G3-PLC Alliance

G3-PLC TECHNOLOGY   APPLICATIONS   G3-PLC ALLIANCE   CERTIFICATION   VIDEOS / PRESENTATIONS   NEWS / EVENTS   LOGIN   Q

Proven and robust powerline communicat

Objectives

- *To support the G3-PLC Alliance in promoting G3-PLC for the African market*
- *G3-PLC is an open international standard for power-line communications for smart metering*
- *Three key points are highlighted on the G3-PLC Alliance website:*
  - *Cost effective*
  - *Robust*
  - *Interoperable*

Cost effective

Minimizes infrastructure and maintenance costs by communicating over the existing powerlines.

Robust

Designed for harsh network conditions; G3-PLC robust mode enables communication under noisy conditions.
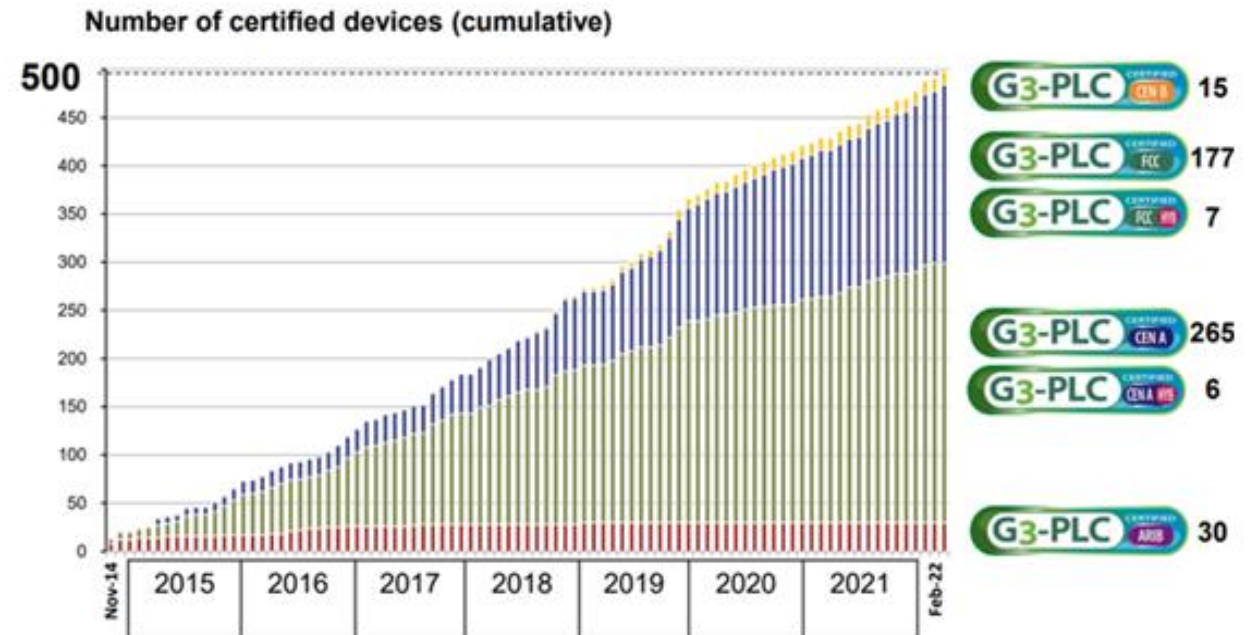
Interoperable

International standard with strong certification program guarantees interoperable solutions

![Enlit logo] **Enlit** Your inclusive guide to the energy transition.

G3-PLC Technology: Highlights

- **Cost effective**: Minimizes infrastructure and maintenance costs by communicating over the existing powerlines

- **Robust**: Designed for harsh network conditions; G3-PLC robust mode enables communication under noisy conditions

- **Interoperable**: International standard with strong certification program guarantees interoperable solutions

