RFID IN MANUFACTURING

RFID FOR TIRES
LET'S GET INTO THE HEART OF THE IOT

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Michelin
Jun 30th, 2020
AGENDA

- WHY RFID FOR TIRES?
- KEYS TO GLOBAL TIRE INDUSTRY ADOPTION
- STANDARDS APPROACH FOCUS
AIMING AT BRINGING OUR CUSTOMERS A GLOBAL MOBILITY EXPERIENCE

SAFETY & reliability

Productivity & effectiveness

sustainability
WHY RFID FOR TIRES?

« Every Michelin tire will have to be connectable »
Florent Menegaux, Vivatech 2018
A COMPLEX PRODUCT LIFE CYCLE & MANY VALUE POINTS

Manufacturing

1st Mounting - OEM

1st Mounting - Dealer

Events while in Service

Retreading

Retrofitting

Recycling

Embedded

Patch

Sticker

RFID patch possible

RFIDJOURNAL VIRTUAL EVENTS
WHY IS RFID THE MOST ADAPTED SOLUTION?

**Universal technology**
- Universal enabler responding to all use cases
- Billions of things are already tagged by RFID

**Permanently readable**
- Tag is protected by rubber and no battery needed

**Can operate during the entire lifecycle**
- Tag is a part of the tire (cured in), and not an accessory
- Robust against damages, ageing, weather conditions

**Secure**
- Tag is locked after encoding by the tire manufacturer
- Robust traceability technology against robbery and counterfeiting

**Normed**
- Described by four international standards, promoted by ETRTO and Chinese SAC/TC19

Rain RFID
"THE TIRE" ON ITS WAY TO THE HEART OF THE IOT

DEMONSTRATION

- WW Industry Standards
- Closed Loop Use Cases
- Tire Tag

ADOPTION

- Tire Information Service
- Deployment Capability
- Key Multi Brand Business Cases

TRIVIALIZATION

- Business Cases Multiplication
- Open Loop Solutions Growth
- Regulations

RFID TECHNOLOGY IN TIRES ENABLES TO:

- Improve operational processes
- Reduce costs and improve efficiency
- Enhance safety and security
- Provide real-time monitoring
- Increase customer satisfaction
- Enable predictive maintenance
- Support regulatory compliance

RFIDJOURNAL VIRTUAL EVENTS
INDUSTRY STANDARDS
FROM LOCAL STANDARD INITIATIVES TO ISO

SUPPORTIVE TIRE RFID STANDARDS INITIATION
- JAIF, AIAG, VDA
- TMC, RMA, ETRTO, USTMA, SAC/TC-19

4 ISO STANDARDS PUBLISHED FROM MID 2019 TO MID 2020
- Kickoff: 2016
- Conveners: China & France
- Active participant countries: Austria, China, Finland, France, Germany, Italy, Japan, Korea, USA
- Participants: tire manufacturers, RFID tech
FROM LOCAL STANDARD INITIATIVES TO ISO

2019

- ISO 20909 – Radio Frequency IDentification (RFID) tire tags
  - UHF RFID technology (~ RAIN)
  - Basic requirements for “Embedded”, “Patch”, “Sticker”
  - 15 cm minimum read distance

- ISO 20910 – Coding for Radio Frequency IDentification (RFID) tire tags
  - SGTIN96 / EPC coding permalocked by tire manufacturer. Optional User Memory

2020

- ISO 20911 – Tagging technology classification for RFID tire tags
  - Basic technology definition for “Embedded”, “Patch”, “Sticker”
  - Sidewall marking

- ISO 20912 – Conformance test methods for RFID enabled tires
  - Open Space Method
  - Semi Anechoic Method
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RFID TECHNOLOGY IN TIRES ENABLES TO:

- Improved internal processes
- Improved customer service
- Improved performance and efficiency
- Improved security and traceability
- Improved customer experience
- Improved safety and sustainability
- Improved efficiency in warehouses
- Improved efficiency in logistics
- Improved efficiency in transportation

RFIDJOURNAL VIRTUAL EVENTS
THANK YOU

More Michelin Tires RFID videos on Youtube, search: gB9J4PC3