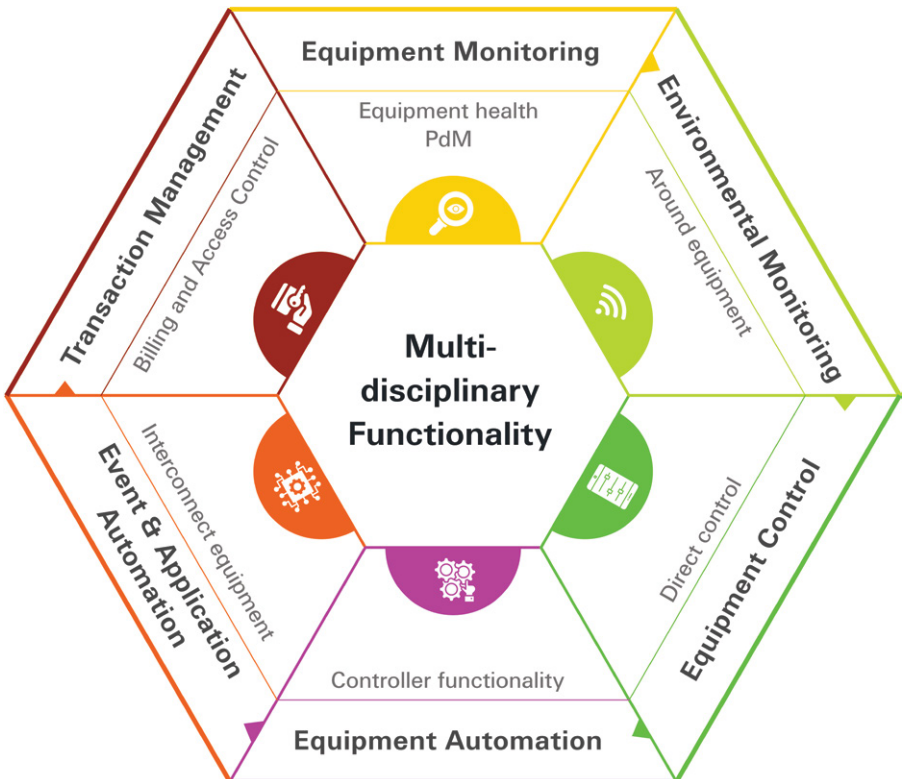


Future-proof multi-disciplinary IIoT system

Same ezeio® Hardware, Cloud-Software & UI for all applications

- The same single system gives multi-disciplinary support on the equipment and application Level. It handles multi-purpose challenges for remote industrial equipment as well as for entire application zones and systems.
- There is usually no need to look for any other system than the ezeio® as the same can be integrated and deployed for most applications within a ecosystem. The solution gets adapted and customized for the individual applications just by its software configuration. The ezeio® is a single SKU for industrial equipment and application types. This allows that most applications can be consolidated within the ezeio® system.

Consolidating data which never was available in a single system.



The ezeio® mkII System over view

Monitor, control, automate & consolidate any type of remote industrial devices, equipment & systems. From connecting sensors to automating applications. Future-proof throughout.

ezeio® mkII Hardware

Combining all hardware & firmware components needed for making IIoT work. 100% remotely managed, configured & synchronized. The 5-in-1 hardware controller:

- Input/Output Unit
- Data Logger
- Modem (LTE Cat M1) & Gateway
- PLC (edge processing)
- System Functionality



ezeio® mkII Cloud Software & eze.io User Interface

The ezeio® Cloud is a highly optimized solution for the automated synchronization of the entire deployed ezeio® Hardware units. It's the core architecture which make the system highly secure, fully redundant and greatly scalable from one user with a single ezeio® to enterprise level deployments with thousands of field devices and users.

The eze.io User Interface is the single hub for all of the users technical and managerial needs. Any number of ezeio® Hardware units can be accessed by as many users as needed.

