HORIZON giving **you** total control

utility monitoring made **simple**

accurate, reliable L2 monitoring

On-line Logical View

- Alarms
- E-mails
- Graphs

Virtual Meters

The Horizon Range is the fusion of land based metering and ether based monitoring. It enables End Users, Facilities Management Companies and Consultants to view data from any web enabled PC or devices 24/7.

Data from single metering devices or customer defined groups can be viewed, exported, emailed or graphed simply - with the additional benefits of remote alarming, automatic reporting and invoicing.
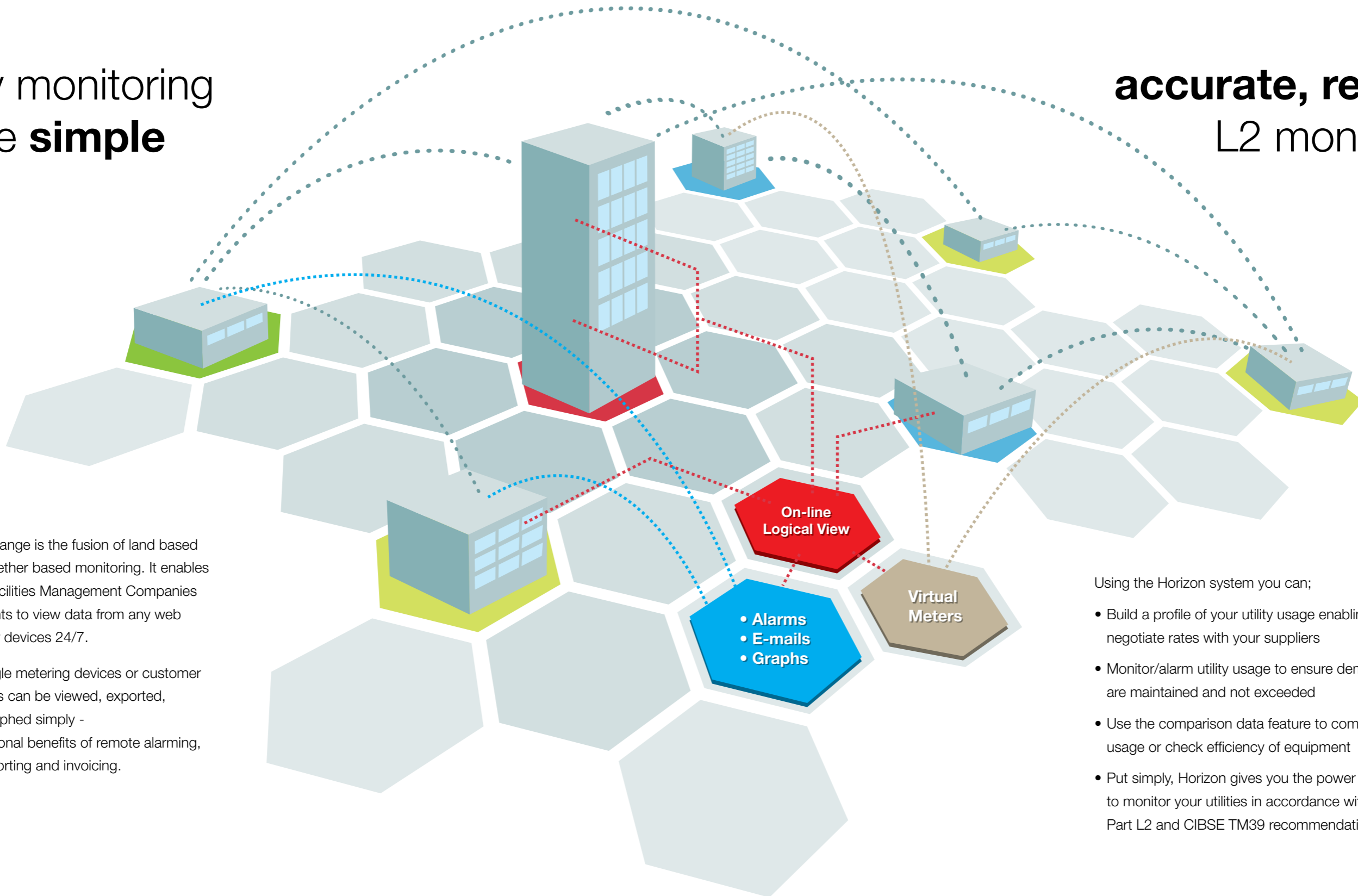
Using the Horizon system you can;

- Build a profile of your utility usage enabling you to negotiate rates with your suppliers

- Monitor/alarm utility usage to ensure demand levels are maintained and not exceeded

- Use the comparison data feature to compare usage or check efficiency of equipment

- Put simply, Horizon gives you the power to monitor your utilities in accordance with Part L2 and CIBSE TM39 recommendations

comparison of **data**

With the ever increasing cost of energy, having the ability to compare data is imperative. Horizon enables information from any meter to be compared on a daily, weekly, monthly or yearly basis. Data can be used for efficiency monitoring or simply to monitor the effect climatic conditions have on the energy usage.