- **Proven**: Over 80 million G3-PLC products in operation in more than 30 countries worldwide
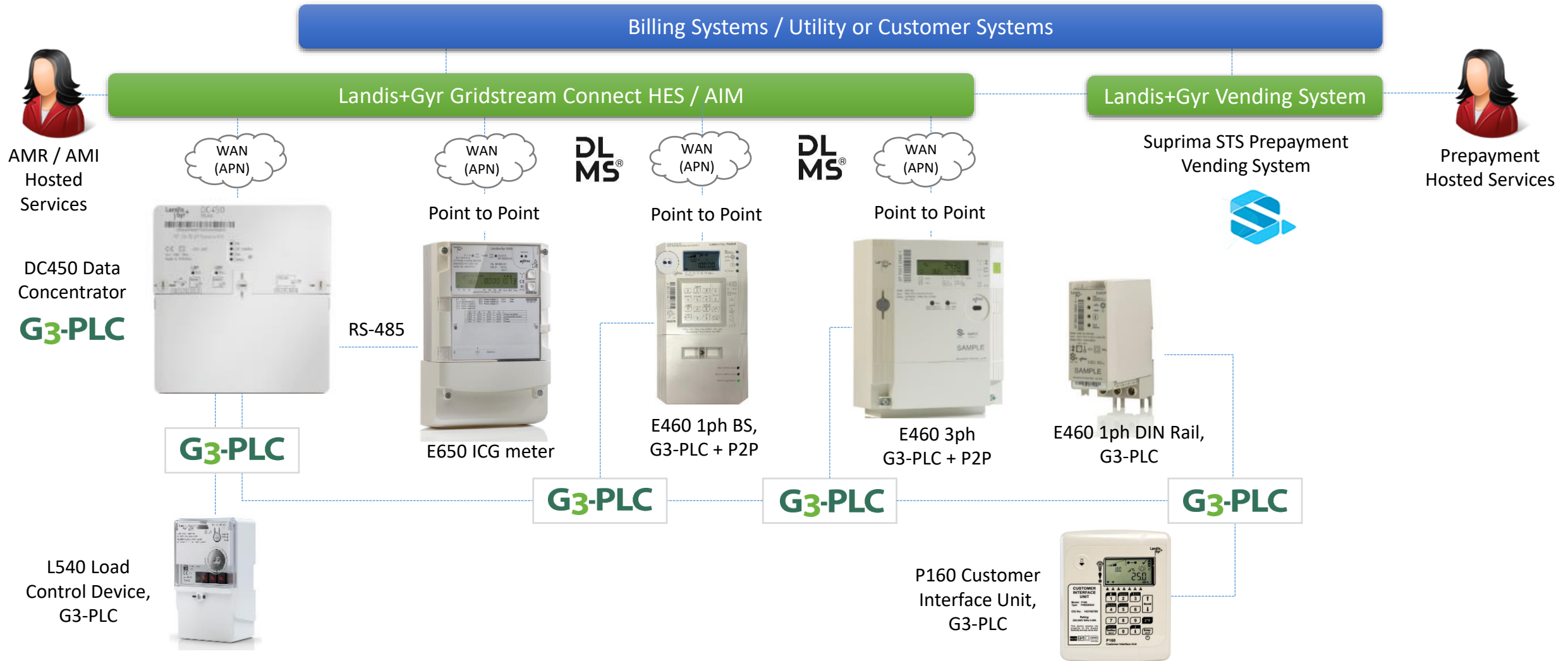
Main Objectives of the G3-PLC Alliance

- Maintain and enhance the G3-PLC standard

- Operate international certification program to enable interoperability amongst different manufacturers