- Account Management
- Configuration Management
- Scripting Editor
- Live status
- Dashboards
- Alarms & Notifications
- Timers & Schedules
- Mapping & Geofencing



The ezeio[®] mkII Cloud Software (eze.io)

ezeio[®] System is 100% remotely managed with total control for the user from a single hub

1. The powerful eze.io User Interface

One single “hub” for all technical & managerial user needs.

Through the eze.io User Interface any number of users can access any number of ezeio[®] Hardware units based on their individual privileges. 100% of the system features and functionalities are managed through the web portal. This is a significant security feature as there is no other way to interact with the system... not remotely, not locally on the hardware level.

- Account Management
- Configuration Management
- Scripting Editor
- Live status
- Dashboards
- Alarms & Notifications
- Timers & Schedules
- Mapping & Geofencing



2. Dashboard & widgets

Customized data visualization for sensors to whole applications and systems.

The dashboards can be freely created based on predefined widgets. There are no limits set in term of the size of the dashboards or the number of used widgets. Widgets can be simple such as dials and graphs but also very powerful applications in itself with control and automation functionality (“Super Widgets”). Here are some examples of the available widget types:

- Field value/text widgets
- Dials/gauge widgets
- Graphs widgets
- Tables widgets
- Push/sliding button widgets
- Clock/date widgets
- Map widgets with geofencing details
- Aggregation “Super Widgets” (in table or map form) for the consolidation of deployments
- Scheduling “Super Widget”



These widget types can be combined into newly created widgets for customization purposes by the eze System development team. This will give full flexibility for creating new custom applications.

3. Group & account management

Create any numbers of accounts & groups.

The group & account tree functionality is a very powerful managerial tool for the entire deployed systems. It allows to structure the deployments in an form or way, i.e. by location, by type of equipment, by business unit or it allows you to map your own and your customers commercial ecosystem. There are no upper limits for creating groups and accounts as well as levels within the tree structure.



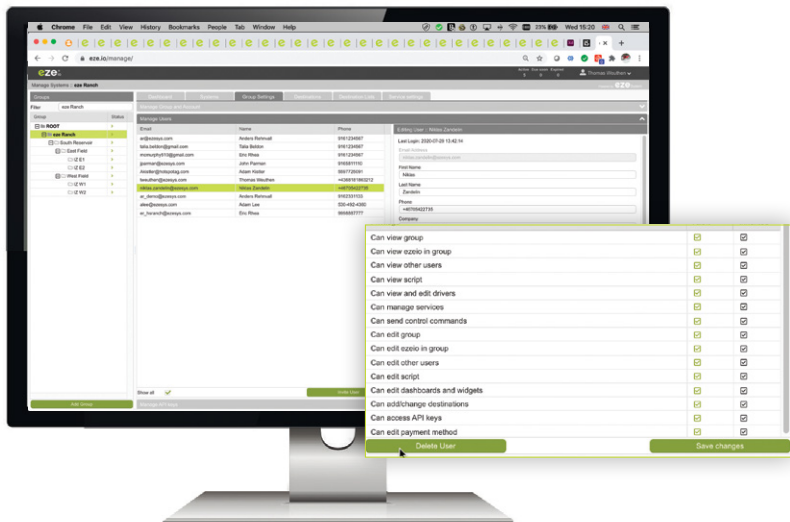
The ezeio[®] mkII Cloud Software (eze.io)

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4. User management & privileges

A very unique system for managing the access rights for every single user.

- The user management and privileges system within the eze.io environment is another extraordinary functionality which allows inviting users into any specific group and account with very specific access rights.
- Users can be invited various groups and accounts individually and this within the up- and down-stream tree structure.
- The privilege system gives the option to assign very specific access rights and privileges for each invited user which will ensure that users only have the privileges they need for their specific needs and assignments. A single user can have different privileges for different groups and accounts.
- The privileges span in small increments from very limited “view only” to full administrator rights.