Below are three graphs comparing the month of December for 2009 and 2010. The initial graph shows the full month with the highlighted circled areas showing the expansion possibilities from weekly to daily comparison for more detailed analysis.

monthly

weekly

daily

Daily Peak load comparison showing an increase KW loading for 2010
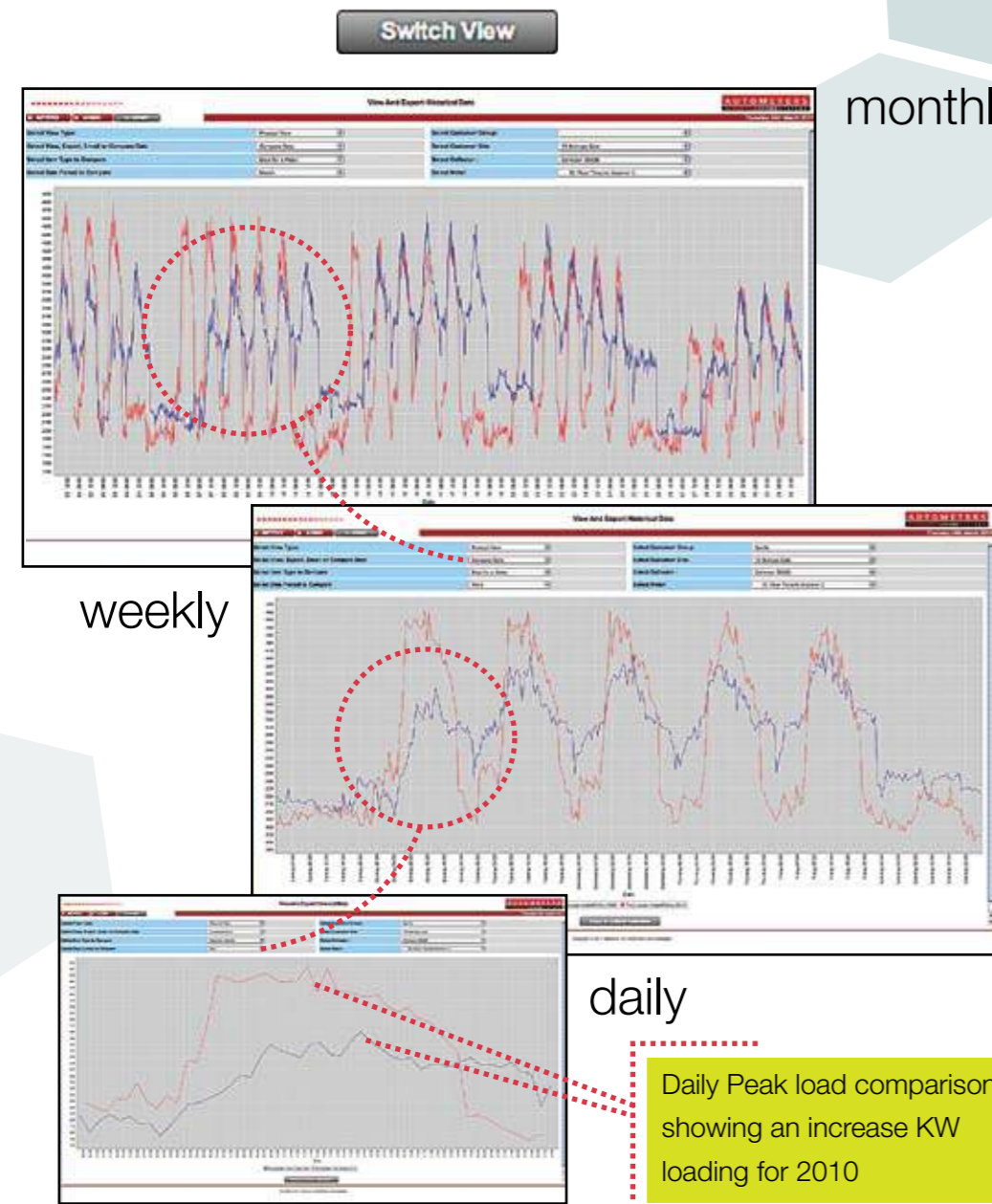
simple logical displaying of information

Information is only useful if it can be used! Horizons "logical" view enables meters to be collated to suit either cost centres, load type or user definable groups. Modbus and Pulse Meters can be grouped together to enable whole group or specific meter monitoring.
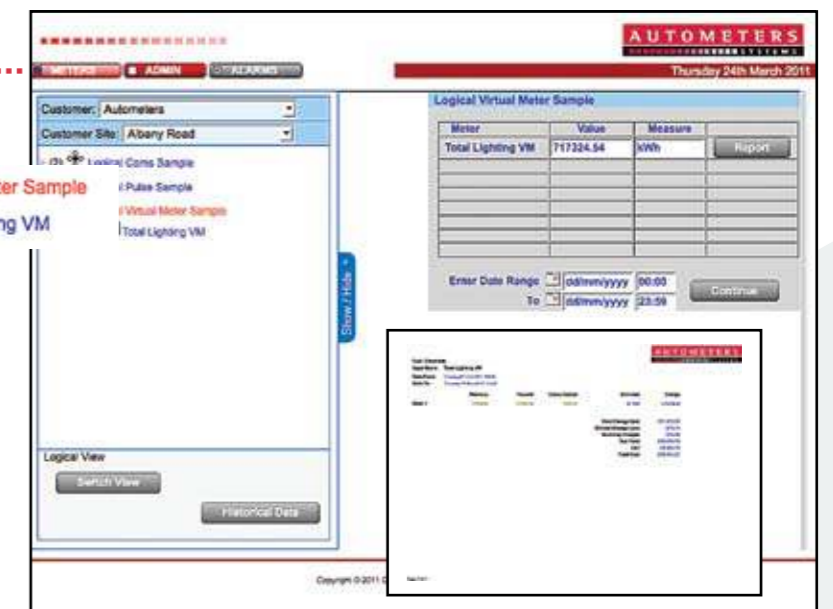
From these groups both manual and automated reporting can be set. Invoices can be printed and overall group costs can be reported in simple user friendly PDF format.
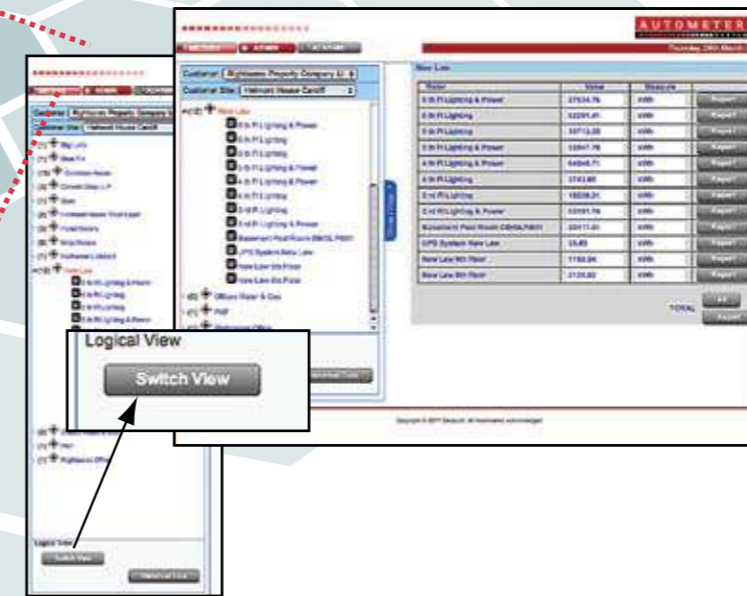
virtual meters

