



Defining Today's
Technology Standards;
Empowering Tomorrow's
Solutions.

Unlocking Success: Real-World Applications of UHF RFID Technology

17 October 2023

Lionel Geynet, Asygn

Kevin Boone, Tosca

Martin Hartwigsen, deister electronic GmbH





Meet the Speakers



Frithjof Walk
President
AIM Europe



Lionel Geynet
RFID Business Unit
Manager
Asygn



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Project Manager,
Traceability
Tosca



Martin Hartwigsen
Director of Technology,
EMEA
deister electronic
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UHF RFID Sensors for Industrial Applications

17 October 2023


Lionel Geynet, Asygn





Asygn at a glance

Headquartered in Grenoble
Since 2008, ~50 people
IC and system design



Copenhagen, Denmark



Manille, Philippines



Atlanta, GA, USA

Grenoble, France, HQ

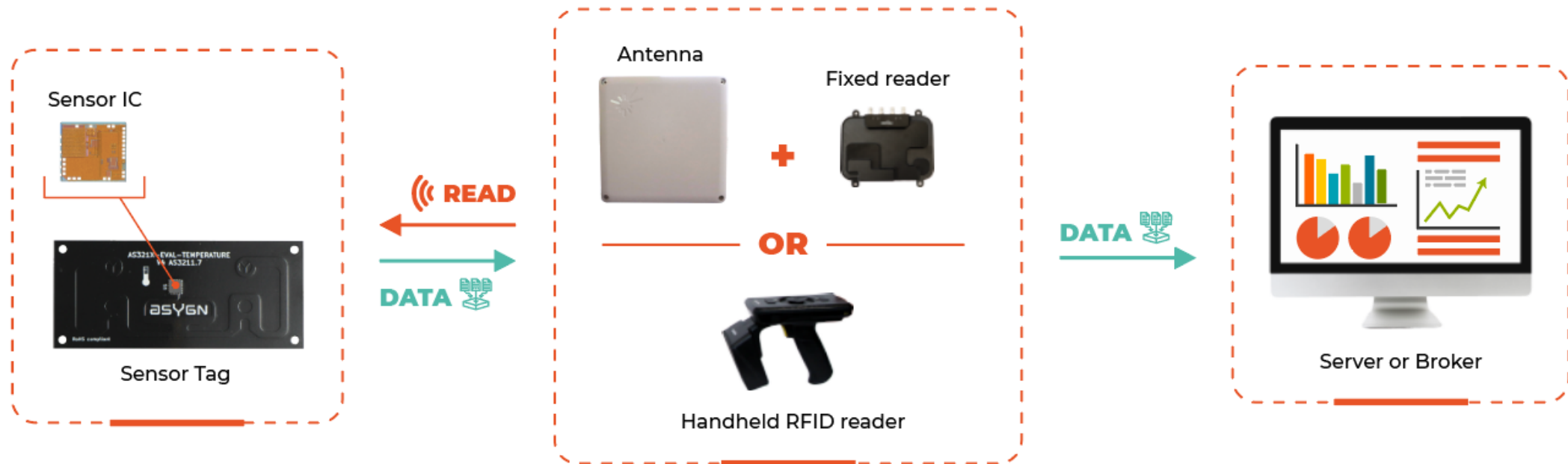




Our technology

UHF RFID Sensors fully compliant with existing infrastructure

- Only standard commands (Inventory and Read)
- Standard readers





Our goal

Few markets go from under \$8 billion to over \$120 billion in 2041 but this one does

Number of connected sensors exploding

World's appetite for data

Produced by sensors, consumed by AI

Bottlenecks

Batteries: Implies maintenance, bad for environment

UHF RFID as a sensor network?

