

UWP 4.0 + DLI-MCG024 Launch Presentation

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UWP 4.0, Monitoring Gateway & Controller DLI-MCG, DALI-2 Sub-Master

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Powerful EDGE Gateway and Controller With DALI-2® Submaster





Why this launch

- The Energy and Building Efficiency industry, is one of our strategic pillars. To pursue our strategy and serving the needs of end users, a powerful combination of hardware and software is necessary, together with a good ecosystem, to win more business opportunities
- The Energy Market, and the relevant applications, is evolving, and the electrical grid is reshaping itself according to new
 paradigms (see the next slides about the DER revolution). To comply with the new needs, digitalization is the word, and
 loT evolution is the way to be part of a market which is going to be more and more based on data management
- UWP 4.0 is the new updated hardware platform on which to base our portfolio of solutions in terms of controllers and gateways for the aforementioned industries; at the same time we redesigned the user interface, so to grant an improved user experience to both end-users and system integrators
 - Cybersecurity integral to the design of UWP 4.0, and the entire UWP ecosystem. UWP4..SE achieves UL Silver certification for cybersecurity





Expectations

- To consolidate our position in the Energy Monitoring field, by promoting and selling our ecosystem of meters and sensors, together with UWP 4.0, and position ourselves as a solution provider for Energy Efficiency projects
- To scale up our offer for lighting control focus on energy efficiency: DALI-2 as part of our strategy of combining monitoring with real Energy saving actions in the field
- To sell full stack monitoring package (UWP 4.0 + Ecosystem) to those integrators and energy managers who need an easy to deploy solution, without the need of buying expensive software and integrate it with hardware from a different supplier

CARLO GAVAZZI

Glossary

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- DER Distributed Energy Resources A distributed energy resource (DER) is a small-scale unit of power generation that operates locally and is connected to a larger power grid at the distribution level. DERs include solar panels, small natural gas-fueled generators, electric vehicles and controllable loads, such as HVAC systems and electric water heaters. An important distinction of a DER is that the energy it produces is often consumed close to the source. <u>https://www.techtarget.com/whatis/definition/distributed-energy-resources-DER</u>
- EMS Energy Management System An energy management system (EMS) is a set of tools combining software and hardware that optimally distributes energy flows between connected distributed energy resources (DERs). Companies use energy management systems to optimize the generation, storage and/or consumption of electricity to lower both costs and emissions and stabilize the power grid. https://www.gridx.ai/knowledge/what-is-an-energy-management-system
- BMS Building Management System A building management system (BMS) is a control system that can be used to monitor and manage the mechanical, electrical and electromechanical systems and services in a facility. Such services include power; heating, ventilation and air conditioning (HVAC); physical access control; fire safety systems; water pumps; elevators; and lights. https://www.techtarget.com/searchdatacenter/definition/building-management-system
- **BEMS** Building Energy Management System A building energy management system (BEMS) is a sophisticated method to monitor and control the building's energy needs. Next to energy management, the system can control and monitor a large variety of other aspects of the building regardless of whether it is residential or commercial. Examples of these functions are heating, ventilation and air conditioning (HVAC), lighting or security measures. https://www.ctc-n.org/technologies/building-energy-management-systems-bems
- Microgrid A microgrid is a self-sufficient energy system that serves a discrete geographic footprint, such as a college campus, hospital complex, business center or neighborhood. Within microgrids are one or more kinds of distributed energy (solar panels, wind turbines, combined heat and power, generators) that produce its power. In addition, many newer microgrids contain energy storage, typically from batteries. Some also now have electric vehicle charging stations. <u>https://www.microgridknowledge.com/about-</u> <u>microgrids/article/11429017/what-is-a-microgrid</u>
- Energy Community Broadly speaking, an energy community is a community that has been historically sited near environmentally harmful industries like coal mining or oil extraction. It also refers to a community where a certain percentage of their tax base is reliant on fossil fuel industries. https://www.evergreenaction.com/blog/energy-communities-can-benefit-from-ira



Market of Interest: the arena

 The demand for EV Charging solutions is sky-high, nonetheless a future proof strategy for CG should be based on leveraging our target INDUSTRIES; there is a clear synergy between two of them: EV Charging+PV Energy Storage and Energy and Building Efficiency