Virtual meters can be created from actual meters in the form of either summated or net calulations. This can be done for both Modbus and Pulse Meters, once created these meters can then be viewed in the logical view and operate, log and export data as if they were actual devices. These are especially useful when total loads are required to be known for either utilities or individual clients etc.
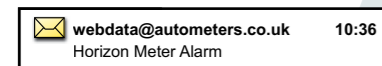
For example, a virtual meter could be created for total lighting. This would enable all lighting meters to be summated to give simple total lighting usage and cost analysis

reporting **alarms**

Knowledge is important!

Knowing that you are near to critical levels or when you have lost supplies in todays busy environment is imperative. Horizon offers remote email or on screen alarming for all critical data.

| ✉ | webdata@autometers.co.uk | 10:36 |
| | Horizon Meter Alarm | |

smart phone   laptop   pda

excess alarms

failure or **low level** alarms

On-line Logical View

- **Alarms**
- **E-mails**
- **Graphs**

Vi...
Me...

Main Incomer
Meter Alarm Setup

High (Over) Alarm Settings		Low (Under) Alarm Settings	
L1 Amps:	A	L1 Amps: 0.00	A
L2 Amps:	A	L2 Amps: 0.00	A
L3 Amps:	A	L3 Amps: 0.00	A
T Amps:	A	T Amps:	A
L1 Volts:	V	L1 Volts:	V
L2 Volts:	V	L2 Volts:	V
L3 Volts:	V	L3 Volts:	V
L1 KW:	KW	L1 KW:	KW
L2 KW:	KW	L2 KW:	KW
L3 KW:	KW	L3 KW:	KW
T KW:	KW	T KW:	KW
L1 KVA:	KVA	L1 KVA:	KVA
L2 KVA:	KVA	L2 KVA:	KVA
L3 KVA:	KVA	L3 KVA:	KVA
T KVA:	KVA	T KVA:	KVA
Profile Usage:	kWh	Profile Usage:	kWh

Non Usage Alarm (kWh): ☐

UPDATE   **MAIN**

highlighted alarmed values

Main Incomer
Meter Alarm Setup

High (Over) Alarm Settings		Low (Under) Alarm Settings	
L1 Amps: 10.00	A	L1 Amps: 0.00	A
L2 Amps:	A	L2 Amps: 0.00	A
L3 Amps:	A	L3 Amps: 25.00	A
T Amps:	A	T Amps:	A

screen **"pop"** to notify

Windows Internet Explorer ✕
⚠ New Alarms have been raised.
OK

View Historical Alarms

Customer:	Autometers
Customer site:	Albany Road
Alarm Date Tripped Between:	01/01/2010 and 24/03/2011
Select Collector:	HC1 Master Collector 106081
Select Meters or Pulses:	Meters
Serach For Alarms Under:	All Meters Under Selected Collector

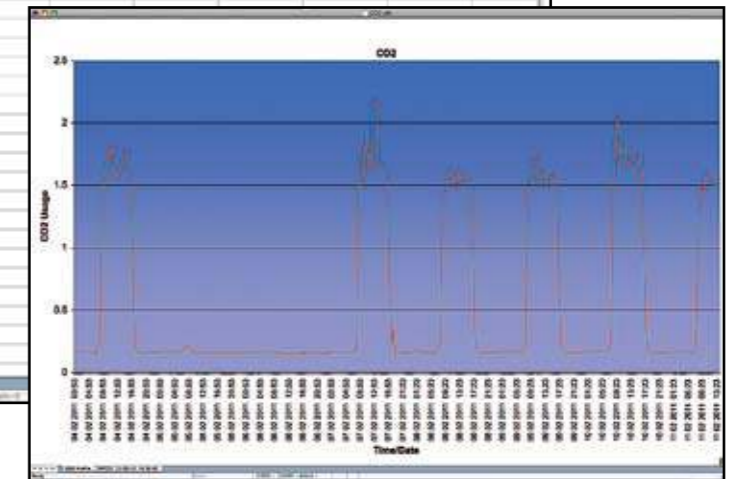| Meter Name	Modbus Description	Alarm Type	Date Alarm Tripped	Date Alarm Reset
Main incomer	L1 Amp	Over Usage	18/01/2010 12:26:53	18/01/2010 12:30:32
Main incomer	L3 Amp	Over Usage	18/01/2010 12:26:53	18/01/2010 12:30:32
Main incomer	L2 Amp	Over Usage	18/01/2010 12:26:53	18/01/2010 12:30:32
Main incomer	L3 Amp	Under Usage	05/08/2010 09:36:52	05/08/2010 10:21:09

