

HEPTech ACADEMIA – INDUSTRY MATCHING EVENT ON
TECHNOLOGY OF CONTROLS ON ACCELARATORS & DEDECTORS
DEC 2&3, 2013, DEMOKRITOS, ATHENS



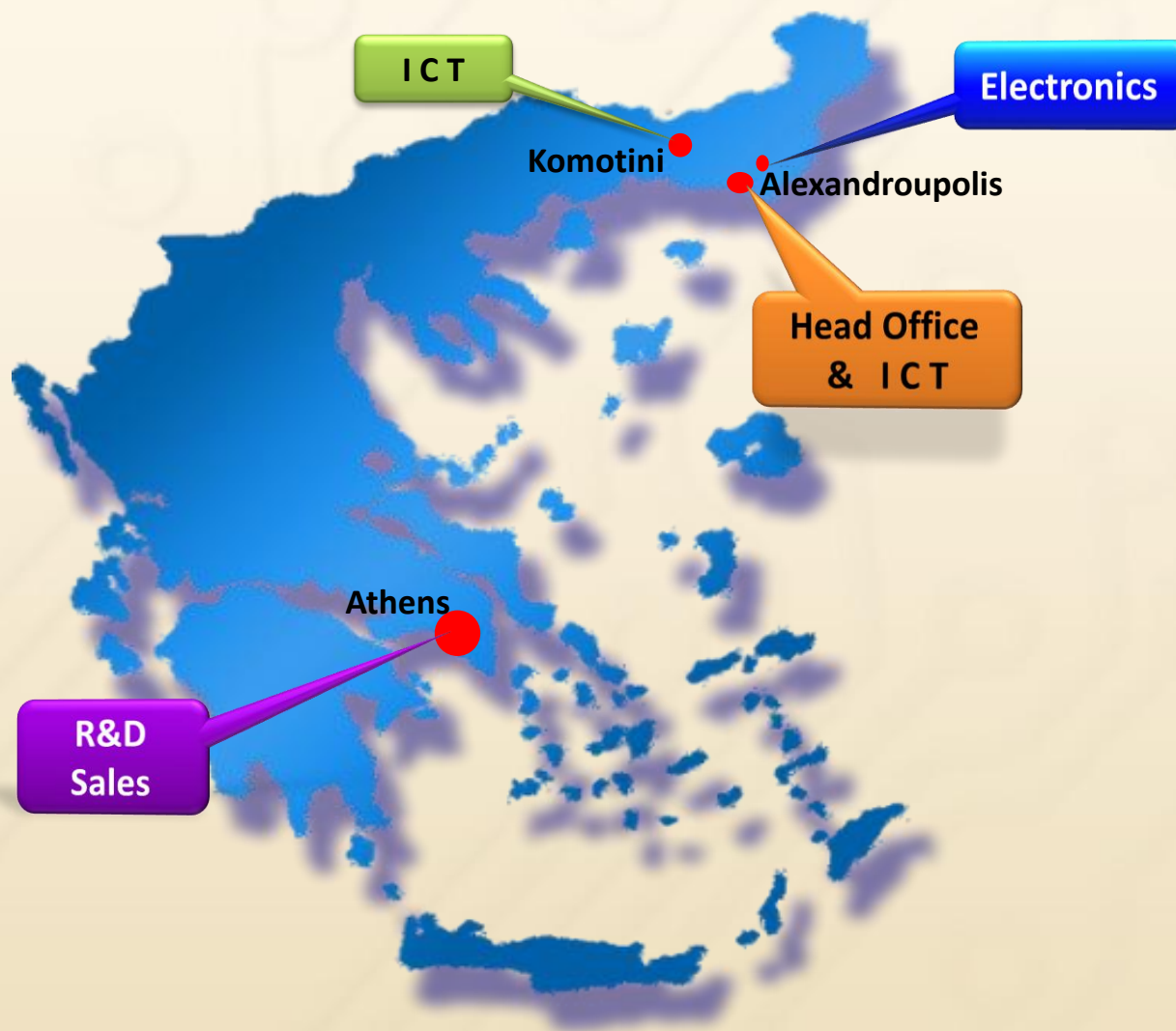
Petros P. Soukoulis
Scientific/Advisory Board