Low power

Low cost

Extended life time

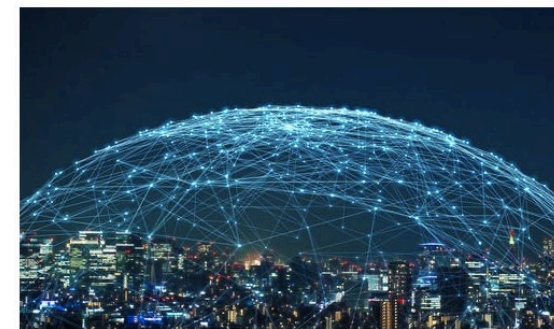
Benefits from existing network



Battery-Free Electronics Grabs Market Share

Electronics: Market care, Wearables

Home / Products / Webinars



Batteries can threaten our health and safety. Most forms still have problems of reliability, price, life, weight, size or working cold. Fast charging and discharging and even deep discharge can still be inadequate for many applications. Improving the battery is proving very useful but other workarounds are increasingly attractive, feasible and affordable. Increasingly, we can manage with less or no battery and that is the subject of this webinar. Learn how

Registration

We will be host webinar 3 times please join while the most convenient. Spaces are limited. 6G Communications WIET, energy harvesting, supercapacitors, structural, printed, flexible

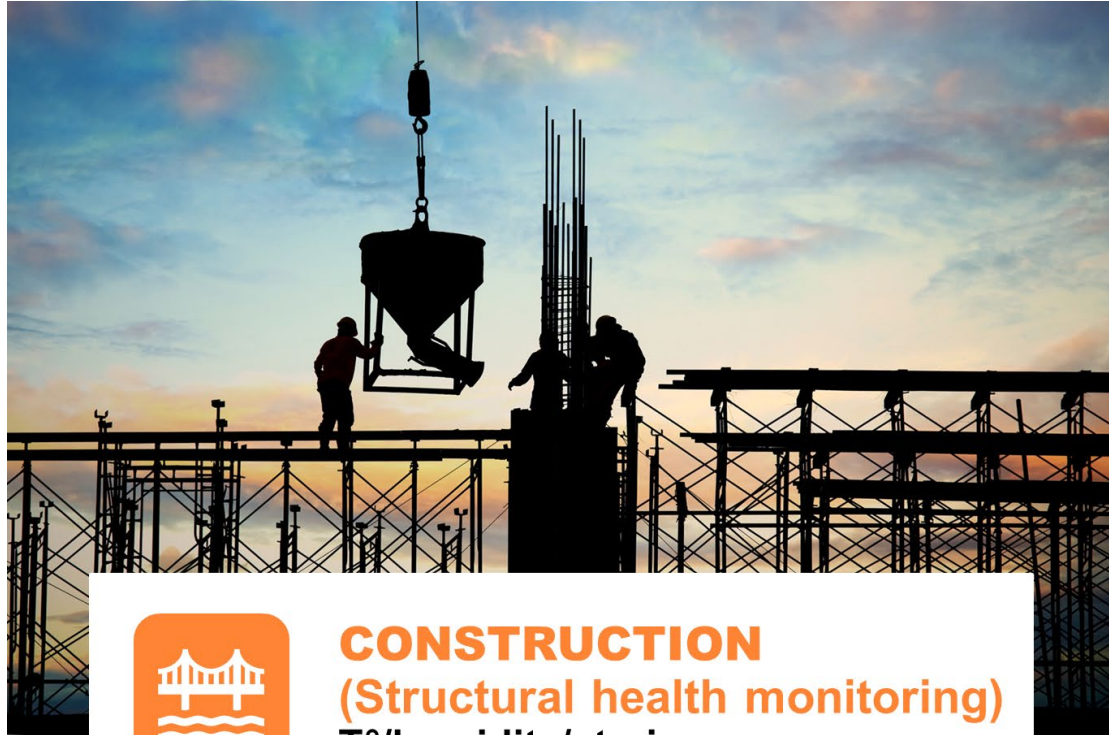
Date: **Thursday 13**
Duration: 30 minutes

Register y

Webinar T



Applications and problems solved



CONSTRUCTION
(Structural health monitoring)
T°/humidity/strain sensors

- Detect changes (cracking) in structure, buildings, grounds
- Monitor concrete formation



INDUSTRY
(Predictive Maintenance)
T°/strain sensors

- Anticipate wear and breakdown
- Preventing overheating of rotating equipments

Application and problems solved



LOGISTICS

T°/motion sensors

- Use a passive weigh scale using RFID strain sensors
- Permanently monitor supplies level
- Applies to small objects (nuts, bolts, screws, nails) and liquids (paint, oil,...)