Historical alarms are stored showing the time the alarm was activated **and** the time it was reset.

non usage alarms

Available for both Pulse and Modbus Meters the kWh non usage ensures that an alarm is raised in the event that no kWh have been consumed on a pre determined log interval. This is extremely useful for client monitoring or for domestic applications.

AUTOMETERS SYSTEMS

CRC – Carbon Reduction Commitment

The CRC came into force in April 2010 and aims to significantly reduce UK carbon emissions not covered by other pieces of legislation. The primary focus is to reduce emissions in non-energy intensive sectors and as such has become an everyday concern of building managers. Whether your utility supply is kWh mains electricity, natural gas or litres of diesel on mobile generators, Horizon can log the CO_2 and enable tabulated or graphical information to be viewed at the click of a mouse.

CO2.xls

	A	B	C	D	E	F	G	H	I
1	Date	CO2							
2	04 02 2011 00:53	0.17							
3	04 02 2011 01:23	0.17							
4	04 02 2011 01:53	0.17							
5	04 02 2011 02:23	0.17							
6	04 02 2011 02:53	0.16							
7	04 02 2011 03:23	0.15							
8	04 02 2011 03:53	0.17							
9	04 02 2011 04:23	0.16							
10	04 02 2011 04:53	0.17							
11	04 02 2011 05:23	0.16							
12	04 02 2011 05:53	0.16							
13	04 02 2011 06:23	0.17							
14	04 02 2011 06:53	0.15							
15	04 02 2011 07:23	0.22							
16	04 02 2011 07:53	0.24							
17	04 02 2011 08:23	1.2							
18	04 02 2011 08:53	1.41							
19	04 02 2011 09:23	1.56							
20	04 02 2011 09:53	1.65							
21	04 02 2011 10:23	1.77							
22	04 02 2011 10:53	1.68							
23	04 02 2011 11:23	1.79							
24	04 02 2011 11:53	1.84							
25	04 02 2011 12:23	1.55							
26	04 02 2011 12:53	1.56							
27	04 02 2011 13:23	1.61							
28	04 02 2011 13:53	1.63							
29	04 02 2011 14:23	1.73							

30 minute CO_2 profile

CO2

46045536 - 9 Savoy Street

Tariff	Readings	Reading Profile	CO2 Profile
Tariff A	☐ Change	☐ Change	☐ Change
Tariff B	☐ Change	☐ Change	☐ Change
All Tariffs as a Total	☐ Change	☐ Change	☑ Change

Dates
From: 04/02/2011   To: 11/02/2011
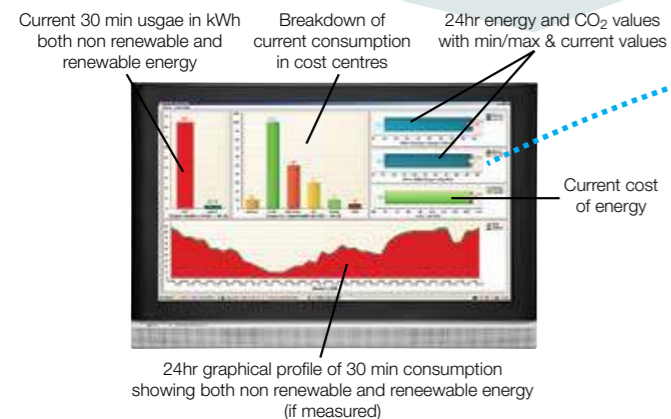
Continue   **MAIN**

"Participants in the CRC will need to measure and report their carbon emissions annually,"

Whether you are a single building company or a multi location, multinational conglomerate, Horizon enables individual meter, total site and overall group monitoring, logging and reporting of CO_2 consumption.

reduction can only start with knowledge of use . . . *tick that box*

$$CO^2 = CRC = \text{HORIZON} ✓$$

public awareness

Showing our energy awareness and commitment to reducing our carbon footprint is something we all want to do.

Horizon enables - with it's public awareness monitor - the display of current and historical energy consumption in an easy to read graphical format

Current 30 min usgae in kWh both non renewable and renewable energy

Breakdown of current consumption in cost centres

24hr energy and CO_2 values with min/max & current values

Current cost of energy

24hr graphical profile of 30 min consumption showing both non renewable and reneewable energy (if measured)

Automatically updating with every log, the display is a constant reminder of the energy usage.

Display information can be formatted to show the split of energy use and the amount of renewable energy being used.

On-line Logical View

• Alarms
• E-mails
• Graphs

Virtual Meters

invoicing

Manual and automatic invoicing is available, if subscribed, from the Horizon website. These can be raised for single or grouped meters based on the logical view configuration. Separate templates can be created for each logical group enabling specific departmental or customer invoicing.

