



Bridging the Gap:

Connecting Corporate Sustainability with RAIN RFID

Agenda

Goals

Methodology & Scope

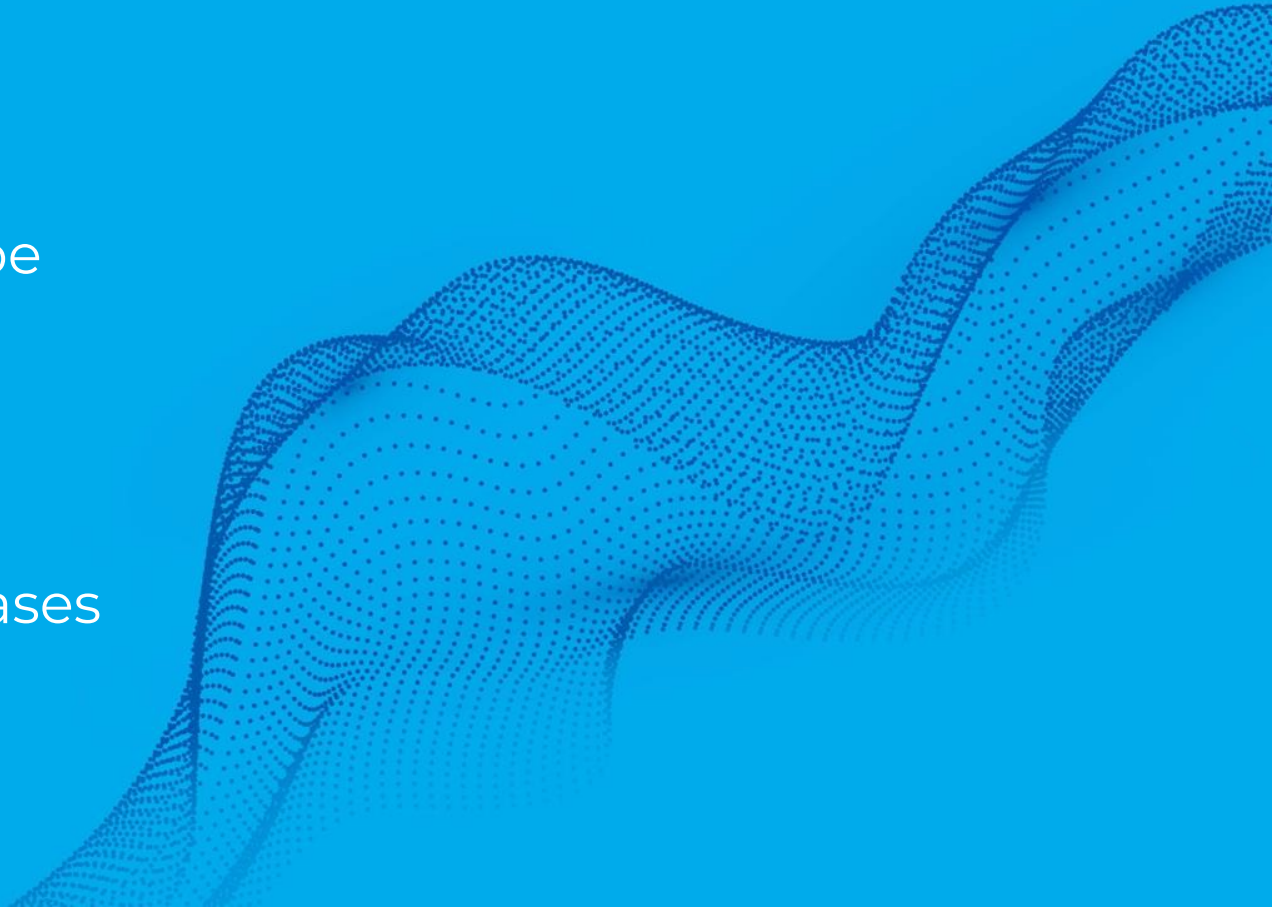
Key Findings

Case studies

Roadmap


Sustainability Use Cases

Conclusion



Goals

- Explore how companies are using RAIN RFID technology to meet their sustainability objectives
- Identify the interaction between sustainability teams and RFID teams to achieve sustainability goals
- Provide confidence in RAIN RFID as data carrier for both business efficiency and sustainability across the supply chain until a product's end-of-life
- Give practical insights and actionable next steps for companies to bring this forward



RAIN RFID is a critical technology for decisions that balance people, the planet, and profit. But not everyone realizes this, yet...