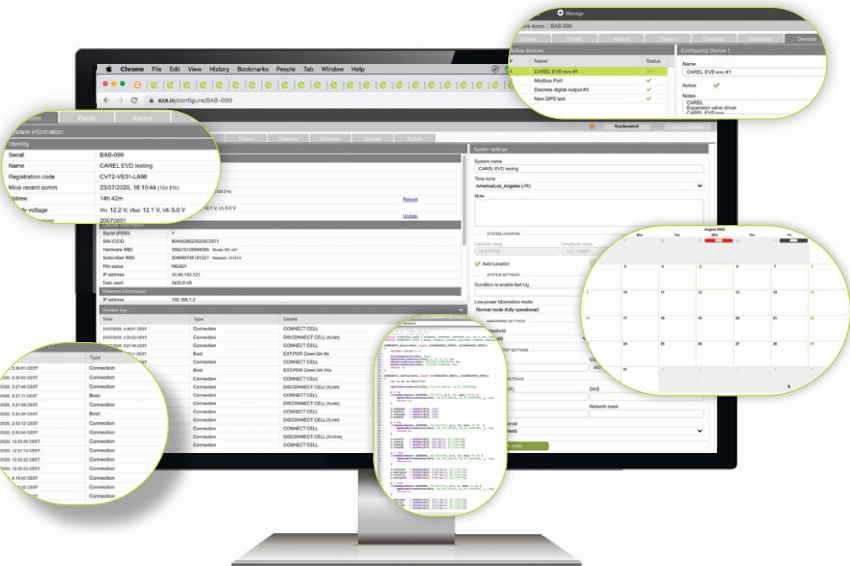


5. The unique ezeio® configuration management system

Total control of every single ezeio® deployment

The configuration management system is the “heart” of the ezeio® mkII System. It gives 100% control of the configurations for every deployed ezeio® mkII Hardware and this from simple settings to complex scripting. The current configuration management components are:

- System status overview
- Fields overview & management
- Alarms & notification configuration
- Timers configuration
- Schedule configuration
- Calendar configuration
- Device/driver overview & management
- User scripting management



All configuration updates within the system are fully automated and synchronised. Even offline ezeio® mkII hardware units are managed automatically. They will be updated with the latest configuration whenever they are again online. This takes every burden of the user so that she/he can focus on its core work.

The ezeio® mkll hardware specification

Combining all hardware & firmware components needed for making IIoT work. 100% remotely managed, configured & synchronized



Hardware models

- LTE-CAT-M1 (5G IoT) + Ethernet
- 2G/3G + Ethernet (check availability)

Security

- Secure OTA sync & updates
- Fully encrypted, PKI & 128bit encryption,

Inputs/outputs

- 8 general purpose input (discrete, on pluggable terminal, fully configurable)
 - 0-10VDC (2.5mV resolution, >65kΩ input impedance)
 - 0-30mA (12.5uA resolution, 200Ω internal shunt)
 - 0-1MΩ resistance (<2% accuracy in the range 2k – 700kΩ)
 - Thermistor (100kΩ/10kΩ/2kΩ types, internal excitation)
 - Dry switch (on/off, optional internal excitation)
 - Pulse (S0 or KYZ, max. 400Hz, optional internal excitation, monitor pulse rate and/or pulse count/ frequency/interval)
- Electronic configuration of pull-up / shunt
- Protected with PTC
- Internal 0.5% reference
- 4 general purpose outputs (discrete, on pluggable terminal, fully configurable)
 - Output 1/2 - digital (on/off) sourcing max. 200mA each
 - Output 3 - PWM output or on/off output (sourcing max. 200mA)
 - Output 4 - analogue, 0-10V, 0.1V resolution (sourcing up to 10mA)

Supports plug-in sidecar ezeio I/O expansion (third-party I/O can be added via the communication ports)

Supports up to 90 individual fields Modbus/RTU Master port (RS485)

- Up to 32 devices
- 1200 to 115200 bps

Modbus/TCP server & client (TP 10/100 Ethernet)

- Configurable port number (standard 502)

CANbus

- Supports J1939
- Optionally used for I/O expansion

SDI-12 port

- Supports v1.4
- Optional support for serial NMEA 0183 (GPS)