Invoices can be created with customer logos and all invoices are created with sequential numbering. All elements of the invoice are programmable - including the description.
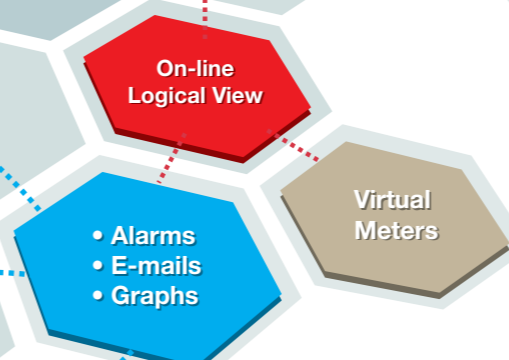
Each line represents a meter with previous and present readings, PPU and standing charges all shown clearly for client information.

Invoices can be emailed Automatically in user defined intervals, to user defined groups. The initial time and date of these invoices can be set to co-ordinate with client requirements.

A remittance advise slip is included for return payment

THE **FUTURE** OF METERING

AUTOMETERS SYSTEMS

HORIZON

8

9
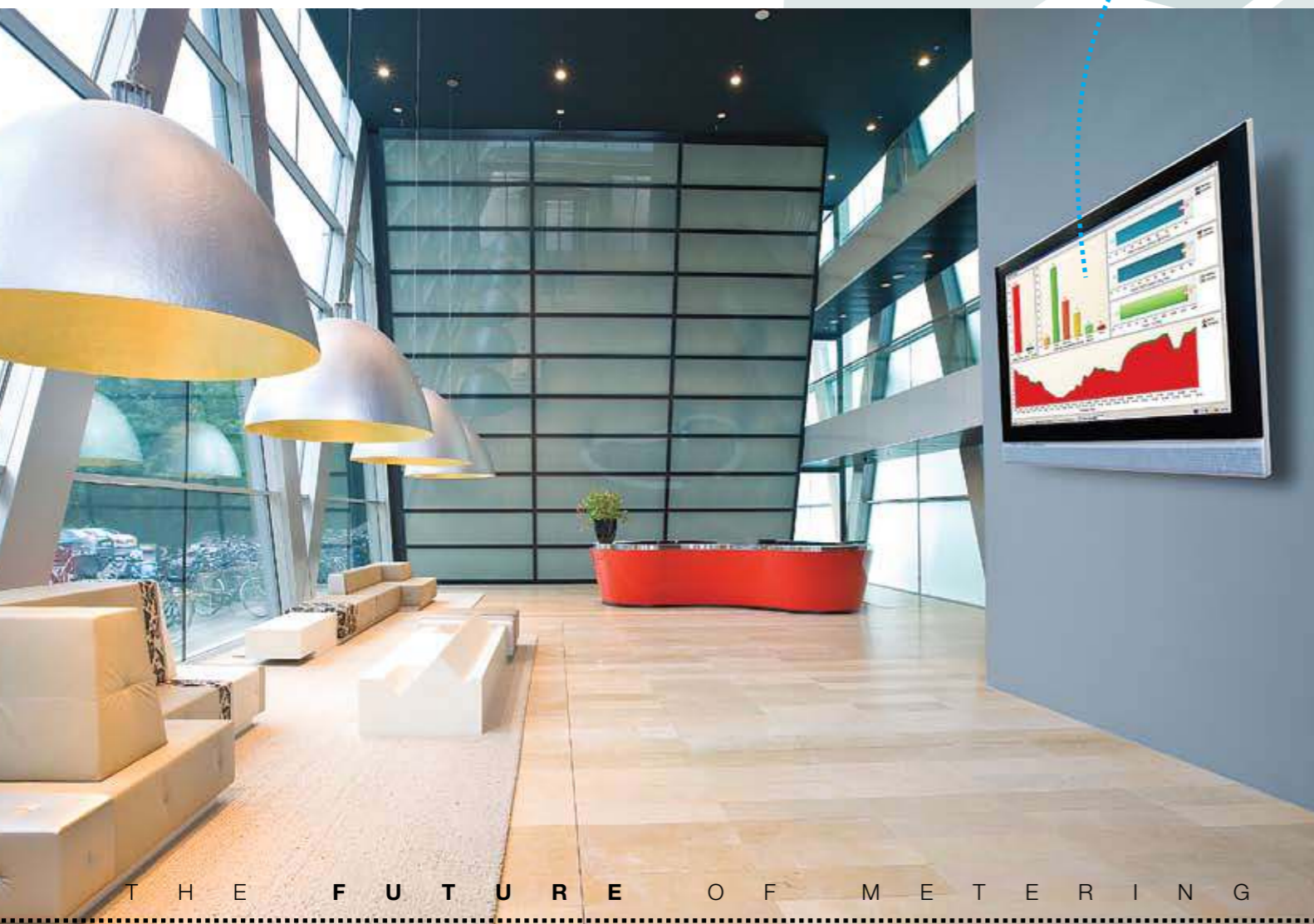
a unique multifunction **MID Approved** power meter . . . that **really delivers**

Functionality

Import Energy	kWh, kVArh, kVAh
Export Energy	kWh, kVArh
Volts	Line to Neutral, Line to Line Minimum and Maximum Values
Current	L1, L2, L3 and Neutral Minimum and Maximum Values
Power Factor	L1, L2, L3
Instantaneous kW	L1, L2, L3 and Total Minimum and Maximum Values
Instantaneous kVAr	L1, L2, L3 and Total Minimum and Maximum Values
Instantaneous kVA	L1, L2, L3 and Total Minimum and Maximum Values
Rising Demand	kW, kVAr, kVA. Minutes into period
Maximum Demand	kW, kVAr, kVA. Peak with Time and Date
Harmonics	Voltage THD, Current THD, Neutral THD
Voltage to 63 Inst	L1, L2, L3: **IC-5-9**
Current to the 63 Inst	L1, L2, L3: **IC-5-9**
Neutral Current to the 63 Inst	Neutral: **IC-5-9**
System Frequency	Hz
Hours Run	Hours, Minutes and Seconds
Configuration of Meter	Current Transformer Ratio setting
Output Pulse Values	Pulse Output Values. 1, 10, 100imp/kWh
Meter Information	Model, Serial Number, Software
Contact Details	Autometers company details
Modbus Set Up	Address, Baud Rate, Parity, Terminator, Format for connection

the **IC-5** meter

Available in two models -
**IC5-7** - a full multifunction meter with neutral current monitoring.
IC5-9 - as the IC5-7 displaying each phase and neutral harmonics to the 63rd INST.