- Promote the value, benefits and applications of G3-PLC technology globally
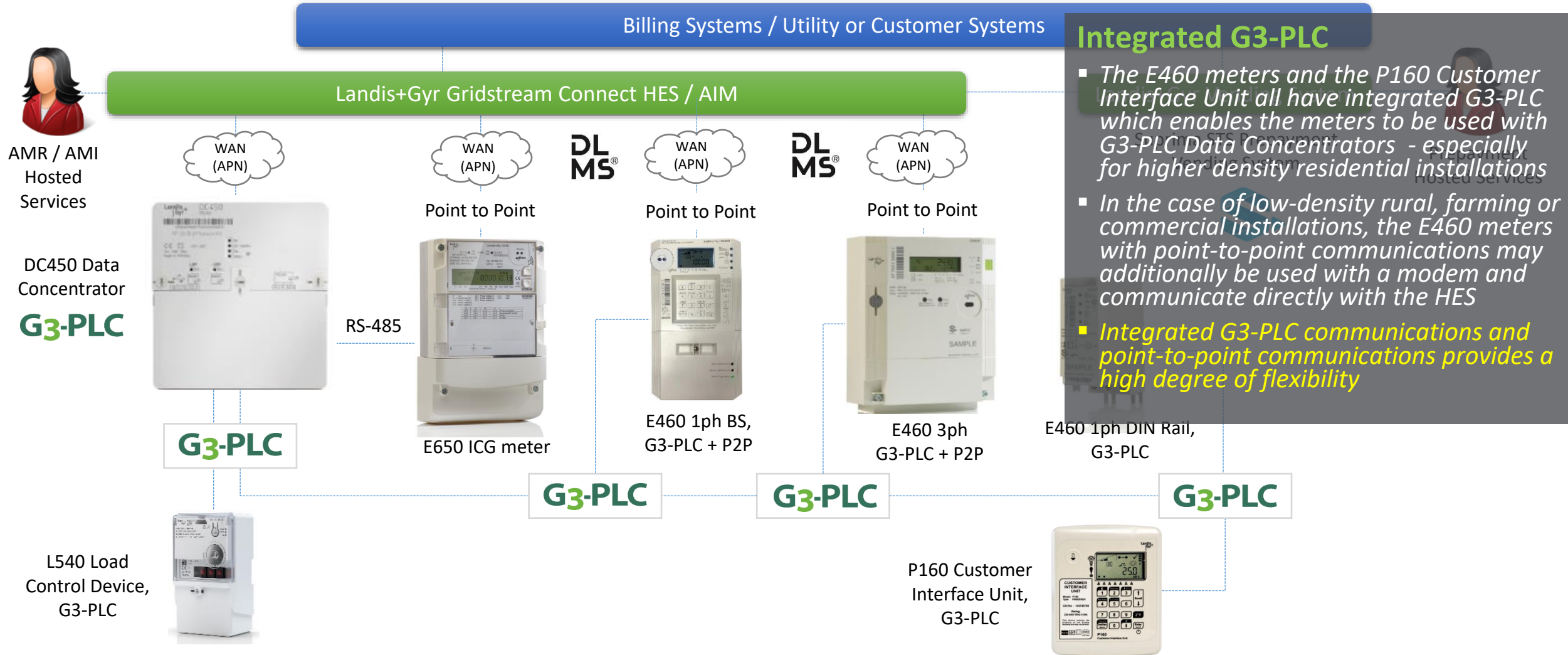

Number of certified devices (cumulative)

- G3-PLC (CEN B) 15
- G3-PLC (FCC) 177
- G3-PLC (FCC HYB) 7
- G3-PLC (CEN A) 265
- G3-PLC (CEN A HYB) 6
- G3-PLC (ARIB) 30

Growth in the use of technology and the G3-PLC certified devices gives peace of mind to manufacturers and utilities

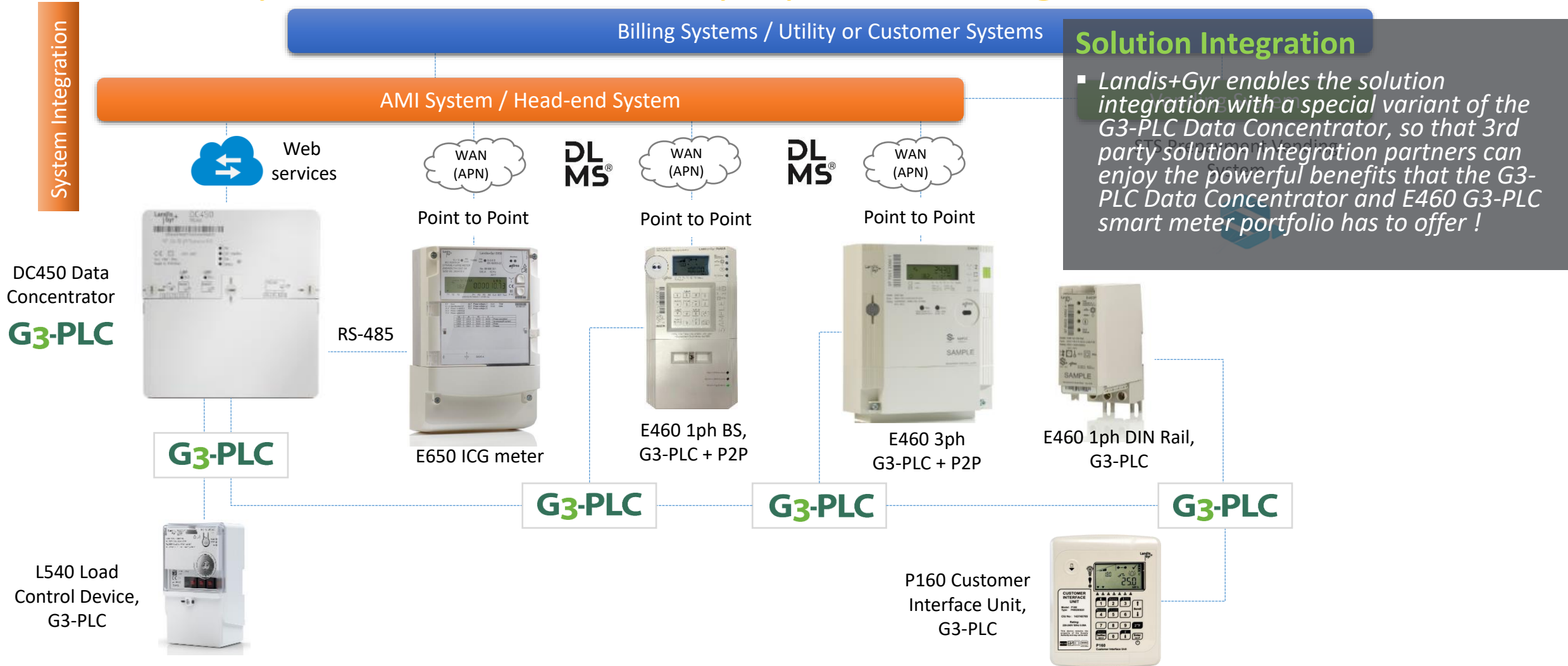# Landis+Gyr Solution Architecture using G3-PLC Technology