Prisma Electronics

Established : 1991
Location : Alexandroupolis
Personnel : 46
Fields of Activity : Electronics, ICT, R&D
Turnover (2012) : 3,4 MEuro
Quality System : ISO 9001:2008



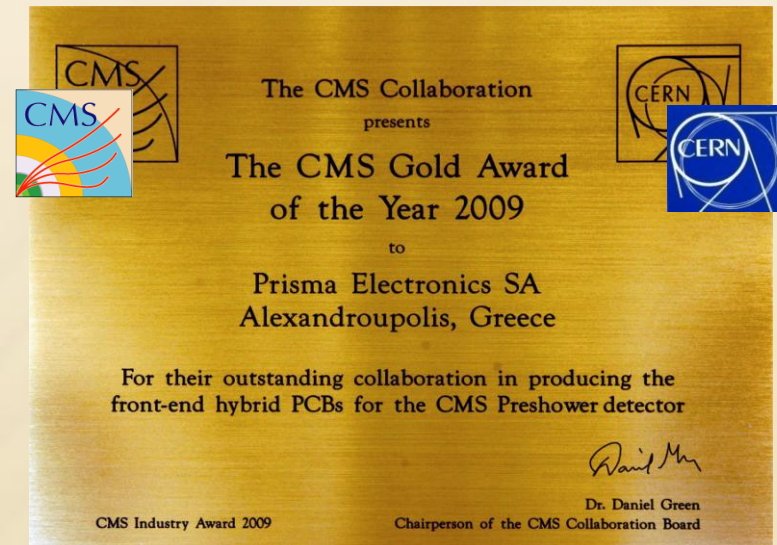
Prisma Electronics



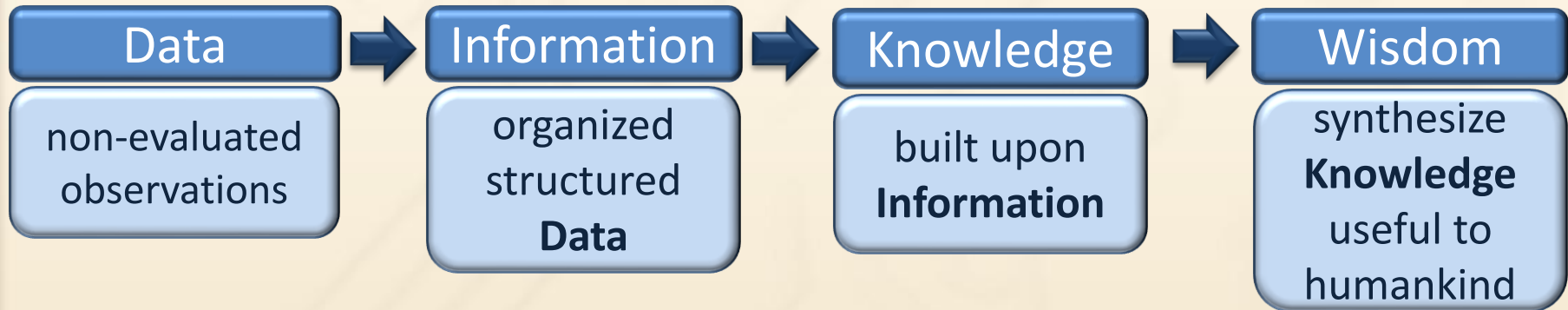
Member of : Microelectronics Inno Cluster
: Space Inno Cluster

ESA Manufacturer

CERN Manufacturer
& R&D partner



From row Data to ... Wisdom



Need for more



Row Data

One of the most reliable sources to acquire data are ...



**devices which measure physical quantity
and convert it into a readable signal**

PrismaSense / Technology



A reliable and flexible communication platform operating on specifically designed Hardware and Software.