The IC-5 - approved by SGS UK - is a new and innovative meter designed by Autometers Systems. It covers all types of installations, with MID approval annex "B" and "D" for revenue collection.

A wide range of electrical parameters available on the display - the inbuilt shorting current terminals and in line voltage fuses, the two communication channels, and the optional remote panel mounting display - make the IC-5 meter the most cost effective and beneficial meter in the market.

The IC-5 meter has been designed and manufactured to enable the consultant to specify with total confidence - and give the customer the ultimate in metering and monitoring experience. The IC-5 is a competitively priced product with high accreditations on accuracy, quality and communication making the IC-5 meter the ultimate choice.

The IC-5 connected to the ACG-5 gateway enables total flexibility in wiring monitoring communication and certification, making the combination the ideal choice for todays systems.

Specification/consultants

The AMS-5 System by Autometers consists of the IC-5 meters and the ACG-5 Certification Gateway.

MID approved with appendix "B" and "D" multifunction meter with two RS485 communication ports and built in current transformer shorting links. Meter to display KWh, KVarh. KVah, Time and Date stamp Maximum Demand, Volts, Amps, Power factor and Harmonics to the 63rd Inst.

ACG-5 certification gateway - system 5

ACG-5 is the latest development from Autometers moving the installation of electricity meters with communication to a new level. Answering the needs of the market where meters are required to be fitted with Modbus RS485 and then wired from the meter to an external junction box for onward connection to a building management system.

The ACG-5 is an intelligent gateway providing a patch lead connection system with an inbuilt test facility. This provides a simple, accurate installation and a means to provide certification of connectivity and communication prior to despatch from the manufacturing facility. The ACG-5 has been designed to enable either one display per meter, or two or more displays for client selectable "groups" of meters, i.e Lighting, Power etc, this give the client full flexibility and ensures that the system is both engineering complete and user functional.
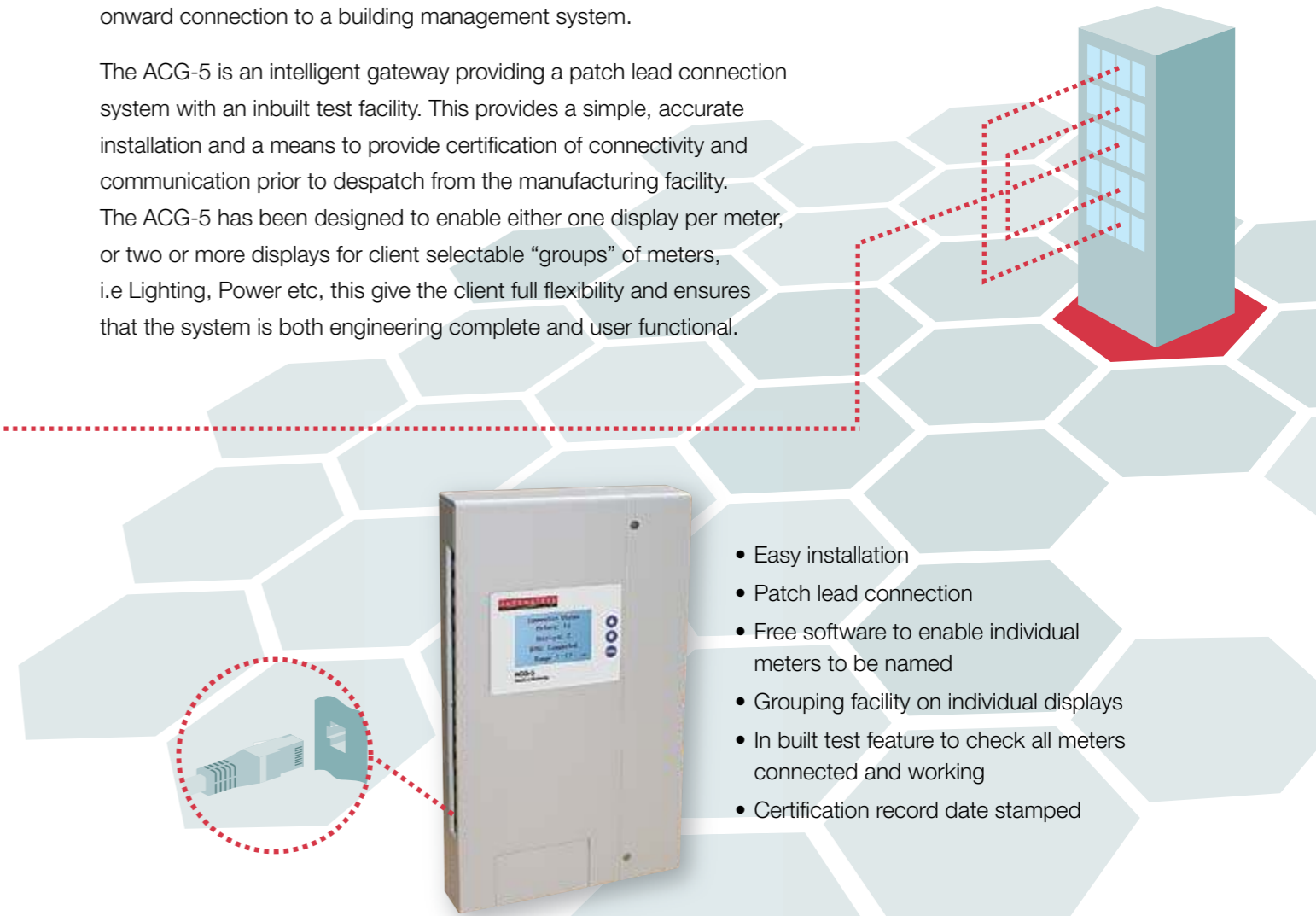
- Easy installation
- Patch lead connection
- Free software to enable individual meters to be named
- Grouping facility on individual displays
- In built test feature to check all meters connected and working
- Certification record date stamped

