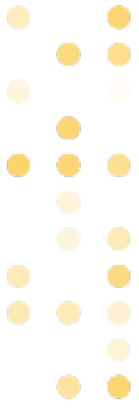


Benefits of Applying Intelligent PDU Solutions

Arno Stofberg
BDM Datacenter Solutions



THE GROUP IN FIGURES

In 2022 :

Close to
8.3B€ turnover

More than
**38 000
employees**

CSR Achievement rate

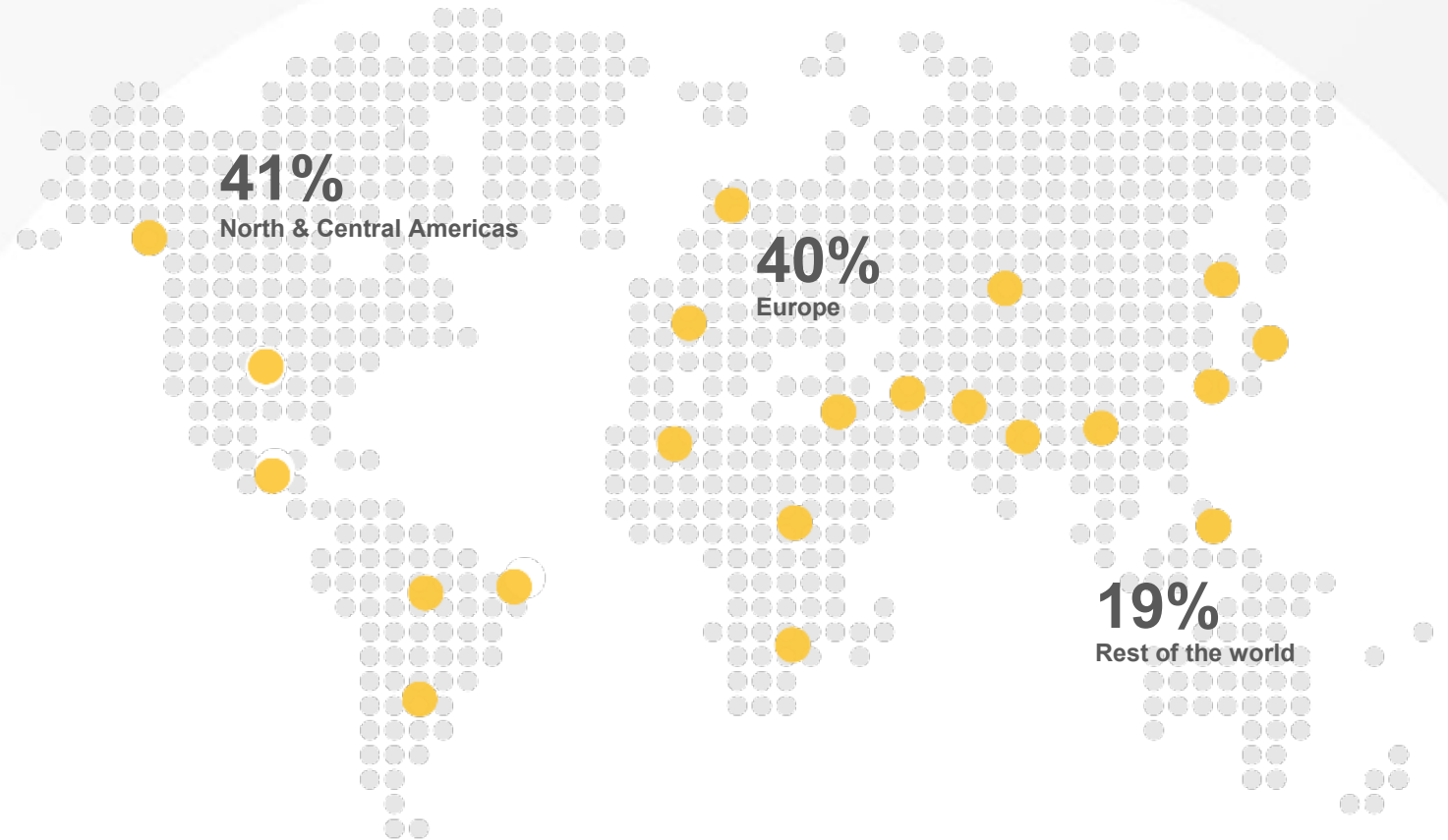
123%

Present on
5 continents

Located in
90 countries

Distributed in
170 countries

TURNOVER BY GEOGRAPHIC AREA





SPECIALIST BRANDS

BORRI

Specialist in UPS for industrial applications and datacenters.