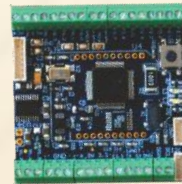
Employing intelligent algorithms processes and evaluates data, collected via different types of sensors and instruments

PrismaSense / Components

Sensors



Collectors



Routers



Gateways



I
S
O
S

Output delivered

- Analog Voltage
- 4-20mA Analog Current
- Serial
- Digital
- I2C

Embedded

- Humidity
- Temperature
- Accelerometers
- Clinometers
- Gyroscopes
- Gas sensors (O₂, CO₂)

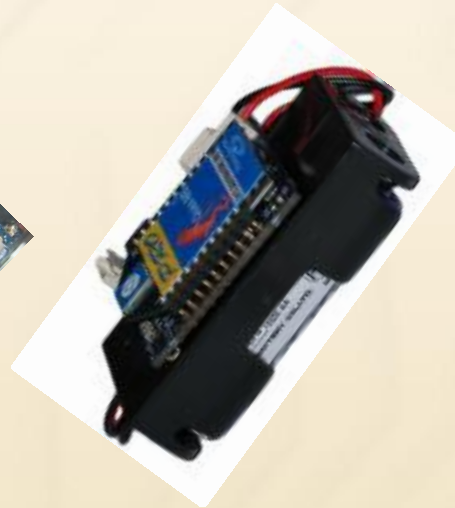
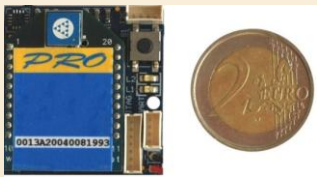
PrismaSense / Collectors (Quax)



- 16 Digital I/O
- 6 Inputs AC2DC Converter
- 2 Outputs DC2AC Converter
- 1 Uart Port
- 1 SCI/I2C Port
- 3 PWM Outputs

