RAIN RFID Alliance

Welcome and Logistics
Greenville SC
4-6 February 2020
THANK YOU SPONSORS!

GOLD

SILVER

BRONZE
Antitrust Caution

RAIN is committed to complying fully with antitrust laws.

We ask and expect everyone to refrain from discussing prices, margins, discounts, suppliers, the timing of price changes, marketing or product plans, or other competitively sensitive topics.

If anyone has concerns about the propriety of a discussion, please inform a RAIN representative as soon as possible.

Please remember to make your own business decisions and that most Standards are voluntary and not mandatory.

Please review the complete RAIN antitrust policy at: https://rainrfid.org/about-rain/anti-trust-guidlines/
• RAIN Alliance was founded in 2014 and is a subsidiary of AIM
  – Increase awareness and understanding of passive UHF RFID
    (GS1’s EPC Gen2 protocol and ISO’s 18000-63 standard)

• About 170 global members and annual meetings in Americas, Asia and Europe
  – Alliance members include hardware and software companies, solution providers, academics, and end-users
What is RAIN RFID?

- RAIN RFID is a wireless technology that connects billions of everyday items to the internet, enabling businesses and consumers to identify, locate, authenticate, and engage each item.
- RAIN RFID makes it possible to network things without power.
  - >18.5 billion things tag chips sold in 2019
  - > 20 billion annually by 2020
RAIN Brand

• **RFID** is a generic acronym to describe different types of wireless technologies – different frequencies, different standards, passive vs. active, etc. *This creates confusion.*

• **RAIN** is a brand for a specific passive UHF RFID wireless technology
  – GS1’s UHF Gen2 protocol
  – ISO/IEC’s 18000-63 standard

• The ultimate goal is for “RAIN” to be **THE** UHF RFID brand
  – To transition companies and consumers to the RAIN brand, *RAIN RFID* is currently being used for the technology
  – **RAIN Alliance** is the organization

• Other wireless technology brands, easier for end-users to understand:
  – **WiFi**, instead of IEEE’s 802.11 versions
  – **NFC**, instead of HF RFID or ISO/IEC’s 14443
  – **Bluetooth**, instead of IEEE’s 802.15.1
Tag IC Volume

Data Collected by RAIN 2015-2019: Forecast 2020
Current markets – Aviation, Healthcare, IOT, Retail, & Smart Manufacturing
Lists of >100 retailers and >40 healthcare end-users worldwide
Requests for Help

- Great way to get help on your project
- End users can post on the web site
- Sent to all member companies for their attention

Post your requests for help with your project
http://rainrfid.org/resources/request-for-help/
RAIN Resources
• Details about RAIN RFID
  – Tags, Readers, Antennas, Software, and Data
• Standards and Numbering System
• Markets | Industries | Applications
  – Applications and benefits of using RAIN
  – Case studies
• Request for Help
  – How end-users can find the RAIN Alliance members they need to work with
• RAIN Alliance
  – Workgroups and Meetings
  – List of Members and Categories for the companies
RAIN RFID Industries Include...

- Healthcare
- Retail
- Packaging & Logistics
- Automatic Vehicle Identification (AVI)
- Manufacturing
- Electronics
- Food
- Aviation
Why RAIN?

Retail
- 2 to 20% sales boost
- Reduction in out of stocks
- 96% time reduction with smart inventory
- Over 9% decrease in shrinkage
- Over 98% inventory accuracy results

Aviation
- Improve end to end tracking
- Improve asset inventory control and life cycle management
- Higher customer satisfaction – fewer delays, cancelations, mishandled bags
- Rapid return on investment
- Easier bag handling

Healthcare
- Higher inventory accuracy
- Reduced product expiration
- Effective recall management
- Improved patient safety and care
- Automated payments and increased profitability
- Decreased supply chain and equipment costs
Smart Retail

- Growing at a fantastic rate Over 100 retailers currently using RAIN
- Losses - Over 9% decrease in shrinkage
- Increases in sales - 2 to 20% sales boost
- Reduction in out of stocks
- Big savings in inventory management
  - 96% time reduction with smart inventory
  - Over 98% inventory accuracy results
50B Connected IoT endpoints by 2020

6B unique mobile users by 2020

AI experiencing a 50% CAGR to reach $58B by 2021

59% of Amazon Prime users with an Echo device use it at least once a day
Learnings – Intelligent Fridge

- Cost of fridge plays major part in ROI calculation – components and supply chain must be cost down engineered
- Fridge inner surfaces may need to be engineered – non-metallic inner walls and shelves
- If shelf antennas are used, make sure shelf complies with load bearing and food grade requirements
- Performance and reliability of industrial PC module
- Competition is with alternative technologies (camera, scale)
Smart Agriculture & Smart Animal Farming

- Farm to Fork Initiatives
- Freshness Tracking
- Refrigerated Transport
- Vending Machines
Aviation

- Enable hands-free scanning of baggage throughout the handling process
- Track passenger’s baggage in real-time
- Automate freight tracking and increase accuracy
- Reduce mishandling of baggage by 25-50%
- Ease tracking of airplane safety equipment and reduce errors
- Authenticate and track repair parts for maintenance
Baggage & Cargo Tracking

The Opportunity

- 4B+ checked bags per year
- 20M+ bags mishandled / year
  - High cost to airlines and customer satisfaction
- IATA¹ & SITA² estimate RFID can:
  - Reduce mishandling by 25%
  - Save the industry ~$3B in cost
- 170B+ freight tonne kilometers (FTKs) per year³
  - 35% of global trade by value
  - Many manual processes prone to error

Airport Asset Tracking

The Opportunity

- Thousands of assets in airports requires tracking
  - Luggage carts, wheelchairs, meal carts, etc
  - High value, mobile over a wide area, controlled entry/exit points
  - Line of sight not available for barcode
  - “Last Seen” data from RFID read valuable
Examples of RAIN RFID
Tire Identification and Data-Sharing

Market need

• Today: Identify and authenticate every tire to meet government and/or consumer demand
• Tomorrow: use RFID as a sensor (pressure, temperature, mechanical stress)
• No RFID-friendly way to embed tag in a tire today
• Data-sharing amongst many stakeholders

Issues

• SGTIN for tire identification offers traceability, etc.
• EPCIS for data-sharing
• Application Identifiers for user-memory data encoding

GS1 Contribution
eHealth

• Digital Health/Telehealth/Telemedicine
• Smart watch/fitness band
• Smart pill bottles
• Smart operating theaters
• Integrated Clothing
• Smart asset tracking
Survey

• We value your opinions about the event
• Please remember to take the survey on your phone after we finish for today
DOWNLOAD OUR MOBILE APP NOW!

App name: CrowdCompass AttendeeHub
Event name: RAIN USA Meeting 2020

https://crowd.cc/s/3EiwQ