RFDJOURNAL DIGITAL SUMMIT

Need eyes in the back of your head?

Digitally monitor operations, and predict failures before they happen, without breaking the budget.

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Agenda



Current Market Challenge Pre/Post 2020



Value of RFID for MFG processes & products



Plant digitalization using affordable IoT



Technologies to keep you running and avoiding downtime



Market Use Cases Before 2020 and After

Before 2020

- Process Optimization
 Identify and track assets throughout the manufacturing process
- Quality Control
 Improve inspection and frequency
- Avoid unplanned downtime
- Predictive Maintenance
 Identify faulty equipment early
- Manufactured Products
 Authentication, traceability, reduce human error

Post 2020

 Remotely Monitoring Operations reduce in-person inspections, site-visits

Safety
 Keeping employees safe and healthy.
 Comply with new health and safety mandates

- Better efficiencies and automation
- Staffing challenges
- Maintain production to keep up with demand



Visibility on Everything

Value of RFID



RFID & BLE Positioning: What to Use and When



Powering Trusted Identities



Monitor production quality

- Collect data as products travel
- Monitor equipment performance
- Track rework, failure data and quality
- Reduce human error

Optimize efficiency and cost

- Reduce production line errors
- Automated machine configuration
- Lower yield loss
- Save labor and time

Value of RFID in Manufacturing Processes



Ideal RFID Examples

Built for Manufacturing and Automation



RFID Tags for Manufacturing/Automation

Broad array of tags for automation :

- Readily available standard products
- Proven performance & accuracy
- Robust, flame resistant, on-metal
- Custom design services
- Flexible support and branding









IN Tag[™] 300 HF FMEM 8KB

- Industrial strength disc shape RFID Tag
- Full 8KB of FRAM user memory (=maximum supported by ISO/IEC 15693)
- All FRAM advantages e.g. (33.000 times faster than EEPROM -100.000 times more write cycles than EEPROM - 1/1000 of EEPROM power consumption in writing)
- Radiation resistant up to 50 kGray (γ-sterilization)
- Operating temperature (-20°C to +85°C)
- Waterproof IP68, IP69K, Chemical resistant





rusted Identities

IronTag[®] UHF

- IronTag is a light-weight on-metal only tag optimized for high temperature resistance.
- The tag is available in US or EU frequencies and is designed to meet aerospace standards.
- The tag is optionally available with an adhesive sticker designed to withstand the same high temperatures as the tag.
- IronTag 206 has a built-in Monza X UHF chip delivering 8 KB of user memory, making it ideal for special applications that need to store significant amounts of data on the tag itself.







High-Temperature Label: UHF

- This thin and flexible label is flame resistant and meant to survive the high temperatures of paint-shop processes during automotive production.
- The label can be produced in custom shapes and optional laser engraving with graphic or text for optical recognition.
- Chip: Monza 4QT
- Read range up to: 8m (26 ft)





- The tags perform equally well on, or off-metal and the 3Dantenna makes the tag highly readable from all directions.
- The optional steel ring allows the tags to be spot-welded on steel for ultimate fixation.
- Available as standard 97x27x15 mm, or Mini version 60x18x7.5 mm
- Chip: Monza 4QT, R6, Combo Monza R6-P + ICODE SLIX2
- Read range up to: 10m (33 ft)





Quality & Authentication

Embedded RFID











Authentication

- Brand protection
- Anti-counterfeiting
- Product traceability
- Potentially end-user / NFC enabled

Quality of operation

- Automated configuration
- Reduce human error
- Increase user convenience
- Log maintenance data
- Immune to dirt & dust, no line of sight

Value of RFID in Manufactured Goods



Embed to Protect Profitability and Performance

Manufacturers across many industries leverage RFID systems to ensure product performance, protect the customer value chain, and ensure product safety and handling of the equipment.



Printer manufacturers rely on ink cartridge sales, customer loyalty and convenience



Tools and equipment companies promise better productivity and safety with automated configuration of tools



Medical research and storage facilities rely on RFID tagged components to speed up inventory and retrieval processes and increase accuracy

HID Powering Trusted Identities

Powering Product Performance: Embeddable RFID

- Discs, brick tags, glass tags or e-units are embedded in final manufactured product
- Customizable to match the demands of the product dimensions
- Tags potentially need to withstand plastic injection
- HID DBond[™] technology and precise manufacturing technology enables ideal placement in most consumables (bottles, cartridges, etc.)
- Readers are usually embedded in the equipment operating the consumable item





Choosing the ideal Frequency for Embedding

What are the requirements?