CABLOFIL

Using its global strength and market leading position, Cablofil has developed a complete range of cable management solutions.

COMPOSE

Specialist in passive data communication solutions, cabling of data centers, buildings and fiber optic infrastructures.

GEIGER

Data center fiber optic infrastructures, data center design and DCIM (monitoring & management) service and implementation.

MINKELS

Turn-key hot/cold aisle containment and enclosures for data center infrastructures.

modulan

Provider of fully customizable containment solutions. Maximum flexibility to cover customer needs.

Raritan.

Proven leader of intelligent PDUs, transfer switches, environmental sensors, serial consoles and KVM-over-IP Remote Access switches.

Server Technology.

Leading specialist in customer-driven power, access and control solutions for monitoring and managing critical IT assets.

Starline.

Starline has grown to become a global leader in busbar power distribution equipment

ZUCCHINI

Zucchini has become a leading brand of cast resin transformers, offering one of the most comprehensive ranges on the market.

USystems



INTELLIGENT RACK PDU

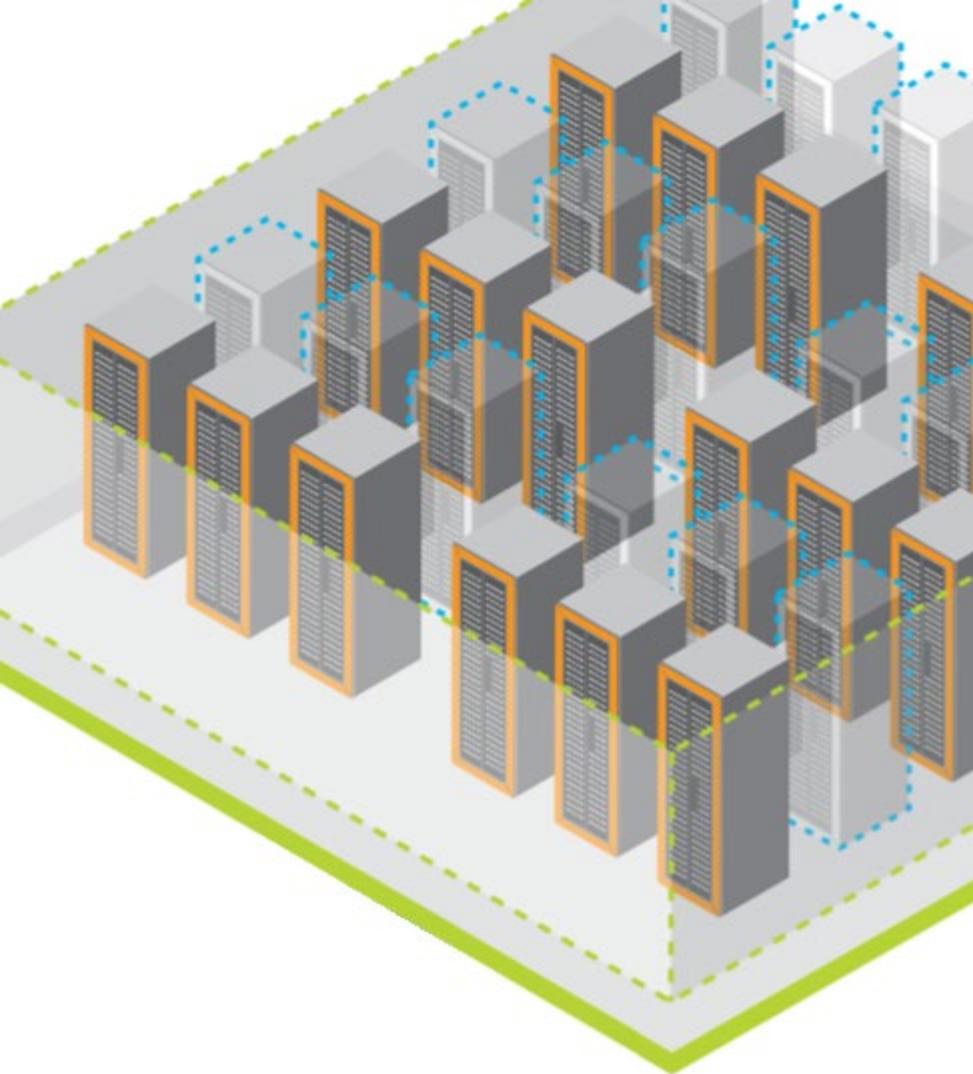
2020 Market share :