Billing Systems / Utility or Customer Systems

Landis+Gyr Gridstream Connect HES / AIM

Landis+Gyr Vending System

AMR / AMI Hosted Services

Prepayment Hosted Services

WAN (APN)

WAN (APN)

DLMS

WAN (APN)

DLMS

WAN (APN)

Suprima STS Prepayment Vending System

Point to Point

Point to Point

Point to Point

DC450 Data Concentrator

G3-PLC

RS-485

E460 1ph BS, G3-PLC + P2P

E460 3ph G3-PLC + P2P

E460 1ph DIN Rail, G3-PLC

E650 ICG meter

G3-PLC

G3-PLC

G3-PLC

G3-PLC

L540 Load Control Device, G3-PLC

P160 Customer Interface Unit, G3-PLC

Landis+Gyr Solution Architecture using G3-PLC Technology

Billing Systems / Utility or Customer Systems

Landis+Gyr Gridstream Connect HES / AIM

AMR / AMI Hosted Services

WAN (APN)

WAN (APN)

DLMS

WAN (APN)

DLMS

WAN (APN)

Point to Point

Point to Point

Point to Point

DC450 Data Concentrator

G3-PLC

RS-485

G3-PLC

E650 ICG meter

E460 1ph BS, G3-PLC + P2P

E460 3ph G3-PLC + P2P

E460 1ph DIN Rail, G3-PLC

G3-PLC

G3-PLC

G3-PLC

L540 Load Control Device, G3-PLC

P160 Customer Interface Unit, G3-PLC

Integrated G3-PLC

- *The E460 meters and the P160 Customer Interface Unit all have integrated G3-PLC which enables the meters to be used with G3-PLC Data Concentrators - especially for higher density residential installations*

- *In the case of low-density rural, farming or commercial installations, the E460 meters with point-to-point communications may additionally be used with a modem and communicate directly with the HES*

- *Integrated G3-PLC communications and point-to-point communications provides a high degree of flexibility*

Landis+Gyr Solution: 3ʳᵈ Party System Integration

System Integration

Billing Systems / Utility or Customer Systems

AMI System / Head-end System

Solution Integration

- *Landis+Gyr enables the solution integration with a special variant of the G3-PLC Data Concentrator, so that 3rd party solution integration partners can enjoy the powerful benefits that the G3-PLC Data Concentrator and E460 G3-PLC smart meter portfolio has to offer !*

Web services

WAN (APN)

DL MS®

WAN (APN)

DL MS®

WAN (APN)

Point to Point

Point to Point

Point to Point

DC450 Data Concentrator

G3-PLC

RS-485

G3-PLC

E650 ICG meter

E460 1ph BS, G3-PLC + P2P

G3-PLC

E460 3ph G3-PLC + P2P

G3-PLC

E460 1ph DIN Rail, G3-PLC

G3-PLC

L540 Load Control Device, G3-PLC

P160 Customer Interface Unit, G3-PLC

Landis+Gyr Solution: G3-PLC Implementation

Off-line

On-line

E460 meter forms its own PAN and the P160 CIU connects to meter PAN – this allows off-line architecture in the absence of a G3-PLC Data Concentrator

