from proprietary solution to

open standards and interoperability

from single application to a

flexible network platform

from slow to

high-speed data exchange

from basic metering to

demand-driven rich base functionality

from trustworthy

pelican
metering solution

Today, we present three metering solutions and three strategical directions of product development: Pelican, Toucan and Falcon.

All three solutions are built on ADDAX technology and have a common base of functionality, and each one has its particularities making it the best fit for specific environments and requirements.

Pelican communicates using ADD GRUP's proprietary data exchange protocol based on FSK modulation. It is slower than the other solutions, but it is trustworthy and offers a lower cost level.

to rainbow agile

toucan
metering solution

Toucan is a more agile solution, based on S-FSK technique. It is interoperable and can be used in multi-vendor platforms.

from fixed functions to

remote upgradeability

and to incredibly powerful and fast

falcon
metering solution

Falcon is the ultimate smart metering solution, based on advanced OFDM techniques. It is extremely fast and reliable, these not being its main advantages.

Falcon provides interoperability, but more, it offers the possibility to remotely upgrade the meter and change its protocol to any, which suits best Utility's interests.

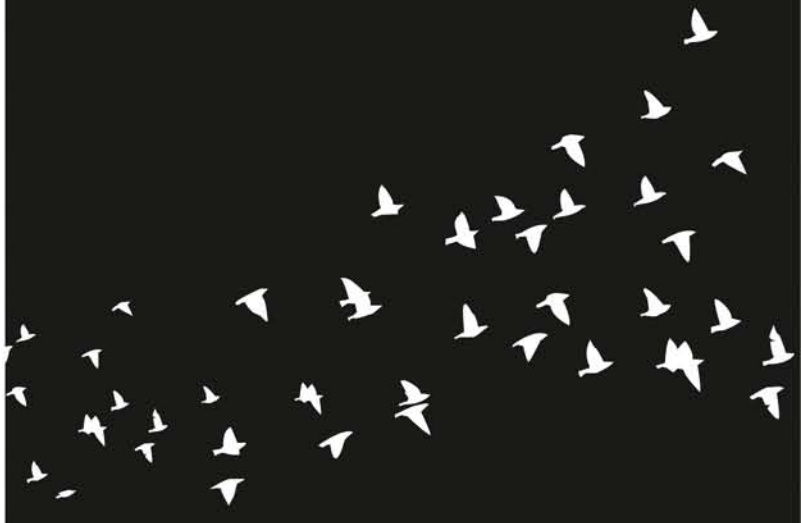
Falcon is open.

OPEN
for the future

add new tech to your business!

4DD GRUP

OPEN
for the future



2010

Nowadays, the Utilities have expanded beyond their original business environment - they serve different cultures, manage different transmission and distribution networks, abide different legal systems. They dispose of different resources and communication infrastructures. When selecting smart metering solutions, the Utility has to take into account its regional needs and possibilities; there are more factors to compute and the decision is based on more criteria than before.

The offer on the AMI market is broad, ranging from simple meter reading to complex and sophisticated smart grid platforms; and from very narrow solutions to universal ones. But, are separate solutions fitting entirely the needs of expanding Utilities?

What is the most appropriate solution in such circumstances? Should the Utility implement a unique system, which would suit its needs in a zone and underperform or be excessive in others? Should it invest in a dozen of different solutions, each for a separate zone within its business?

Would these solutions be appropriate in a couple of years, taking into account the paces of current technological development? Would they cover the tomorrow's demands and provide the Utility with the proper tools and information in the near future?

Imagine a unique platform, made of well-placed components, answering the specific needs of a certain zone, interchangeable and free of vendor dependancy.

Imagine a system being flexible and future-proof through remote upgrade.

Imagine the upgrade of the communication protocol, from the control center, within just one click.

Imagine open solutions

OPEN

for the future

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ADDAX

ADDAX IMS is a smart-metering platform based on open standards. Our solution is built on a series of hardware and software components, providing rich functionality and a high degree of flexibility. The implementation of open standards made ADDAX IMS interoperable and enabled the integration with tertiary smart-metering solutions.

ADDAX METERS

ADDAX meters offer more than simple metering. Our meters integrate a range of features, enabling efficient consumption management, like DSM, Time-of-Use and operation in prepayment (compliant to STS standard).

ADDAX meters

The meters are provided with secure anti-fraud means, blocking or warning about tampering attempts. The latest version brings new features, like remote upgrade, which leads to a higher degree of flexibility and allows matching system's functionality to future requirements. ADDAX meters have built-in PLC modems for upward communications and M-Bus interfaces for integration with HAN devices. The new version of ADDAX IMS has three product lines: Pelican, Toucan and Falcon, with increasing capabilities and data-exchange speeds from one line to another.

NEW

CMS base board

three-phase meter

Centralized Metering System is a recent development, bringing a new, modular design and targeting two of the most sensitive issues: cost efficiency and anti-fraud. The benefits and the advantages of the CMS come from the modular approach in the construction of the metering nodes.

