

RAIN RFID Alliance

Welcome and Logistics

Greenville SC

4-6 February 2020



RAIN[®]
ALLIANCE



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



- **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

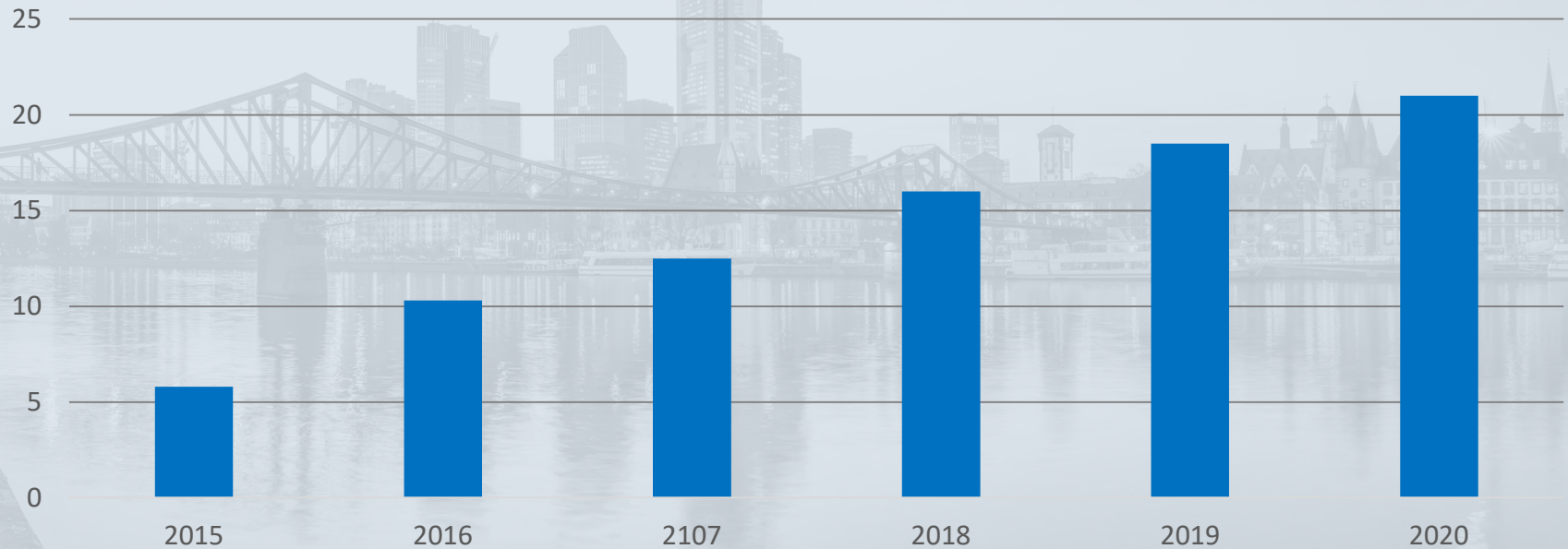


WiFi Alliance Bluetooth SIG NFC Forum



Tag IC Volume

Tag IC Volume (Billion)



Data Collected by RAIN 2015-2019: Forecast 2020

Market Pages

Case Studies, News, Presentations, etc.

RAIN RFID

Home | About Us | Membership | Events | Resources | News | Markets | Technology | Contact Us

RETAIL

Identifying retail items for inventory management

Benefits | Success Stories | News | Join Now

Retail Benefits of RAIN

For omni-channel retailing, inventory visibility and return processing is more important than ever. RAIN technology provides the best inventory management to increase sales, reduce out-of-stock and overstock, and improve employee and customer satisfaction.

RAIN in Retail

Download RAIN Alliance Brochure

Request for RAIN RFID Help

See Retail Market Presentations

Documents & Videos Organized by Markets

RAIN RFID

Home | About Us | Membership | Events | Resources | News | Markets | Technology | Contact Us