Powered by :
Battery or DC or AC or Photo Voltaic

PrismaSense / Routers



Powered by : **Battery** or **DC** or **AC** or **Photo Voltaic**

PrismaSense / GATEWAY



Interfaces

Wifi 802.11 b/g

Ethernet 10/100

GPRS/GSM

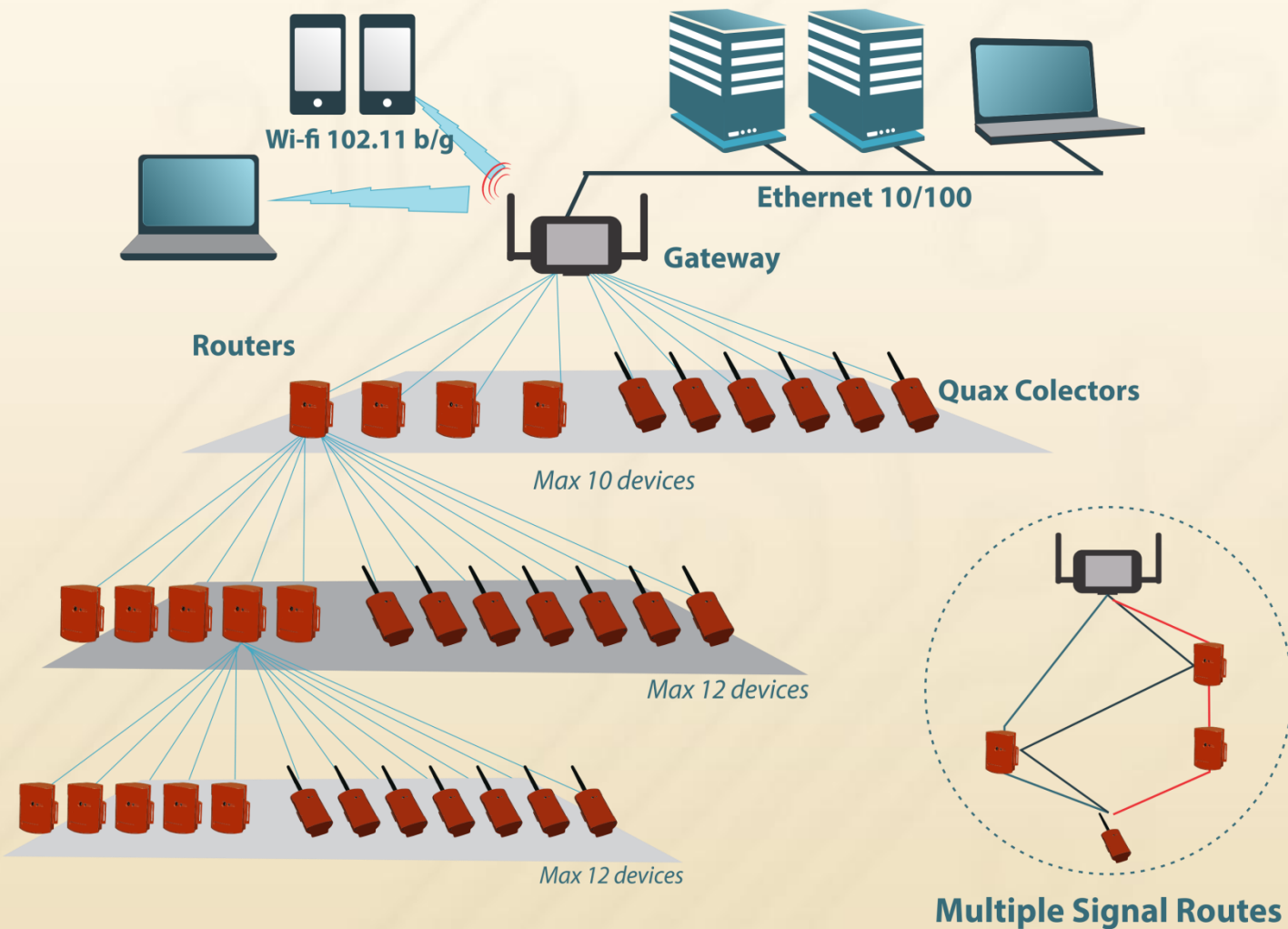
Bluetooth

USB

RS232, RS485



PrismaSense / Architecture



Sensing & Control



Sensing & Control



INDUSTRY

Sensing & Control



Sensing :

**Liquid-gas leakage, Temperature, Gas concentration,
Water consumption, Vibration, Oil/Air pressure, ...**

Sensing & Control

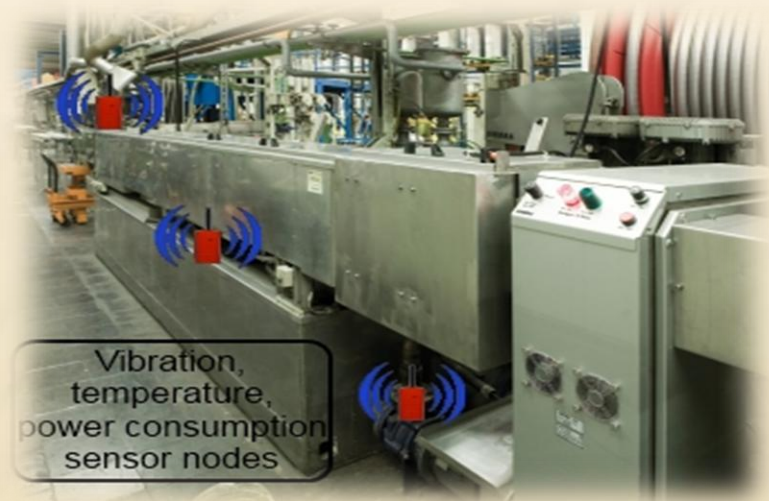


Sensing :
Temperature, Humidity, Liquid-Gas Leakage, Air quality,
Power Consumption,



Sensing & Control

- Assets management,
- System productivity,
- Production efficiency & cost reduction,
- Elimination of unscheduled maintenances,
- Environmental impact,
- Personnel safety,
- Product quality