| | |
|-----------------------------|-------|
| 1 Legrand | 28,5% |
| 2 APC by Schneider Electric | 21,0% |
| 3 Vertiv | 13,5% |
| 4 Eaton | 5,0% |
| 5 Chatsworth Products (CPI) | 2,5% |
| 6 CyberPower | 2,0% |

Better understanding of data center cost and lifespan

Raritan & Server Technology





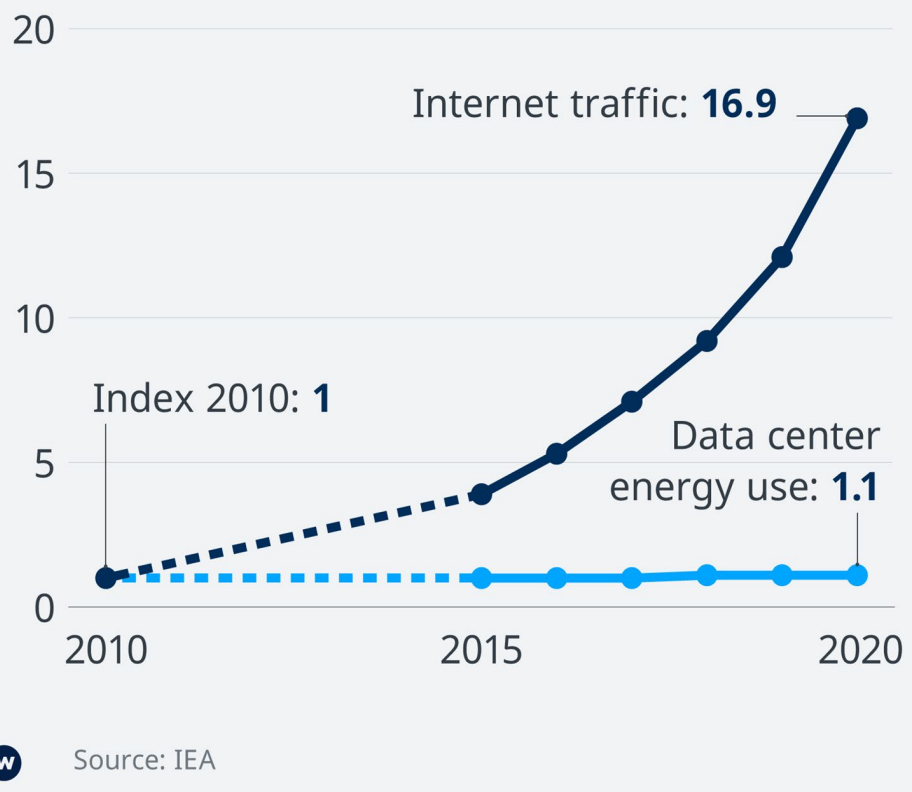
CBRE

MANY FACTORS TO CONSIDER

EQUIPMENT LIFE EXPECTANCY...

- AVERAGE DATA CENTER LIFE EXPECTANCY 10-15 years
- DEFINED PDU LIFE EXPECTANCY* 8-12 years
- AVERAGE LIFE EXPECTANCY OF A SERVER 3-5 years
- IT EQUIPMENT'S REFRESH CYCLE 2-5 years

...WOULDN'T YOU WANT
A POWER INFRASTRUCTURE THAT'S
RELIABLE, FEATURE RICH AND FUTURE PROOF?



POWER CONSUMPTION SEEMS STABLE

- EFFICIENCY & OPTIMALISATION
- DENSITY & VIRTUALIZATION
- REDUNDANCY IMPACTS EFFICIENCY

...IS YOUR INFRASTRUCTURE SUFFICIENTLY REDUNDANT WHILE OPERATING IN AN EFFICIENT WAY?