Methodology & Scope

Scope:

This report is focused on the use cases to apply RAIN RFID technology to sustainability objectives.

Methodology:

- Industry literature review
- Expert interviews with industry leading companies.
- Survey with RFID experts and end-users.

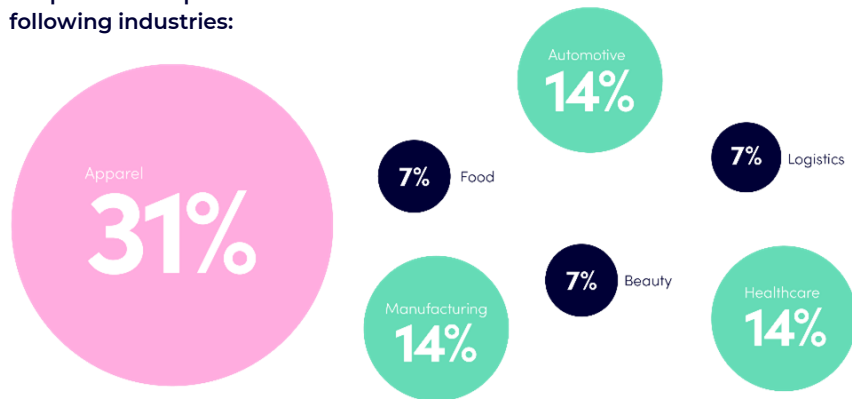
Methodology & Scope

Respondents profile:

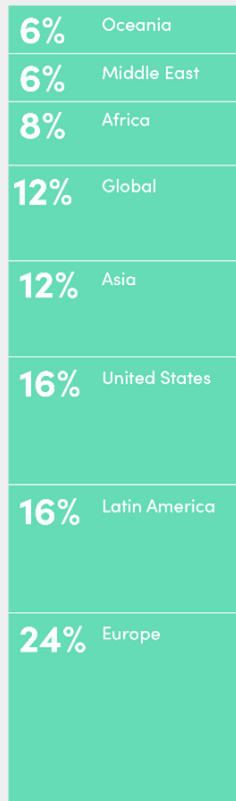
The size of the entities that responded:



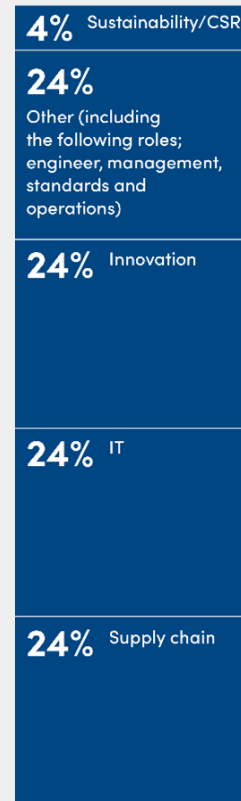
Respondents represented the following industries:



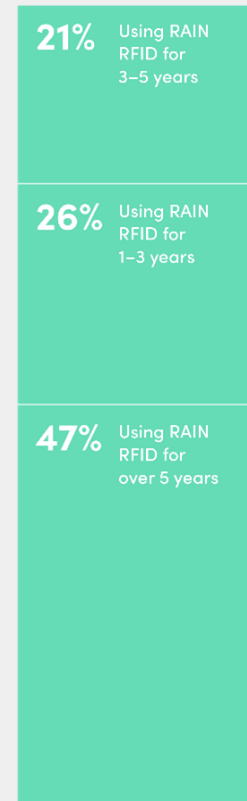
They spanned markets across the globe including:



Respondents roles within the company included:



All survey respondents are users of RAIN RFID

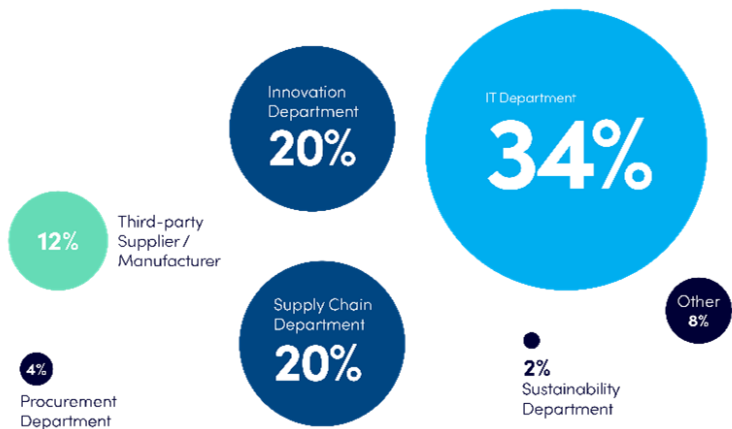


Key findings

01 Bridging the Gap

Only 2% of respondents have sustainability teams involved in RAIN RFID projects.

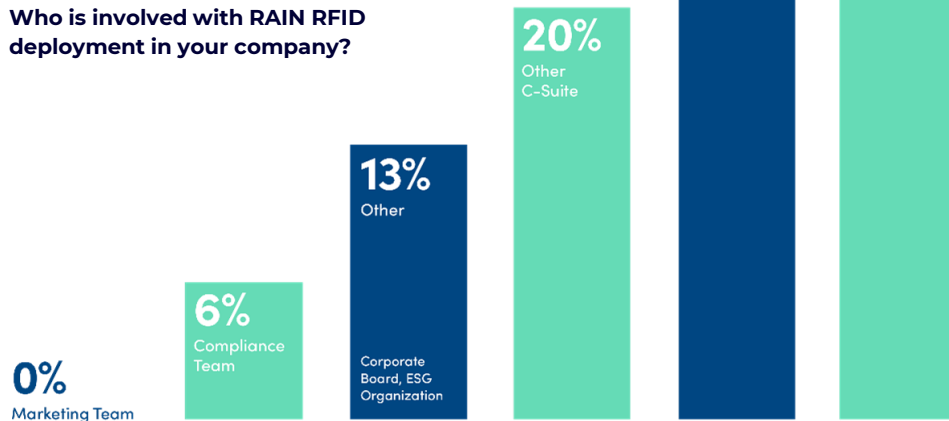
Who is involved with RAIN RFID deployment in your company?



02 Breaking down Silos

There is a clear disconnection between those setting sustainability goals (e.g. C-suite or sustainability teams) and those implementing RAIN RFID (e.g. IT or supply chain teams).

Who is involved with RAIN RFID deployment in your company?

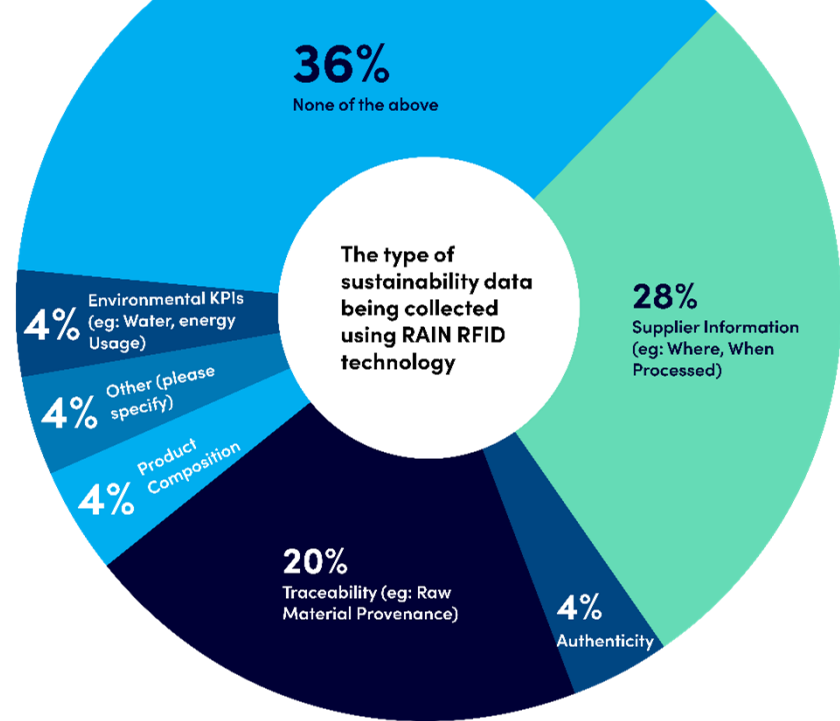


Key Findings

03 The Data Already Exists

RAIN RFID primarily supports two critical business objectives: **supply chain traceability (20%)** and **inventory management (21%)**, both of which are intertwined with sustainability use cases such as informing LCA methodology to provide a more accurate understanding of a product's footprint.