AGRICULTURE

T°/humidity/Light sensors

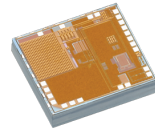
- Adapting watering conditions based on real-time humidity reports
- Optimize water & chemicals supply based on real needs
- Efficient use of lighting in greenhouses







Our Offer

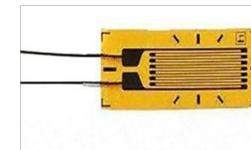
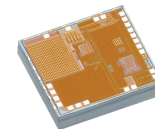
UHF RFID Sensors ICs family

- Available upon main tag manufacturers

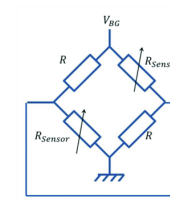


IC with internal sensors

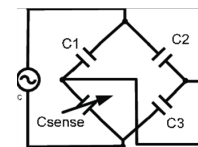
-  AS3213_T
-  AS3213_RH
-  AS3213_S
-  AS3213_L



IC with external sensors interface



AS3212: resistive sensors
*Strain gages, thermocouple,
piezoresistive sensors*



Accelerometer, capacitance, permittivity



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RFID in Returnable Transport Items

17 October 2023

Kevin Boone, Tosca





Who is Tosca



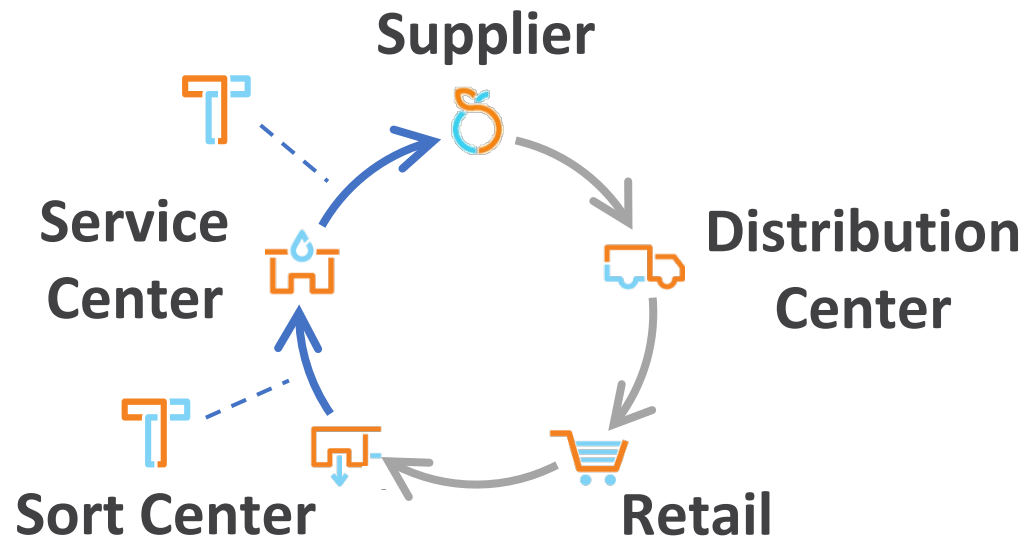
A global leader

in reusable plastic packaging solutions

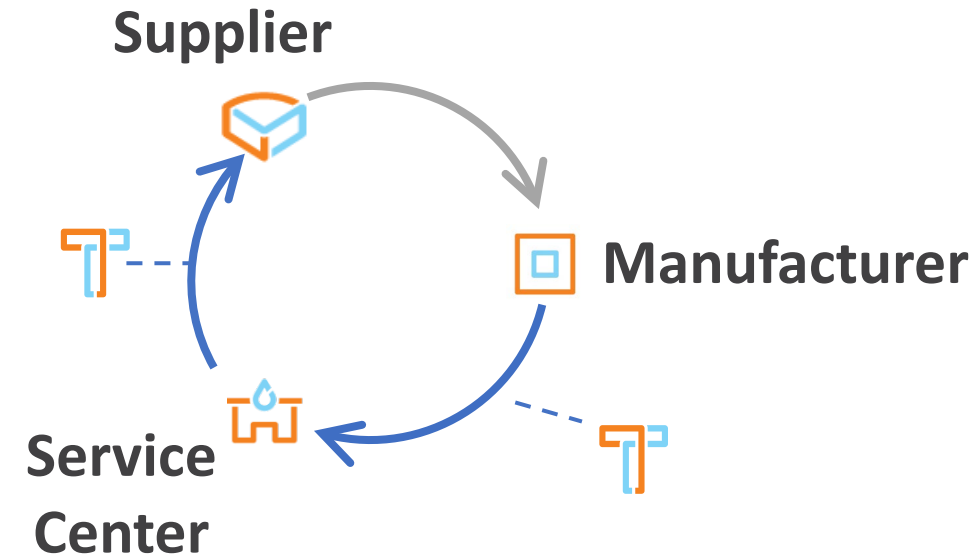


Pooling Operating Models

Open Loop - Downstream



Closed Loop - Upstream





Pooling Use Case

Customer requirement

Operate a downstream Pool

Expand Service Center Network

Asset to manage (Pool)

Size: *1,5 million assets*

Asset type: *European Half pallets*

Movements: *Estimated 6 cycles / year*

Challenge

Customer visibility & insight