E460 meter joins DC PAN and P160 CIU connects to the meter via the DC PAN and this allows on-line architecture in the presence of a G3-PLC Data Concentrator
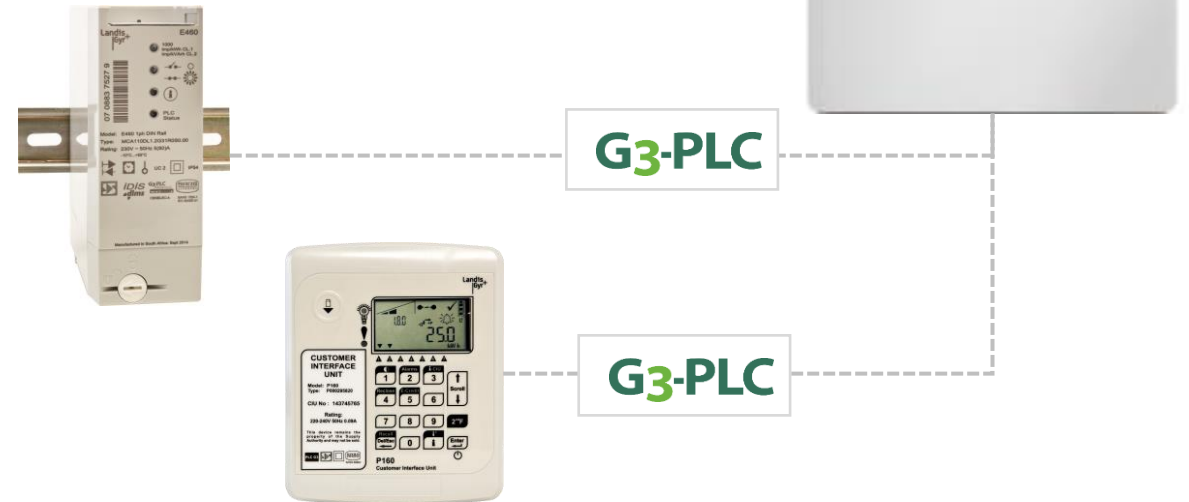
G3-PLC

G3-PLC

G3-PLC

Data Concentrator Functionality: G3-PLC

Topology Views

Topology Views
- *Visibility of the G3-PLC topology*
- *Node colours indicate communications quality*
- *Node information includes short address and system server title of the device/s*

Topology Views

Valuable Tools – Communications Quality

Quality

Showing 254 of 254 items

Mac	Systitle	Serial	Sent	Received	Quality	Status	Last Status Change			
						⌄				
000F93FFFD46B796	4C475A6603980AA8	60295848	27992	27634	98%	OK	2022-04-24 18:32:03			
000F93FFFD46B798	4C475A6603980AAA	60295850	29478	29077	98%	OK	2022-04-24 18:30:40			
000F93FFFD46B79B	4C475A6603980AAD	60295853	31881	31342	98%	OK	2022-04-24 18:49:58			
000F93FFFD46B7A2	4C475A6603980AB4	60295860	29473	28937	98%	OK	2022-04-24 18:41:36			
000F93FFFD46B7A4	4C475A6603980AB6	60295862	29085	28715	98%	OK	2022-04-24 18:33:31			
000F93FFFD46B7A5	4C475A6603980AB7	60295863	31181	30579	98%	OK	2022-04-24 18:46:31			
000F93FFFD46B7A6	4C475A6603980AB8	60295864	31822	31205	98%	OK	2022-04-24 18:44:16			
000F93FFFD46B7A7	4C475A6603980AB9	60295865	32116	31096	96%	OK	2022-04-24 18:38:38			

Valuable Tools – PLC Utilities

PLC Utilities

- *The Landis+Gyr G3-PLC Data Concentrator provides powerful PLC utilities such as PING to G3-PLC devices for fault finding and network analysis*
- *PLC utilities also include the ability to construct dlms get, set and action commands to the G3-PLC metering devices*

The main customer / utility benefits & value

- **Peace of mind** that the technology is internationally adopted and an open standard for smart meters and smart grids

- **G3-PLC certified** Data Concentrators provide powerful tools and visibility of your metering assets

- G3-PLC provides **robust communications** over existing power-lines, therefore providing cost effective communications in high density residential or commercial environments

- Visibility of topology and communications statistics for fault finding and analysis

G3-PLC Alliance

Proven and robust powerline communication for the smart grid

Cost effective
Minimizes infrastructure and maintenance costs by communicating over the existing powerlines.

Robust
Designed for harsh network conditions; G3-PLC robust mode enables communication under noisy conditions.

Interoperable
International standard with strong certification program guarantees interoperable solutions

For any additional information, please do not hesitate to contact Dave Tarr (dave.tarr@landisgyr.com)