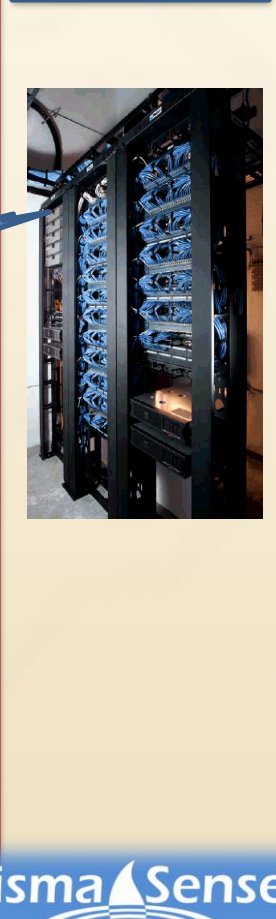
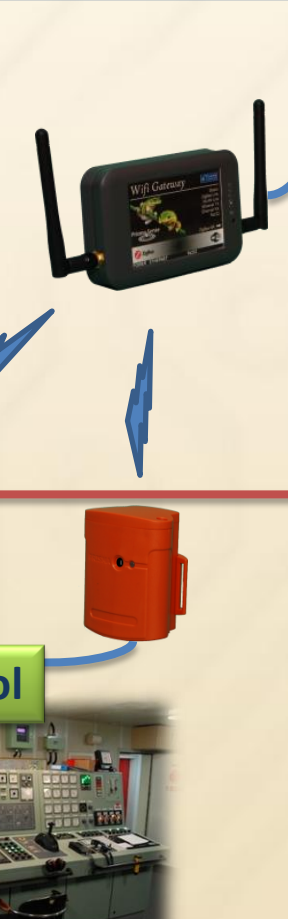
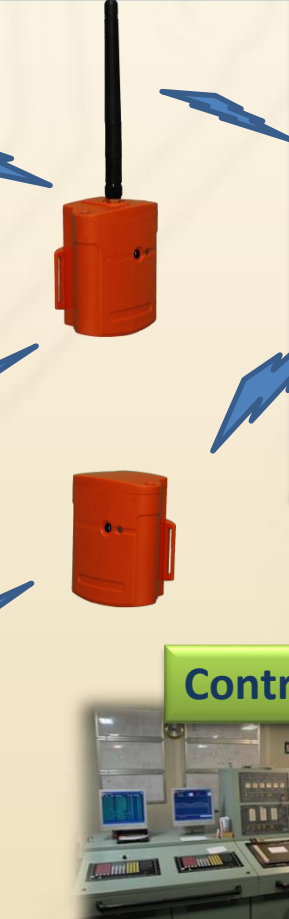
Sensing & Control



MARITIME



Sensing & Control



Sensing & Control

Points of Interest

- Main Engine
- Generators
- Torque Meter
- Power Meter
- Flow Meter
- Turbo Charger
- Boilers
- Inclinometer
- Speed Log, GPS
- Wind Indicator
- Exhaust Gas Economizer



Sensors

- Analogue voltage
- 4–20mA
- Serial
- Resistive, Capacity
- Pulses, Frequency
- Digital input