Tracking Technology Evaluation

Criteria	Barcode	RFID	IoT
Cost	++	+	-
Durability	+	++	+
Lifespan	+	++	-
Operational handling	+	+	++

Outcome:

- Primary Tracking Technology
- Backup Tracking Technology

Passive RFID Tags
Barcode



Solution Requirements



Data Collection

- Asset lifecycle
- Passive RFID



Integrated

- Master Data
- Event Driven



Data security

- Tamperproof
- Multi tenant



Output

- Operational
- Customer





Implementation

- **3 Warehouses**
 - Shipping, Inspection & Receiving
 - Mobile RFID Readers

- **5 Service Centers**
 - All relevant events
 - Fixed RFID Infrastructure
 - Gates
 - Repair
 - Wash
 - Mobile RFID Readers as backup



Results



Pooling Efficiencies

Asset Lifecycle
Increased Availability



Operational Transparency

Service Center Performance



Reduction

Losses
Cycle time



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Healthcare Textile Management 4.0 – Best Practice

17 October 2023

Martin Hartwigsen, deister electronic GmbH





Why textile Management ?



Case study



Nordland hospital, Norway

- 485 beds
- 3000 employee and 700 user daily for workwear
- Total stock of 50.000 items

before



Problems:

- manual supervised system with paperwork
- Fire regulations
- No stock information
- Too much on stock but often also out of stock
- No control
- Supply in winter is limited