Documents

All | Retail | Healthcare | Retail | Manufacturing | Other

The Retail Industry's Guide to RFID

RFID in the Retail Industry

RAIN RFID

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Videos

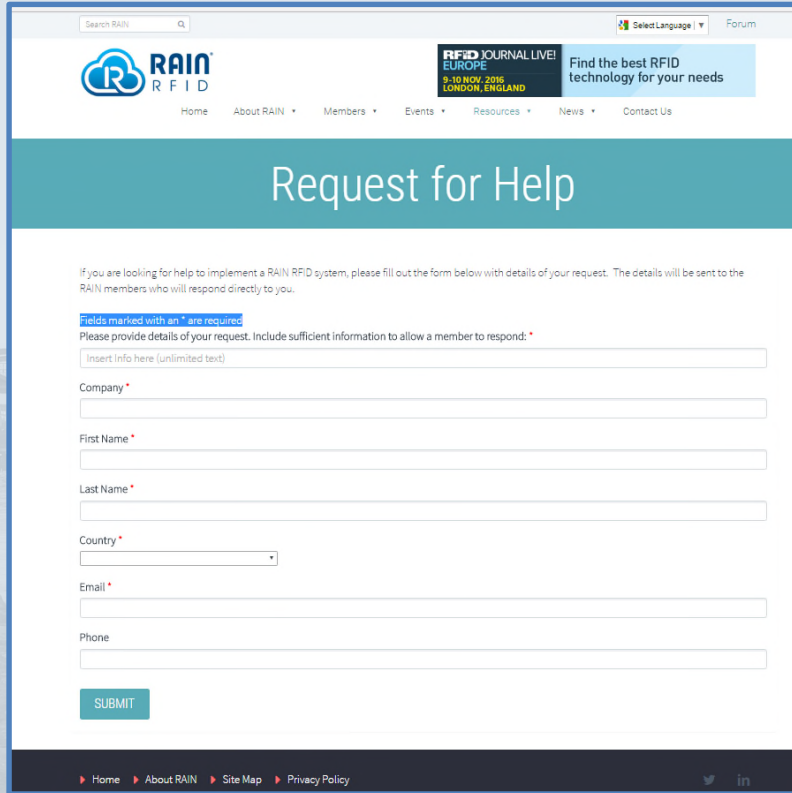
SiteSense Total Project Visibility

RFID JOURNAL LIVE EUROPE

- Current markets – Aviation, Healthcare, IOT, Retail, & Smart Manufacturing
- Lists of >100 retailers and >40 healthcare end-users worldwide



Requests for Help



The screenshot shows the RAIN RFID website's 'Request for Help' page. At the top, there is a search bar and a language selection dropdown. The RAIN RFID logo is on the left, and a banner for 'RFID JOURNAL LIVE! EUROPE 9-10 NOV 2015 LONDON, ENGLAND' is on the right. The main heading is 'Request for Help'. Below it, a paragraph explains that users should fill out the form for help with RAIN RFID systems. A note indicates that fields marked with an asterisk are required. The form includes fields for 'Company', 'First Name', 'Last Name', 'Country' (a dropdown menu), 'Email', and 'Phone'. A 'SUBMIT' button is at the bottom. The footer contains navigation links for Home, About RAIN, Site Map, and Privacy Policy, along with social media icons for Twitter and LinkedIn.


- 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

RAIN ALLIANCE RAIN TECHNOLOGY MARKETS **RESOURCES** EVENTS NEWS MEMBER FORUM



Advancing Identification Matters


Frequency Bands in Europe: Milestones Achieved and Important Next Steps

11/13/2019
Josef Preußner-Pflüg | EYE-CTD, CSC Semiconductor GmbH
Steve Halliday | President, RAIN RFID ALLIANCE

November 2019

Frequency Bands in Europe: Milestones and Important Next Steps
EU Regulatory Information

Webinars [View Resource](#)




What is RAIN RFID?

November 2019

What is RAIN RFID? E-BOOK

Updated! Winter 2019 / Spring 2020 Edition

Whitepapers [View Resource](#)




RAIN RFID Solutions: Integrity, Privacy and Trust

October 2019

RAIN RFID Solutions: Integrity, Privacy and Trust

Privacy and data security are both important facets of any technology solution design. This...

Documents [View Resource](#)



The Global Language of Business

TIPP Grading

Tagged Item Performance Protocol


Coag Alan Topp
Former Member, Supply Chain Visibility, RFID & RFID
October 2019

October 2019

TIPP Grading

Tagged Item Performance Protocol

Webinars [View Resource](#)




RAIN Reader Communication Interface (RCI) Guideline

October 2019

RAIN Reader Communication Interface Guideline - V.3.0

This document describes an application developer friendly interface between...

Documents [View Resource](#)



HUAYUAN Waterproof Washable RFID Tags

September 2019

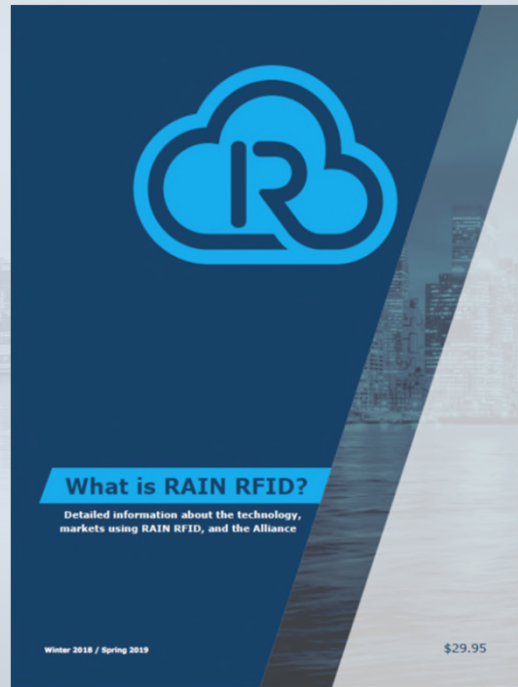
HUAYUAN Waterproof Washable RFID Tags for Laundry Management...