Interfaces

- RS232 / RS485
- USB
- ModBus, Huart
- NMEA, PLCs

Sensing & Control

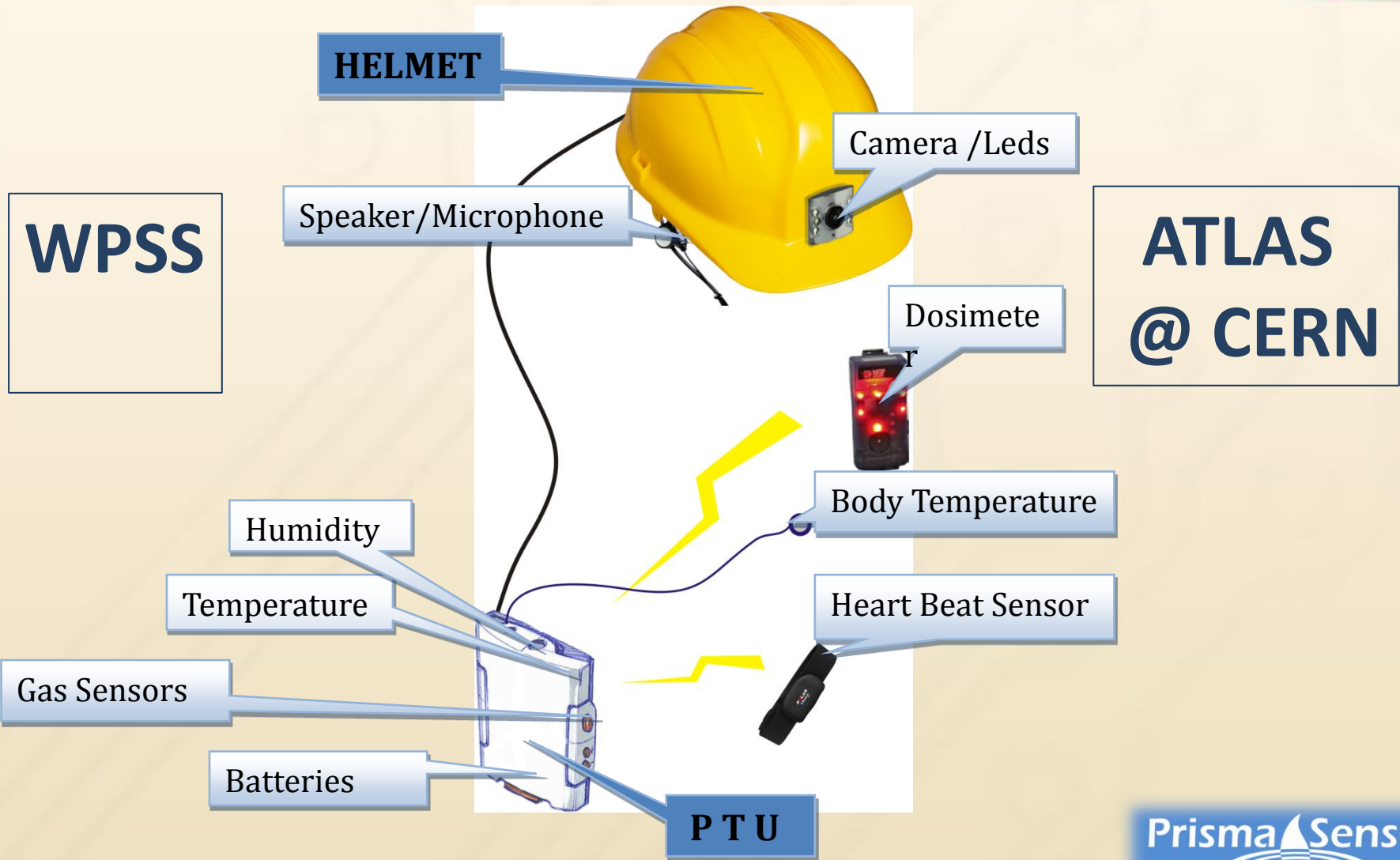
REDUCE / LOWER

- administrative cost,
- fuel consumption,
- repair time,
- maintenance cost,
- breakdowns frequency,
- docking down time

INCREASE / ENHANCE

- efficiency,
- operation awareness,
- availability,
- green shipping,
- safety

Sensing & Control



Sensing & Control

ATLAS WPSS (Wireless Personal Supervising System)



- Enhance safety of personnel working in hazardous environments
- Measure gas concentration (CO₂, O₂) and other environmental parameters
- Continuous radiation dosimetry on field
- Fall detection
- Issue alerts in case of emergency
- Monitor working procedures (supervisor)
- Assist technical personnel using video / audio communication