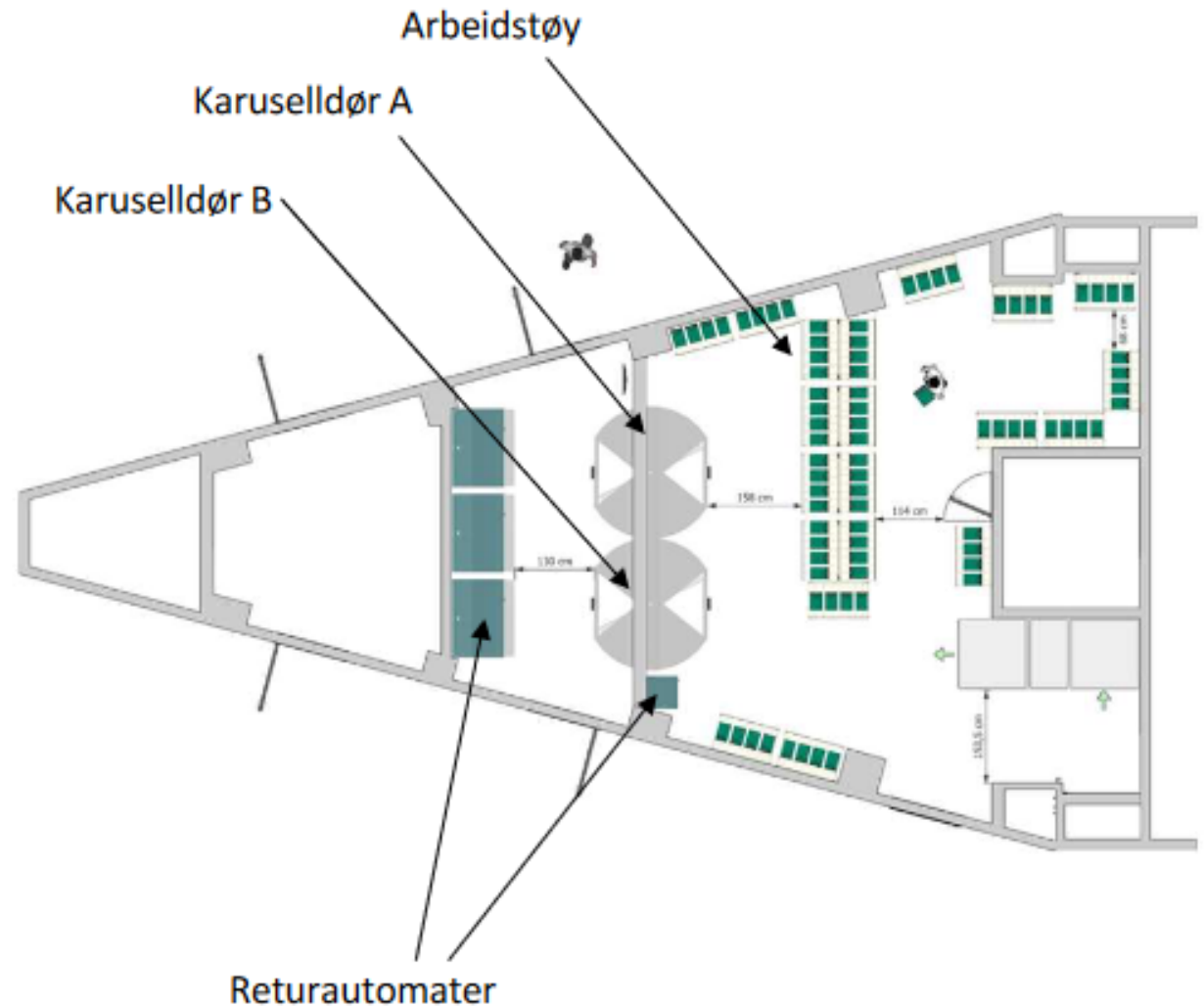


Now – RFID Room solution

texRoom
Efficient laundry issuing



Now – RFID Room solution





Now – RFID Room solution



Benefits and ROI:

- 70% reduction in wastage
3.500 item – annual 18.500€
- 20.000 item Inventory reduction
or 175.000€ at renting period
- Time savings every day

"The new solution benefits everyone: the patients, the employees, hygiene, the environment and – through the cost reduction – also the clinic's management," explains Vibeke Mikalsen

Questions & Comments





Contact Us



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THANK YOU!