RENOWNED

POWER

REVOLUTIONARY

INTELLIGENCE

INTRODUCING THE ALL-NEW

4th Gen Raritan iPDU



Power Distribution Units

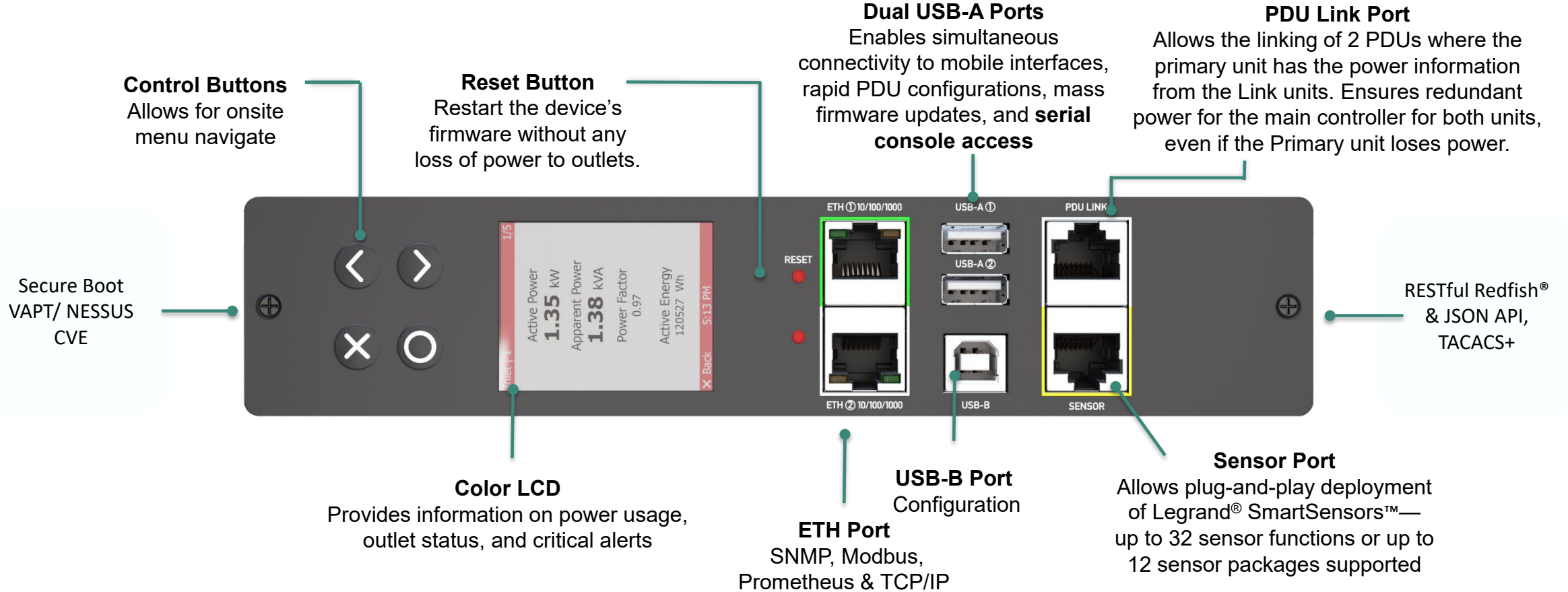
INTRODUCTION

MAJOR CHALLENGES NEARLY ALL DATA CENTERS NOW FACE

- Power **capacity** and provisioning
- Energy management
- Environment management
- Physical and network **security**
- Remote control and management