SYSTEM - 5

The ACG-5 with the IC-5 meter completes an ideal metering system, the IC-5 with MID (appendix "B" and "D") approval. Its built in features, remote display and Modbus socket enables the metering package to be the first in a new metering system for data collection. No more concerns about what cable to use for the Modbus system, which meter to add the resistor to, what Modbus number must be programmed into the meter and what type of junction box should be used.

The ACG-5 with the IC-5 meter removes all those concerns, the unique design of the gateway and the meter allows simple and easy installation. The communication is now completed by using Autometers patch leads enabling a quick and simple installation.
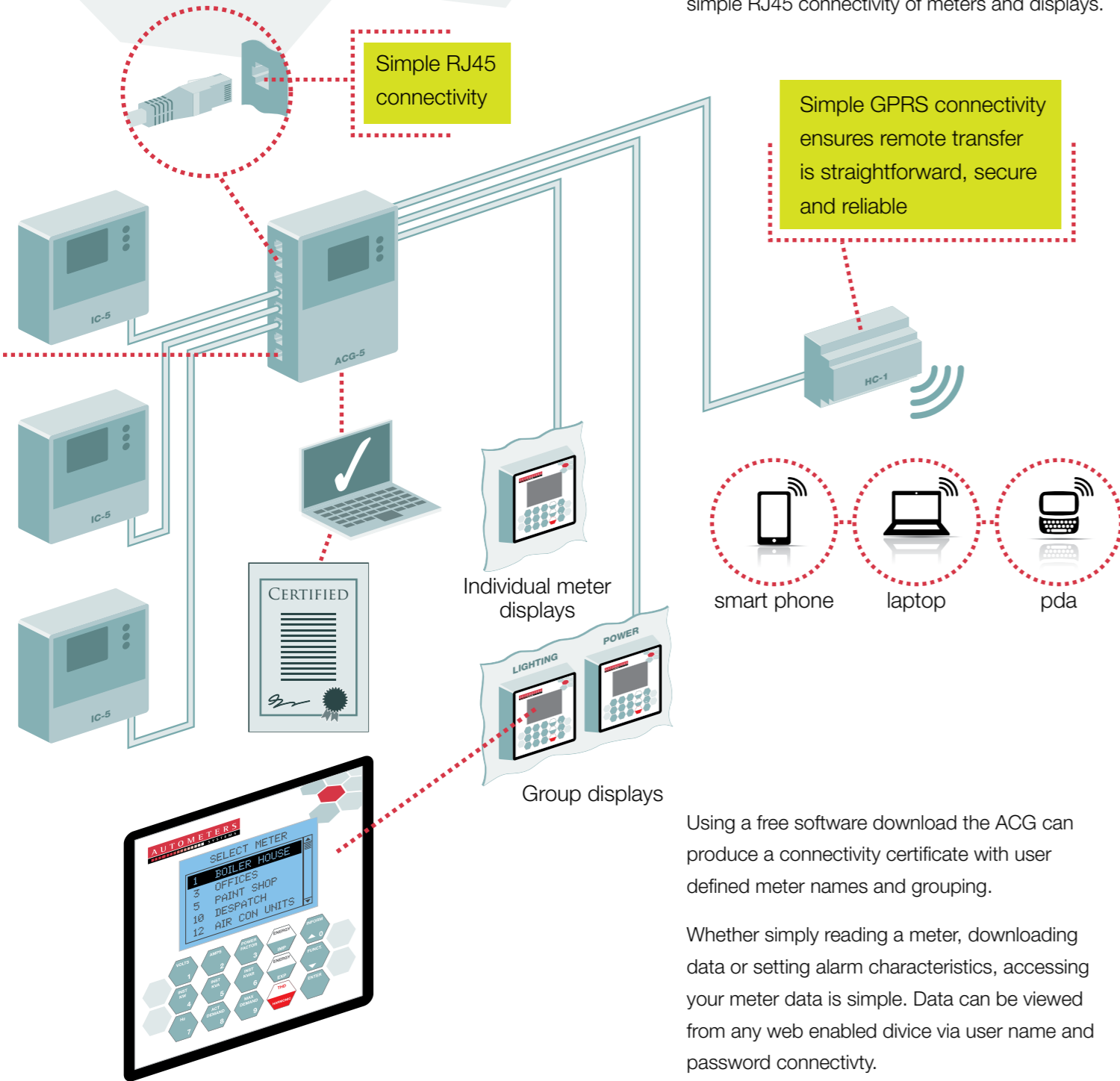
The ACG-5, Autometers new intelligent gateway - *the future of all metering systems*.