Market of interest: what we have (part of)

• Our solutions cover a wide range of applications in the target industries right today; nonetheless, it is not enough if we want to be a leader in the coming years





Market of Interest: the trend to MICROGRIDS and ENERGY COMMUNITIES

Microgrids and Energy Communities are going to be together one of the most important trends involving all the
operators in the Energy Market, leveraging the legal framework and triggering actions on the ESCo/OEMs side; the
keyword is INTEGRATION of CONSUMERS and PRODUCERS so to save energy and optimize the GRID





Market of Interest: UWP 4.0 and DALI-2

- Energy flows integration at the Building level, means providing controllers capable of monitoring variables, actuating loads using standard fieldbuses, connecting with the other systems
- Key points: DALI-2, Monitoring and Control functions, BMS/EMS integration



UWP 4.0 Vs UWP 3.0 (upgrades)



New Hardware

More powerful core

- 512MB memory (Vs 128 MB)
- Faster CPU
- Direct connection of USB Modems (no more SH2-DSP24)

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New UWP IDE

A big step ahead of UWP Tool

- Upgraded UI
- Module manager
- Simplified procedures
- Consistent family feeling
- Improved functions

New UWP Web-App

Improved UX

- Upgraded UI
- Multi-user
- Granular access control
- Consistent family feeling

New Functions...

... for new use cases

- DALI-2 compatibility, for lighting control
- Rest-API for both monitoring and control
- New mathematical functions
- New alarm management
- New counter alarm function (batch counters)
- Faster project compilation

The Products



Relevant Technical data: Monitoring and Control @ Fieldbus Level

Multiple fieldbuses

- Modbus RTU/TCP (Master/Slave))
- Dupline (Master)), by optional module
- WiDup (Master), by optional module
- LoRa (Master), by optional module
- DALI-2 (Master), by optional module

Multiple Building Automation devices (A)

- CG Dupline/WiDup I/Os
- CG DALI-2 devices
- Third party MODBUS devices
- Third party DALI-2 devices

Multiple Metering devices (B)

- CG Meters
- Third party MODBUS meters
- Third party MODBUS devices(Inverters, machines,...)



The Products



Relevant Technical data: Web-Server, Gateway, Controller EMS / BMS Level

Web-App (A)

- Embedded UI (no fees)
- Remote access via secure VPN (MAIA Cloud)
- Multi user
- Granular access control to functions
- Custom dashboards

Automation Server (B)

- Email reports
- MQTT data push
- FTP/SFTP/FTPS data push
- Rest-API (monitoring & control)
- BACnet gateway (Monitoring & Control
- MODBUS/TCP gateway (monitoring & Control)
- EMS/BMS integration



The Products



Relevant Technical Data: Local and remote set-up

UWP IDE

- Functions setup
- Modules configuration
- Configurations management
- Secure local access
- Secure Remote access via MAIA Cloud VPN

UCS

- CG Meters local setup
- CG Meters secure remote setup via MAIA Cloud VPN





Applications: Local Main/Sub Metering (Standalone or BEMS)

Application specs

Standalone

- Data gathering from one or more meters through a fieldbus,
- · datalogging,
- data display or report

BEMS

- Data gathering from one or more meters through a fieldbus,
- · datalogging,
- data exchange to local BEMS

Target Customers

• ESCOs

- System Integrators
- Distributors
- Facility Managers

Key selling points

Flexibility

Data gathering both from CG meters and third party's

Web-App

- Custom dashboards
- Multi-user controlled access
- Secure remote access via MAIA Cloud VPN

- BACnet gateway
- MODBUS gateway

Key products	Key functions
UWP 4.0 – Monitoring gateway	Modbus Commander – integration of third party meters
Emxxx – Comprehensive meters family	Module Manager – easy set-up of UWP system
WM20/30/40 – Comprehensive power analyzers family	UCS – Remote setup of CG meters
VMU-MC/OC – Pulse counting modules	MAIA Cloud Secure remote access to the system
UWP-A/UWP-M – Lora based integration	BACnet certified– for smooth BEMS integration
MAIA Cloud– Secure remote access to the system	