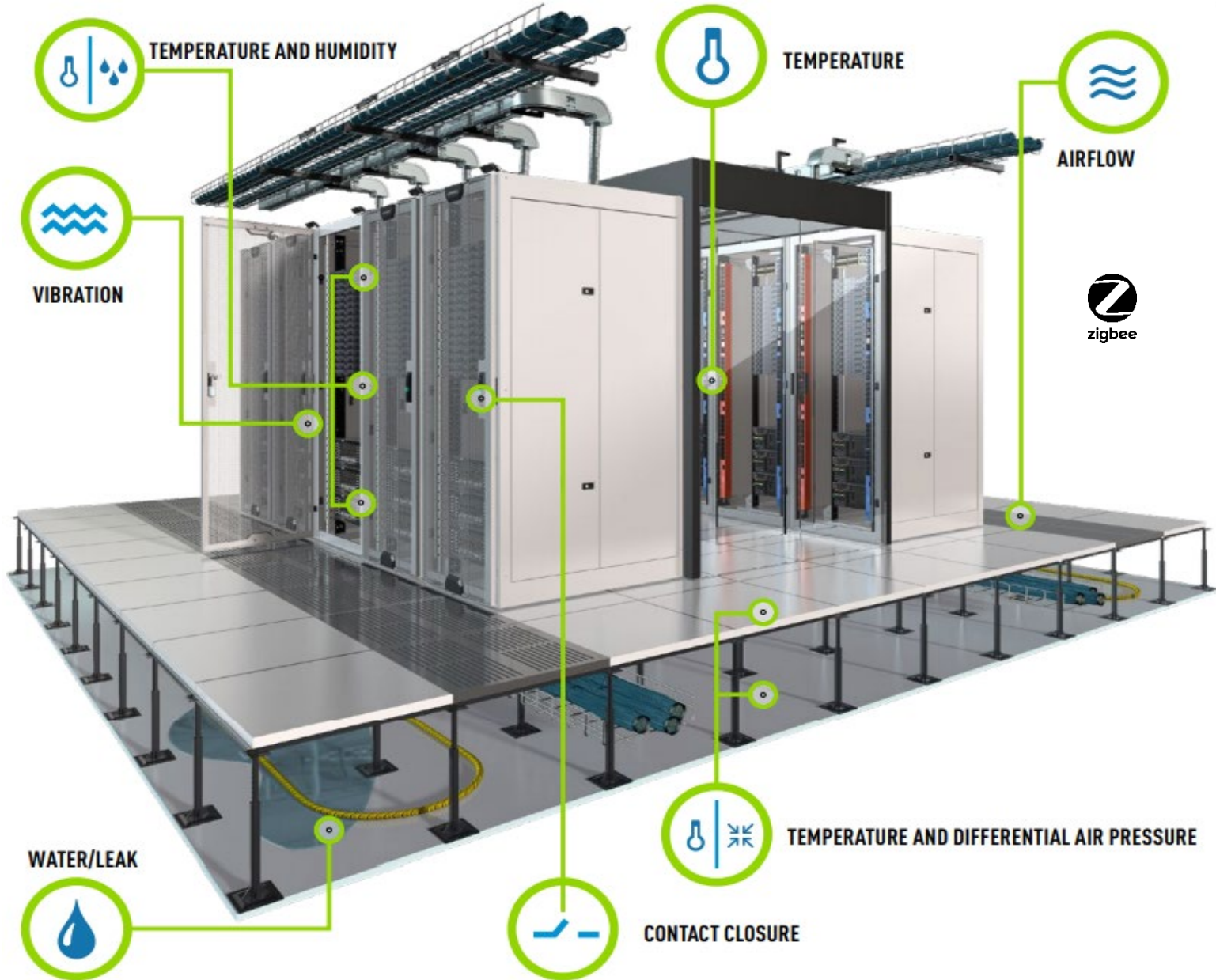
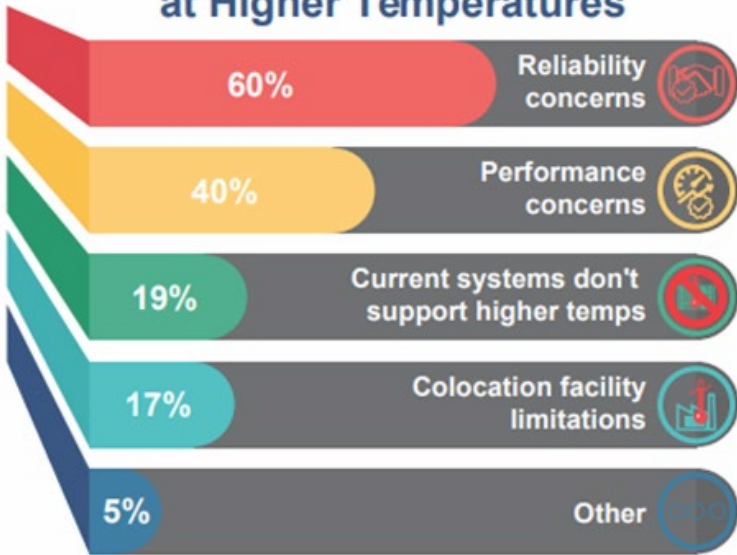