Sensing & Control



Commands to Collectors

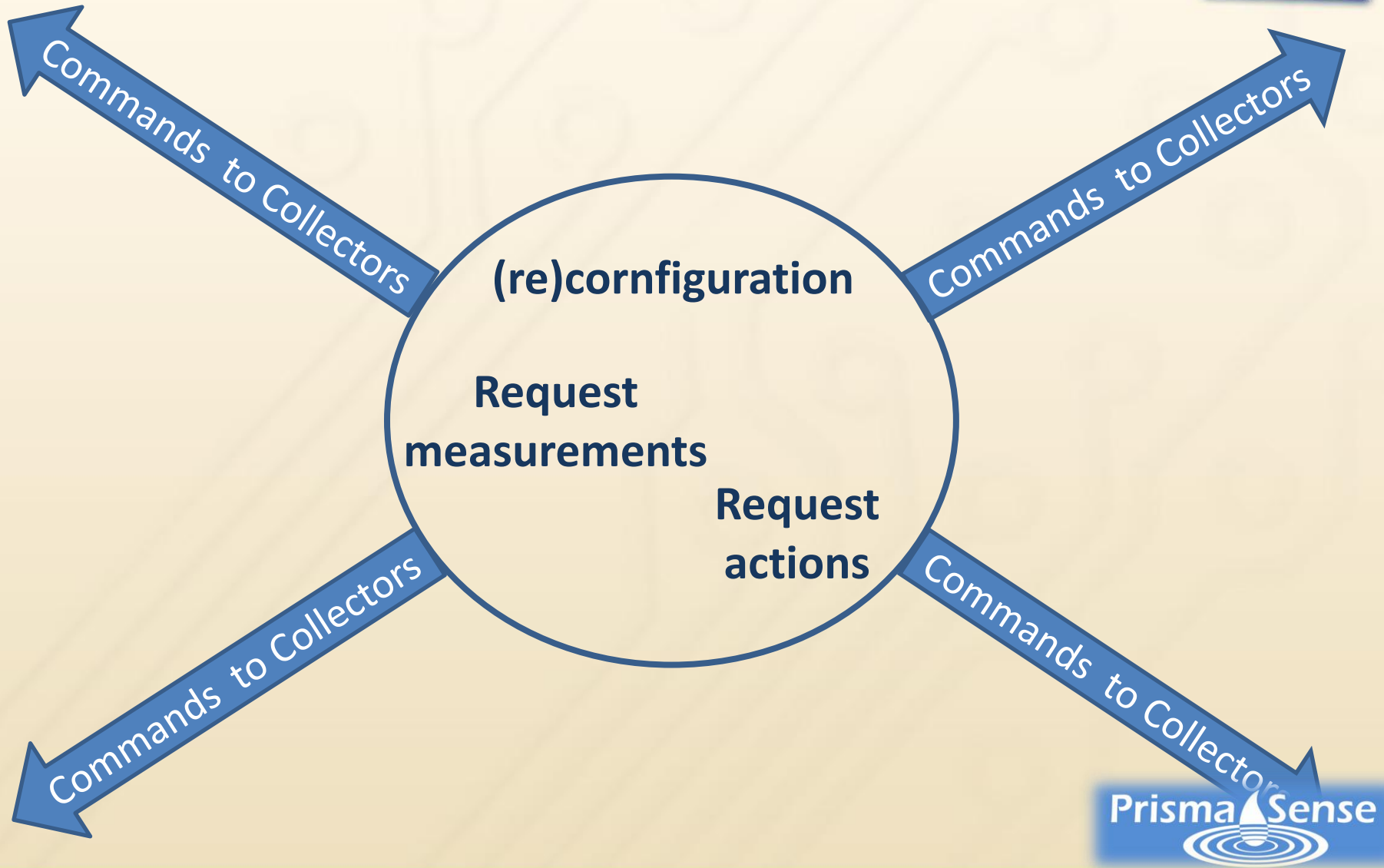
**PrismaSense platform
supports
Bi-directional Communication**