Other hardware features

- SMA antenna connector (cellular)
- +5V DC regulated output, max. 200mA
- PTC fused DC output, max. 200mA for sensors
- On-board RTC (24h supercap backup)
- 3 dual-color indicator LEDs
- Pushbutton for controlled start-up/reset

Power supply

- 12-24V DC
- Standard 5.5/2.1mm plug in barrel connector
- Optionally powered through screw terminal
- 0.8W self-draw (average), 3W peak (short sub-second bursts)
- Hibernation mode, <0.06W (average)

Dimension & weight

- W: 108mm (4.3in), H: 90mm (3.6in) (excl. connectors), D: 33mm (1.3in)
- Allow 50mm (2in) top & bottom for connectors & wiring
- 35mm DIN rail or screw mounted
- Weight: 0.150kg (5.3oz)

On-board log buffer memory (non-volatile)

- Full system log data (>50 days @ 10 minutes logging & 90 fields)
- Large dynamic log data buffer, i.e.
 - 10 fields, >30 days @ 10 seconds
 - 50 fields, >30 days @ 1 minute
 - >6,000 events/alarms/ transactions
 - All logs auto-uploaded to eze.io backend

Capabilities

- Up to 90 monitored fields (logged)
- Up to 300 alarms for local events, SMS, email, voice calls etc.
- Geo-fence features with GPS support
- Up to 2000 registers (not logged)
- Up to 324 scan code records (stored in memory)

Schedules & Calendar

- 10-year calendar
- 30 daily schedules

Additional features

- Full remote configuration & management
- Live data access
- Automatic data synchronization with eze.io cloud
- Expression engine for field math & alarms
- Remote firmware upgrade
- Standard & custom driver support for industrial devices
- Powerful scripting support

Others

- Operating Temperature
 - -20 to 65°C
- Operating Humidity
 - 5 to 95% (non-condensing)
- IP40 (use indoors/in electrical enclosure)
- Max. number of devices per ezeio Hardware:
 - 40 drivers
 - 31 devices on a RS485 bus
 - 252 devices on a network subnet

Certifications

- FCC Part 15 B 15.017 & 15.109
- AS/NZS CISPR 32 (2015)
- EN 55032 (2012) +AC1
- EN 61000-3-2 (2014)
- EN 61000-3-3 (2013)
- EN 55024 (2019) +A1
- VCCI-CISPR 32:2016 Class B
- Verizon OD
- CE
- RoHS 3

eze System - IIoT pioneers since 2009

Converting customer domain expertise into automation.

eze System is a privately held US corporation based in Sacramento, CA, specializing in innovative industrial automation solutions. All hardware, software services, and system designs are fully developed in-house, utilizing a combined hardware/SaaS model crafted for ease of use, scalability, and rapid global deployment. With well over 10,000 systems deployed worldwide, eze System is committed to solving complex control and automation challenges in a pain-free, future-proof manner.

Their end-to-end ezeio® System enables remote connectivity for any type of industrial equipment, process, or system. Offering unparalleled features and functionality, it includes essential components such as Location Tracking, Monitoring, Control, Automation, Consolidation, Transaction Management, and Analytics/AI Integration. No other IIoT solution on the market matches this comprehensive range of capabilities.

eze System's commercial focus is on creating customer value by enhancing productivity and quality while supporting business growth and expansion. The innovative ezeio® approach accelerates and simplifies customers' processes without requiring expensive consultancy or complex engineering, allowing businesses to convert their domain expertise into automated applications in a scalable, practical, and cost-effective way.

Fast • Nimble • Now • Low instep

At eze System, every action is guided by four key principles:

Fast

Ensuring swift execution and rapid deployment of solutions to meet customer needs efficiently.

Nimble

Maintaining an agile approach to adapt quickly and effectively when assisting customers.

Now

Focusing on creating immediate impact and tangible results for customers in the present.

Low instep

Providing an accessible entry point, both financially and in terms of time, to enable customers to adopt their technology with minimal barriers.

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