Applications: Remote Main/Sub Metering (Standard or Custom)

Application specs

Standard

- Data gathering from one or more meters through a fieldbus,
- · datalogging,
- data exchange with a remote system using standard protocols

Custom

- Data gathering from one or more meters through a fieldbus,
- · datalogging,
- data exchange with a remote system using custom protocols (specified by the customer)

Target Customers Custom Big ESCOs System Integrators Distributors

SaaS companies

Key selling points

Flexibility

• Data gathering both from CG meters and third party's

Flexible communication

- FTP, SFTP, FTPS
- MQTT
- Custom protocols

- AWS IoT
- Azure IoT

Key products	Key functions
UWP 4.0 – Monitoring gateway	 Modbus Commander – integration of third party meters
Emxxx – Comprehensive meters family	Module Manager – easy set-up of UWP system
WM20/30/40 – Comprehensive power analyzers family	UCS – Remote setup of CG meters
VMU-MC/OC – Pulse counting modules	MAIA Cloud Secure remote access to the system
UWP-A/UWP-M – Lora based integration	AWS/Azure IoT - for smooth BEMS integration
MAIA Cloud– Secure remote access to the system	



Applications: Lighting Control (standalone/with BMS integration)

Application specs

Standalone

- Lighting control (on/off, dimming, scenarios, white balance)
- DALI-2 compatibility
- Dashboard to functions

BMS integration

- Lighting control (on/off, dimming, scenarios, white balance)
- DALI-2 compatibility
- Integration into BMS systems via BACnet or MODBUS

Target Customers

- System integrators or installers
 - Partners to be trained and qualified
- Big ESCOS

Key selling points

Scalability

• Data gathering both from CG meters and third party's

Embedded Web-App

- Custom Dashboards
- Remote Access Via MAIA Cloud

- BACnet
- MODBUS

Key products	Key functions
UWP 4.0 – Monitoring gateway	Modbus Commander – integration of third party meters
SH2-MCG – Dupline Sub-Master	Module Manager – easy set-up of UWP system
DLI-MCG – DALI-2 Sub-Master	UCS – Remote setup of CG meters
• DLI-P360 – DALI-2 PIR	MAIA Cloud Secure remote access to the system
• SBB	BACnet Gateway for smooth BEMS integration
Dupline PIRs	
MAIA Cloud– Secure remote access to the system	
BTM Family – Industrial grade HMI	



Applications: Fire Dampers Control (standalone/with BMS integration)

Application specs

Standalone

- Fire Dampers control (monitoring and on/off)
- Dashboard to functions

BMS integration

- Fire Dampers control (monitoring and on/off)
- Dashboard to functions
- Integration into BMS systems via BACnet or MODBUS

Target Customers

- System integrators or installers
 - Partners to be trained and qualified

Key selling points

Ease of commissioning

• Easy and cost-effective wiring thanks to Dupline

Embedded Web-App

- Custom Dashboards
- Remote Access Via MAIA Cloud

- BACnet
- MODBUS

Key products	Key functions
UWP 4.0 – Monitoring gateway	 Module Manager – easy set-up of UWP system
SH2-MCG – Dupline Master	MAIA Cloud Secure remote access to the system
SBB2/4 – Fire Dampers modules	BACnet gateway– for smooth BEMS integration
BTM Family – Industrial grade HMI	



Applications: BACnet Gateway for BEMS

Application specs

BMS integration

- Gathering of energy, environmental, digital inputs variable
- Sharing of the variables via standard BACnet for external BEMS

Target Customers

- System integrators
- Distributors

Key selling points

Flexibility

• Multibus solution capable of gathering a wide range of metering/environmental/analogue/digital signals from different sensors/meters

Embedded Web-App

- · Custom Dashboards for local redundance
- Remote Access Via MAIA Cloud

Certified gateway

BACnet

Key functions
Module Manager – easy set-up of UWP system
MAIA Cloud Secure remote access to the system
BACnet gateway for smooth BEMS integration

Marketing Tools





Video



UWP 4.0 Video

Thank you

CARLO GAVAZZI