ADDAX ROUTERS

ADDAX router

ADDAX routers are the network elements, responsible for a fast and reliable data-flow within ADDAX AMI solution. Our routers have a modular structure, enabling easy adaptation to any changes in the communication network.

NEW

The latest version features a new device, which integrates networking and metering facilities – the meter-router. The MR combines the functionality of a balance meter and router's data-flow management tasks. This combination is designed to minimize the implementation costs and increase the overall economic efficiency of ADDAX IMS.

ADDAX COUPLING UNITS

ADDAX CU

ADDAX coupling units are essential components of ADDAX.net. The unique design of our coupling units provides efficient bridging between the Low Voltage and Medium Voltage Power Lines.

ADDAX CUSTOMER INTERFACE UNITS

In the frames of the latest version of ADDAX IMS we offer a diversified range of customer interface units.

ADDAX CIU

Basic displays, designed for viewing the consumption data. Communicate with the meter through LV PLC

Customer Interface Units with keypad (STS compliant). Wired or wireless M-Bus interface with the meters.

NEW

we grow

we develop

we contribute

ADD GRUP is a dynamically growing company. We grew from a team of 15 engineers to a company of more than 300 employees and from a product sold locally to a smart-metering platform implemented in more than 20 countries all over the world.

we search

we advance

we encourage

we create value

We have developed ADDAX IMS from a basic metering solution into a smart-metering platform based on open-standards. We value the relationships with our customers, we appreciate the common knowledge and experience we receive and invest this value into our developments.

we support

we learn

We learned to integrate and support tertiary products, in order to create sub-metering solutions and free of vendor-dependency smart-metering systems.
We demonstrated the viability and the feasibility of our solution through more than 1,7 million ADDAX smart meters implemented worldwide.

we open

OPEN

for the future

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OUR PRESENCE WORLDWIDE

KEY NUMBERS

AMI projects in more than **twenty** countries

representatives in more than **sixty** countries

more than **1,7 million** ADDAX smart meters implemented

five license manufacturers

more than **500 thousand** ADDAX smart meters operating in projects based on MV PLC

ADDAX METERS

MEASUREMENTS
Active and reactive energy
Export and import energy
Power, Max Demand

METERING DATA
On-demand meter readings
Periodic meter readings
Timestamp

FIRMWARE UPGRADE
Remote or local firmware upgrade

DATA STORAGE
Non-volatile memory

TARIFF MANAGEMENT
Time-Of-Use metering
SLAB tariff

PREPAYMENT MODE
Fully-compliant with Standard Transfer Specification (STS)
Real-time switch between credit and prepayment modes

LOAD CONTROL
Built-in relay for remote or preconfigured disconnection/reconnection
DSM functionality through controlling primary and secondary loads (on schedule or by configurable threshold)

ELECTRICAL ENERGY QUALITY MONITORING
Average Voltage
Voltage Sags and Swells
Outages

ANTIFRAUD PROTECTION
Differential current sensor
Meter case opening sensor
Reverse meter connection sensor
External magnetic field sensor

METER SELF-CONTROL
Built-in test for noncurrent and continuous self-control

POWER LINE COMMUNICATION (PLC)
Built-in PL-modem (FSK/ S-FSK / OFDM modulation; CENELEC, A Band)
EMC standards compliance

IN-HOME DISPLAY
Communication channel: LV PLC, wired or wireless M-Bus
Keypad (STS compliant)

HOME AREA NETWORK GATEWAY
M-Bus (wire, wireless)
Collection of metering data from water, gas, heat meters (up to 4 units)

ADDAX ROUTERS

STANDARDS

CENELEC A-band LV PLC communications;
Interoperability, compliance to DLMS/COSEM standard protocol stack;

Open communication profiles:
- PL LV S-FSK compliant with **IEC61334-5-1,**
- PL LV OFDM compliant with **PRIME** specification
- PL LV OFDM compliant with **G3** specification

Proprietary communication profile:
- **ADDAX.net**

COMMUNICATIONS

· Communication downwards - via built-in LV or MV PLC modem
· Communication upwards – via MV PLC, GSM/GPRS, Ethernet , etc.

DATA COLLECTION

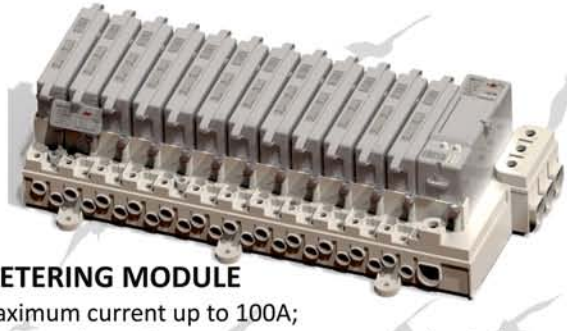
· Collects data by schedule, on request, on event
· Supports address, group and broadcast control commands

REMOTE MANAGEMENT

· Remote firmware upgrade of end-point devices from the Master Station
· Router's remote firmware upgrade

ADDAX CENTRALIZED METERING SYSTEM

- Innovative, cost-benefit compact CMS.
- Up to 12 metering modules and a main communication device the base board
- 3-phase meter built from 3 single-phase meters. Different combination of 1-phase and 3-phase meters within the same base board.
- Up to 12 customer interface units support.
- Easy replaceable Plug&Play metering modules. CMS types with 3, 6, or 12 metering modules.
- Multifunctional metering, wide range of controlled parameters.
- Load control. Synchronization of all disconnecting relays for all channels.