Documents [View Resource](#)



Detailed information about the technology, markets using RAIN RFID, and the Alliance

- **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

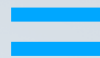
- Improve end to end tracking
- Improve asset inventory control and life cycle management
- Higher customer satisfaction – fewer delays, cancelations, mishandled bags
- Rapid return on investment
- Easier bag handling



Healthcare

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





EVERYTHING
CONNECTED

EVERYONE
CONNECTED

DIGITAL
INTELLIGENCE

TRANSFORMED
EXPERIENCES



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



ZEBRA

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



RAIN Tag



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 year ³
 - 35% of global trade by value
 - Many manual processes prone to error



© Future Travel Experience



© Dynami Aviation



¹ IATA, "Baggage Tracking", <https://www.iata.org/whatwedo/aps-infra/baggage/Pages/baggage-tracking.aspx>

² SITA, "2019 Baggage IT Insights", <https://www.sita.aero/resources/type/surveys-reports/baggage-it-insights-2019>, 2019

³ Air Cargo News - <https://www.aircargonews.net/airlines/top-25-cargo-airlines-fedex-at-the-top-as-qatar-closes-in-on-emirates/>

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



race | result



WARRICK LARUE
FUTON
TE. BENTON
ALAN RICE
THOMAS SCOTT
TRAVIS TERRY
NICK 5-1-7
BAPTIST PARK
BAPTIST PARK

Mercedes-Benz

NOT
ENTER

Mercedes-Benz

Mercedes-Benz



Examples of RAIN RFID

Tire Identification and Data-Sharing

Market need

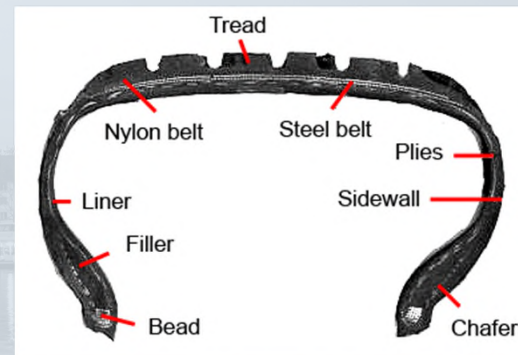
- Today: Identify and authenticate every tire to meet government and/or consumer demand
- Tomorrow: use RFID as a sensor (pressure, temperature, mechanical stress)

Issues

- No RFID-friendly way to embed tag in a tire today
- Data-sharing amongst many stakeholders

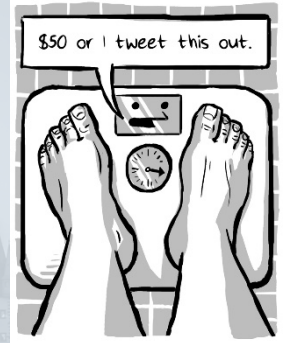
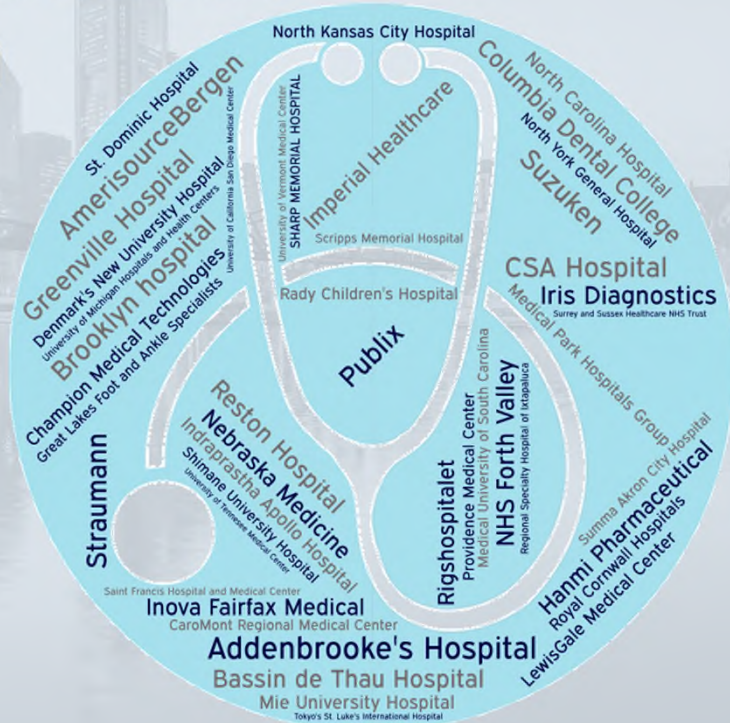
GS1 Contribution

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



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>





RAIN[®]
ALLIANCE

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