

## Energy monitoring

**Application:** all commercial buildings greater than 5,000 square meters

# Manage and sub-bill WAGES\* in large commercial buildings

\*Water, Air, Gas, Electricity, Steam

“ I want to make sure I get the most out of my HVAC and lighting control systems. I also need reliable consumption data to sub-bill my tenants’ utility use. ”

## Meter key energy points to acquire consumption data and identify abnormal use patterns

Each tenant’s utility use is sub-metered, and the resulting consumption files can be downloaded via a standard web browser for use with an invoicing application.

Ethernet-based architectures are particularly suitable for commercial buildings where IT network connections are generally already available. The solution is built around an iRio RTU (Remote Terminal Unit) at main switchboard level and Twido PLCs distributed at secondary or final switchboard level.

Metering is provided through power meters using pulsing contacts or Modbus Serial Line communication and flow meters using pulsing contact, Modbus Serial Line communication, or M-Bus open metering communication.

The system ensures data acquisition, processing, and transmission, including database generation, dashboards, curves, and reports.

Electric metering can be provided by a number of meter options depending on your distribution architecture and metering performance requirements:

- Masterpact or Compact NSX built-in power meter
- PM9C/200/700 communicating power meters
- Cost-effective EN40/PM9P/ME4zr pulsing power meters

## For the user

- > **10% energy savings through usage analysis**
  - Even greater savings if additional controls are implemented
- > **Lower energy consumption** through load scheduling, conditioning, and shedding

- > **Reliable industrial RTU technology** ensures information is available

- > **Cost-effective**
  - The solution works with low-cost pulse metering technology
  - Possible low-cost initial rollout to secure quick ROI; can be scaled up later with additional metering
  - iRio pre-developed software modules minimize software development costs
  - Uses existing IT infrastructure (Ethernet TCP/IP)

- > **Web based for easy implementation;** no dedicated WAGES workstation required

- > **Ready-to-use data files** facilitate sub-billing

# Benefits

## For professionals

- + **Low software development costs:** iRio comes with pre-developed software modules

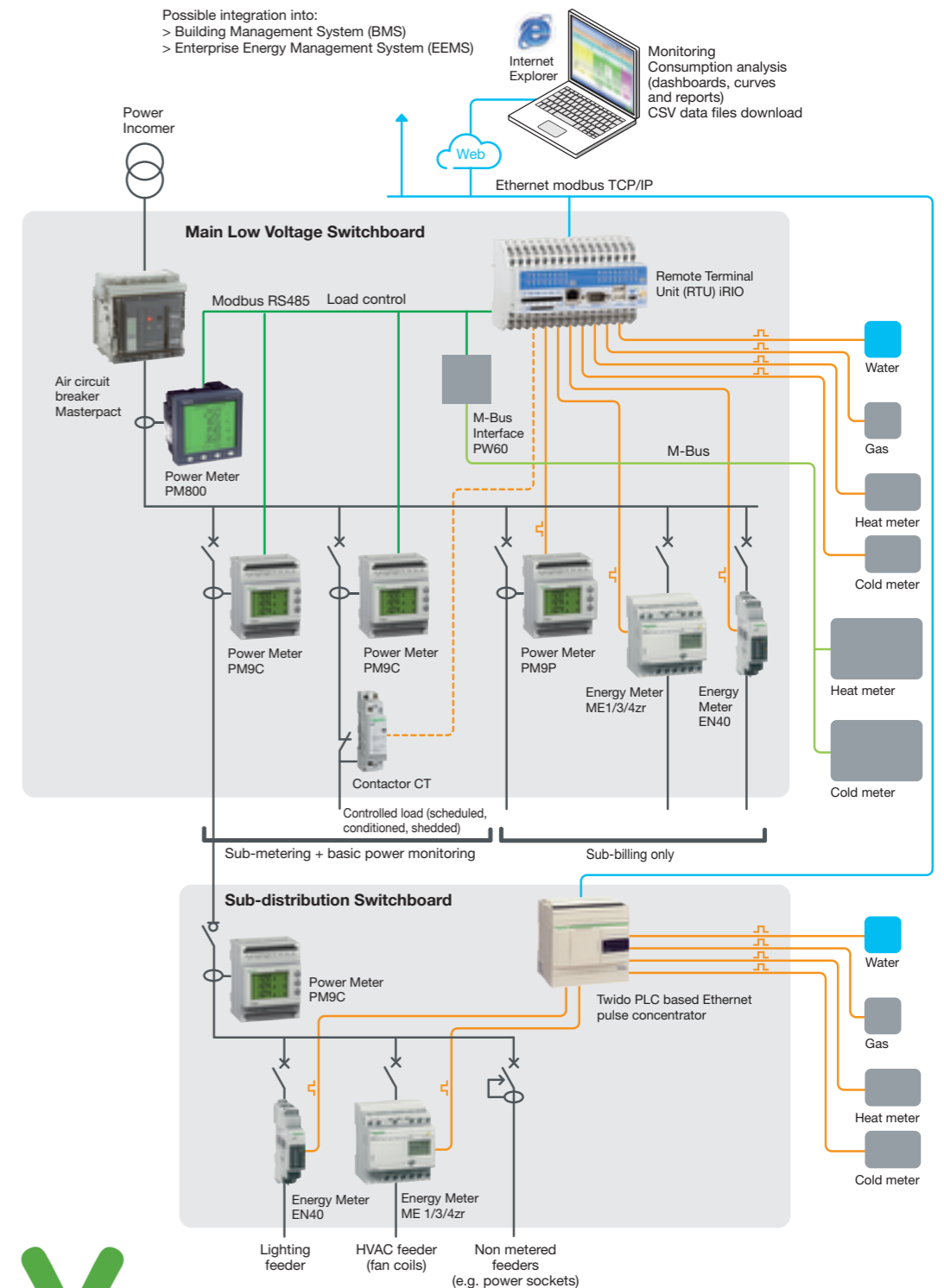
- + **Powerful customization capabilities:** implement additional control functions if and when required

- + **Highly scalable for maximum cost-effectiveness**

- + **Uses existing IT infrastructure (Ethernet TCP IP):** no need to install new communication bus

- + **Less time spent on-site:** remote alarm and operation

- Measure
- Reduce energy consumption
- Reduce energy costs



### Masterpact

- Nominal current 630 to 1600 A
- Breaking performance 42 to 150 kA at 220/415 V AC
- Voltage rating: up to 690 V
- 4 Micrologic control units enriched by measurement, energy

management and network analysis functions

- Compliance with IEC 60947-1 and 2, IEC 68230, UL489, ANSI, and CCC standards

### PowerLogic Series 800 Power Meters

- IEC 62053-22 class 0.5S for real energy

- Accurate energy measurement for sub-billing and cost allocation

### iRIO RTU

- Central unit of modular system features with integrated web server
- Sends information by GSM, GPRS, Ethernet, RS485

- Optional additional cards for external inputs and outputs

### Twido programmable controller

- Compact base controllers with integrated Ethernet port
- 100...240 V AC supply or 24V DC

# Solution