METERING MODULE

Maximum current up to 100A;
Active and reactive power measurements for 3-phase and 1-phase meters;
Export/import power measurements in 4 quadrants;
Power quality parameters
Load profiling from 5' intervals
Time-of-Use metering

NET NODE COMMUNICATIONS AND INTERFACES

CENELEC A-band LV PLC communications (based on S-FSK, OFDM techniques);
Interoperability, compliance to DLMS/COSEM standard protocol stack;
Support of up to 12 Customer Interface Units via standard wired/wireless M-bus
PLC or GSM/GPRS communication interface to communicate directly with the Master Station (optionally)

CUSTOMER INTERFACE UNITS

STS compliant keypad;
Data exchange via M-Bus wired/wireless interface or via LV PLC
Possibility to recharge the credit remotely or locally
Safety button to prevent unexpected reconnections;

ANTI-FRAUD DETECTION

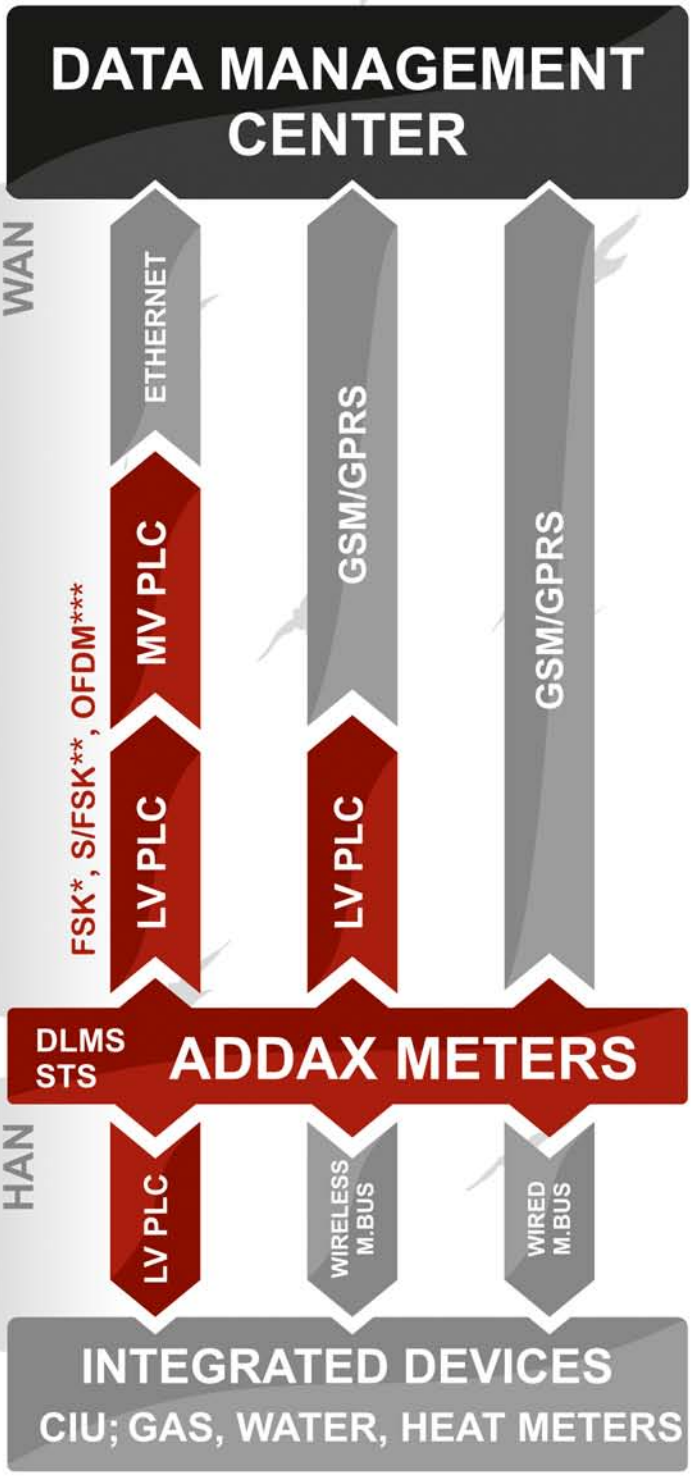
Sensors for CMS protective box unauthorized opening;
Real time alarming to warn the Master station;
Event log with circular memory buffer with storage capacity up to 200 events.

LOAD CONTROL

Disconnection/reconnection remotely or locally;
DSM functionality through controlling primary and secondary loads (on schedule or by configurable threshold);
Max Demand

ADDAX IMS

COMMUNICATION SOLUTIONS



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