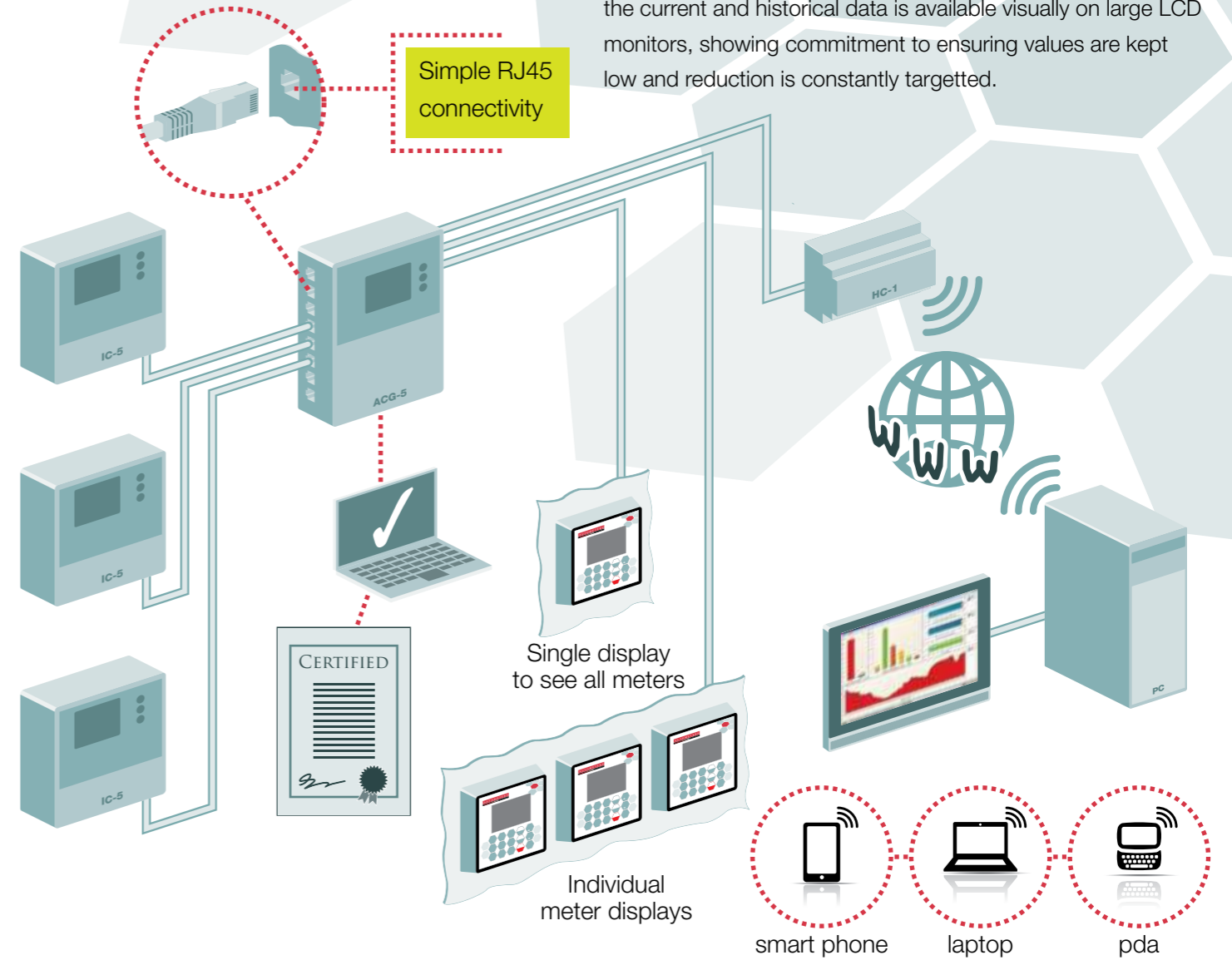# unique metering system . . . **Horizon**
benefit from the **future** . . . **today**

The Autometers Certified Gateway enables simple RJ45 connectivity of meters and displays.

Simple RJ45 connectivity

Simple GPRS connectivity ensures remote transfer is straightforward, secure and reliable

With Carbon and CO2 emmission reduction high on everyones agenda, the addition of the Public Awareness Monitor ensures the current and historical data is available visually on large LCD monitors, showing commitment to ensuring values are kept low and reduction is constantly targetted.

Simple RJ45 connectivity

IC-5
IC-5
IC-5
ACG-5
HC-1

CERTIFIED

Individual meter displays

smart phone   laptop   pda

LIGHTING   POWER

Group displays

SELECT METER
1 BOILER HOUSE
3 OFFICES
    PAINT SHOP
5 DESPATCH
12 AIR CON UNITS

Using a free software download the ACG can produce a connectivity certificate with user defined meter names and grouping.

Whether simply reading a meter, downloading data or setting alarm characteristics, accessing your meter data is simple. Data can be viewed from any web enabled divice via user name and password connectivty.

HC-1
IC-5
IC-5
IC-5
IC-5
ACG-5

CERTIFIED

Single display to see all meters

Individual meter displays

smart phone   laptop   pda

PC
WWW

• Simple RJ45 plug and play connectivity
• No individual modbus addressing required
• Free programming software
• Connectivity certification
• Single or multiply display options with user settable grouping of meters, i.e. lighting, power etc.

• GPRS connectivity to Horizon web server
• Remote monitoring of individual or all meters via PC, smart phone or PDA
• Public awareness monitor option
• Single or multiply display options

www.**autometers**horizon.co.uk/**METERS**

AUTOMETERS SYSTEMS

HORIZON