PX4 IX CONTROLLER



PX4 SENSOR SUPPORT

Concerns with Running at Higher Temperatures

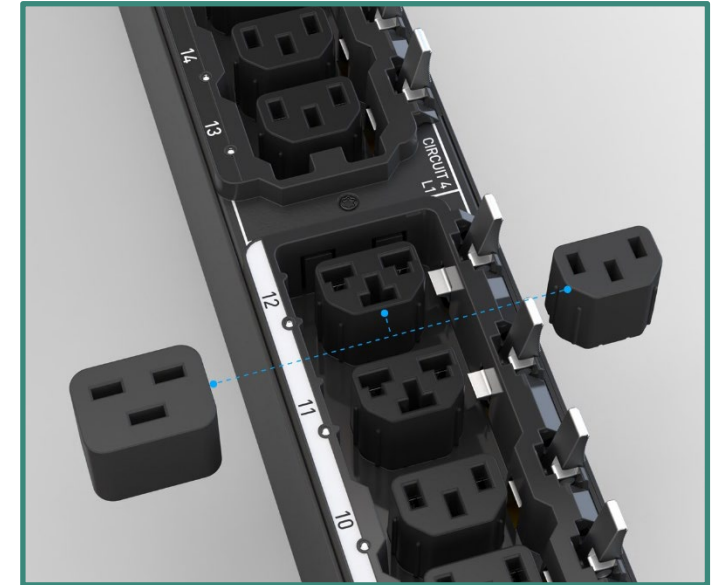


PX4 Rack PDUs

HDOT Cx Outlets

Our patented and industry-first Cx Outlet **combines an IEC C13 and C19 into one flexible high-density outlet**, accommodating both C14 and C20 plugs.

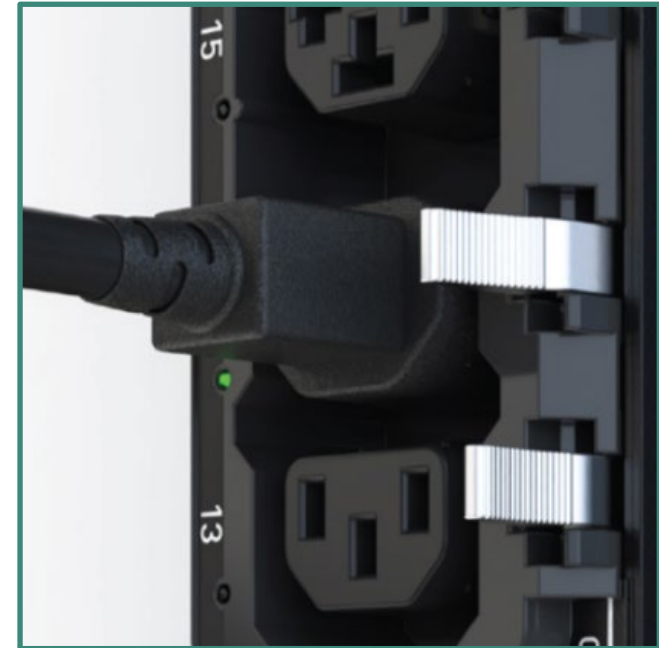
Reliable alternative to modular PDUs.



PX4 Rack PDUs

RamLock Mechanical Locking Technology

RamLock is a rugged, intuitive, and high-strength **outlet and power cord locking system** that secures C14 and C20 plugs to the PDU without requiring special cables, sleeves, or adapters.

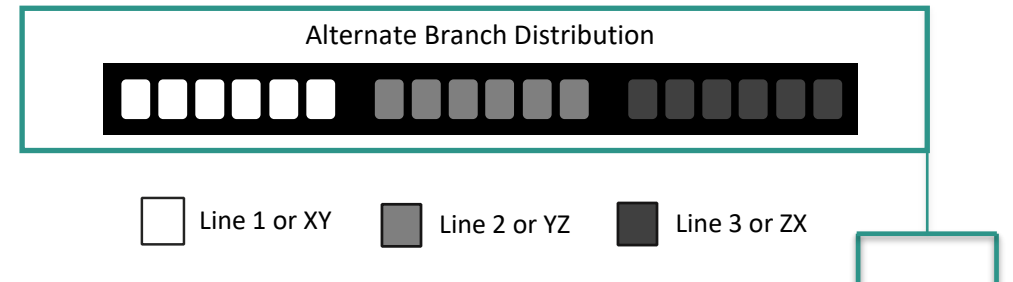


PX4 Rack PDUs

Alternating Phase Power Distribution

A single column of outlets **distributes three-phase power on a per outlet basis down the entire length of the PDU.**

Each outlet is in a repeating and easily distinguishable pattern to evenly distribute the power over the entire rack.