- Read range needed
- Energy consumption
- Reader integration

• High value in LF & HF:

- Low sensitivity to electromagnetic perturbation, liquids and metal
- Advantage of HF: Standardized protocol, larger memory, crypto functions
- Advantage of LF: Less sensitive to metal

UHF Option: Near Field UHF

- Small reading distance (~10 in / 25 cm)
- Standard UHF reader equipment usable (external)



Powering Trusted Identities

Digitalization in Manufacturing

Affordable Industrial IoT Technology



What keeps you up at night?

Traditional Drivers

- Quality improvement
- Process improvement
- Operational expense reduction
- New Drivers Since 2020
 - Safety
 - Remote work
 - Information transparency





IoT Applications in Manufacturing







Real-time Location Services (RTLS)

Track & monitor assets – inventory, equipment and people

- Accuracy down to 2m (6.6 ft) in real time
- Also provides path history of assets

rusted Identities

Workplace Safety

Digital employee physical distancing, contact tracing, and hand hygiene validation

- Restore productivity & confidence
- Empower employee safety without compromising privacy

Condition Monitoring

Track the health of a motorized asset

- Motors, conveyors, bearings, gearboxes etc.
- Tracking temperature and vibration

Technology Enablers



Low-Cost Sensors

- Lower acquisition costs
- Lower power requirements
- Smaller Footprint



Powering Frusted Identities

2 Data Storage

- Jala Sluraye
- Lower storage costs
- Greater availability
- Easily accessible
- Tools to scale
- Highly Secure



Cloud Computing

3

- Data Analytics
- Access to tools
- Improved AI & Machine Learning
- Cultural shift to cloud





IoT Platforms

4

- IoT platforms available, built on secure clouds
- Built-in integration with other sensors and platforms
- Tools for integration
- Leverage cloud storage and analytics

One IoT Platform

Solves Many Use Cases



1. Condition Monitoring – Predict Failures Before they happen



- Track the health of a motor or motorized asset
- Motors, conveyors, bearings, gearboxes etc.

Beacons use Accelerometer &

Temperature sensor

to detect abnormal

operation of motors,

pumps,

compressors, bearings, and gear boxes

Tracking temperature and vibration (primarily)

:5

Monitor your systems in real-time Remotely

- 6-

Early indication of change in equipment operating state

Battery operated – lasts several years

4

Easy and fast installation

Multiple cloud policies & API for custom solutions



Complete Solution





Standardized BEEKs[™] BLE Sensors & Custom modules



BluFi[™] Gateways



Bluzone[™] Cloud



2. Real-time Location Services (RTLS)

The "Blue Dot", You Are Here

Real-time asset tracking with accuracy up to 2m providing the location, health, and performance of people/assets.

Powered By 20+ complex algorithms including:

✓ RSSI

- ✓ Machine Learning & AI ***New 2020**
- ✓ Dif ToF
- DTOA
- ✓ Advanced Multiple Kalman
- ✓ Multi Path Detection

- \checkmark Vector Fingerprint
- Path Prediction
- ✓ Frequency Modulation Control
- ✓ Create Geofences On-the-Fly
- ✓ Track Dwell Time
- ✓ Exits/Entrances





3. Location Services: Workplace Safety

HID delivers an IoT enterprise enablement platform to meet the newly required policies outlined by governments and health agencies around the world.





Secure, digital solution using real-time location, proximitybased location services and cloud technologies to:

- Provide a safe working environment for employees, visitors and contractors
- Digitally adhere to regulatory mandates
- · Restore productivity and employee confidence
- Empower employees to be safe without compromising privacy
- Measure performance, enable quantifiable accountability and gain real-time insight into the historical trail of interactions through data intelligence and analytics

Use Cases / Value Propositions



HID Powering Trusted Identities

3. Contact Tracing Initiate, Identify & Isolate



- Delivers real-time analytics and reporting for quick and effective resolutions
- Trace historical movements, quickly locate exposed team members and initiate isolation protocols instantly to mitigate spread of illness
- Automated Contact Tracing provides relevant information on persons identified as exposure risks, names of those within proximity of the infected, location and duration times



4. Employee Social Distancing Preventative feedback for behavioral Changes





THANK YOU

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