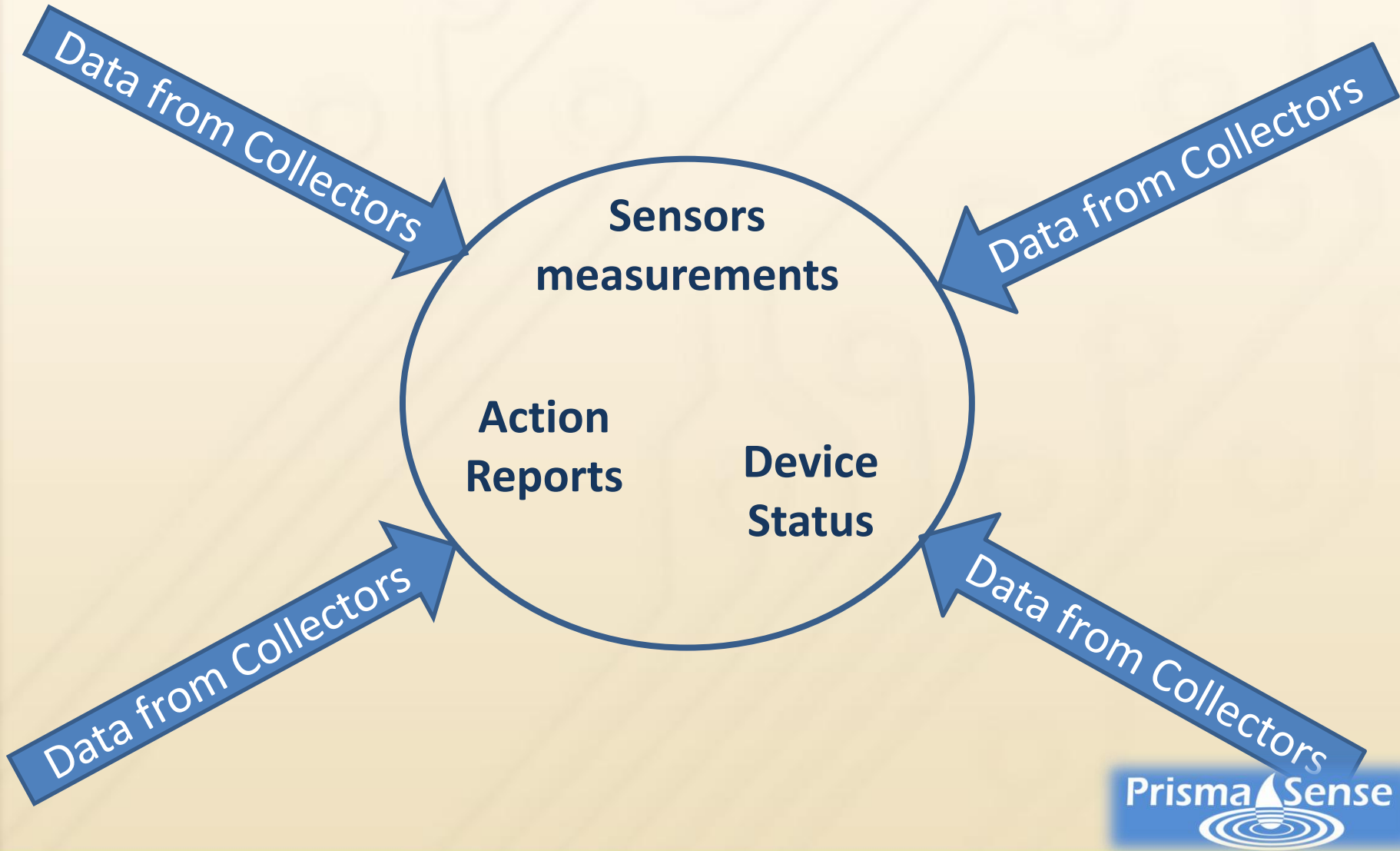
Data from Collectors



Sensing & Control



Sensing & Control





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Thank you for your attention

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WPSS Overview