PX4 Rack PDUs

Bi-Stable Latching Relays

- Biggest value = less energy and less heat
- Sophisticated outlet-sequencing to power on/off outlets individually or in groups, or in a prescribed order, to minimize high inrush performance
- Relays maintain their switching position in the event of a power supply failure.



Metering technology, accuracy and applications

CE **M11** **4751**

01 02 03

- 01 EU Consumer Safety Directive compliance
- 02 MID 'M' metrology mark, plus 2-digit year of manufacture
- 03 Approving Notified Body reference number

PX4

Power Quality Measurements

Offers the most **complete and accurate ($\pm 0.5\%$) set of power quality monitoring and metrics, at the rack.**

IEC 61557-12 PMD III

EN 50600-2=2

IEC 62053-22 Class 0.5S

| | Level 1 (Basic) | Level 2 (Intermediate) | Level 3 (Advanced) |
|---|----------------------------|---------------------------------------|---|
| IT Equipment Power Measurement From... | UPS | PDU | Server,.... |
| Total Facility Power Measurement From... | Data Center input power | Data Center input less shared HVAC | Data Center input less shared HVAC plus building lighting, security... |
| Minimum Measurement Interval | Monthly/Weekly | Daily | Continuous (xx min) |

Inlet

Outlet

Circuit
Breaker



Advanced Power Quality Measurements

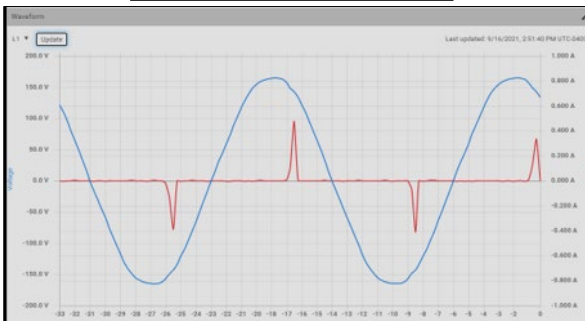
Offers the most **complete and accurate ($\pm 0.5\%$) set of power quality monitoring and metrics, at the rack.**

IEC 61557-12 PMD III

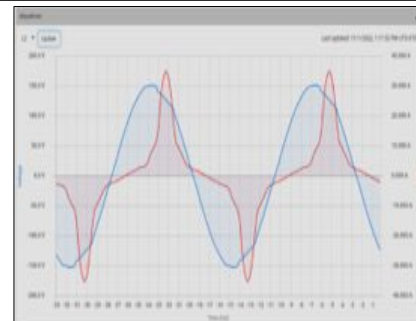
EN 50600-2=2

IEC 62053-22 Class 0.5S

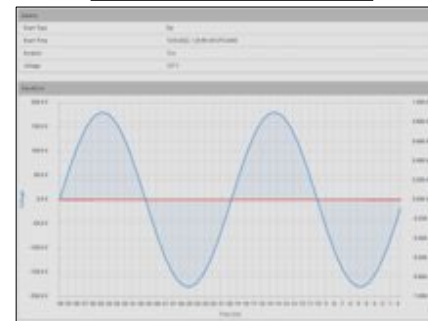
Waveform Capture



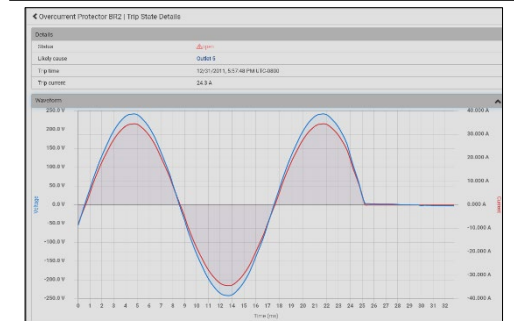
Continuous Harmonic Monitoring and Alerting



Voltage Dips & Swells



Circuit Breaker Trip Forensics



PX4 TAKEAWAYS

- The latest generation of the Global market Leader
- Advanced and accurate metering
- Market leading feature set
- Reliable and efficient switching
- Secure and dynamic firmware



Thank you!

Arno Stofberg
BDM Data Center Strategy

Select your PDU
www.findmypdu.com