The emphasis is not on acquiring new or distinct data but on directing already existing business data towards sustainability objectives in a strategic manner.

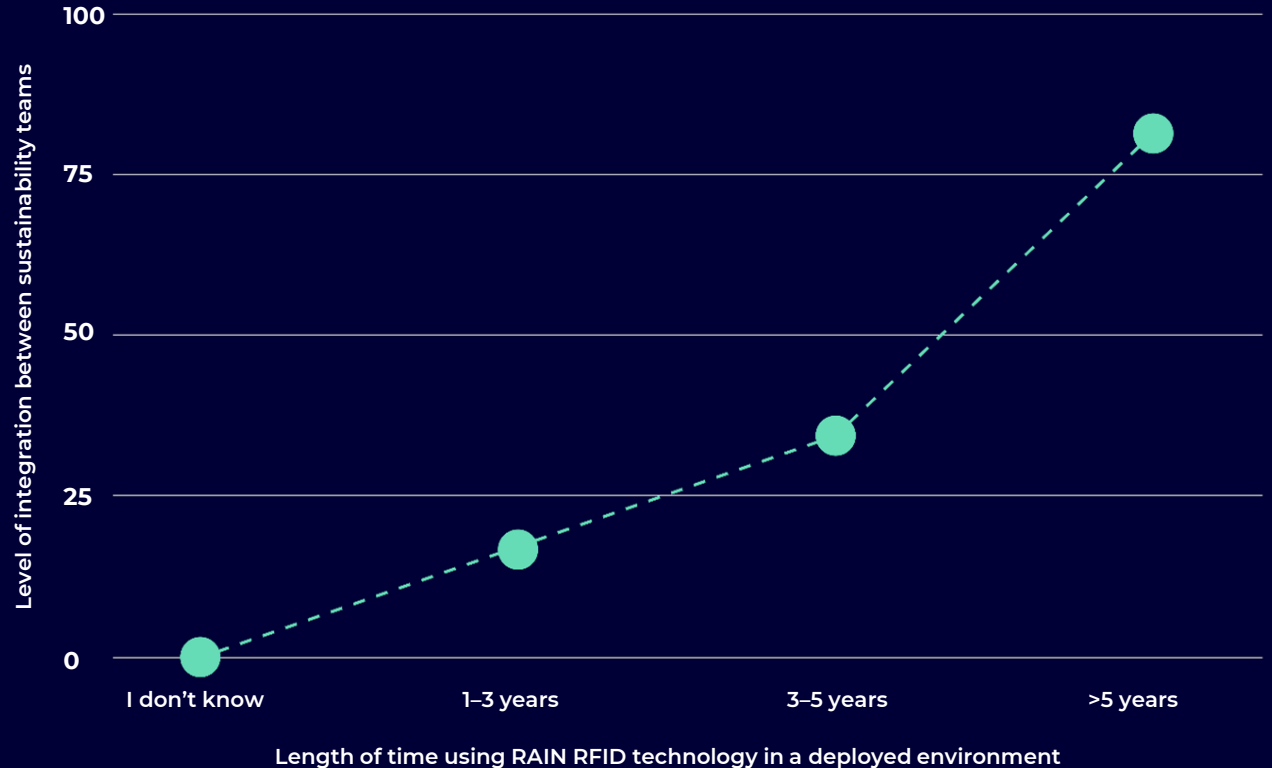


Despite 36% of respondents not actively collecting sustainability-related data through RAIN RFID initiatives, existing data gathered for operational related purposes such as inventory management and stock control can still be harnessed to advance sustainability objectives.

Key Findings

04 The Maturity Curve

When a company has been engaged for less than 3 years with RAIN RFID, the median level of integration between RFID and sustainability teams is at 18%. When RAIN RFID has been used for longer than 5 years the median level of integration between the RFID and sustainability teams increases to 80%.

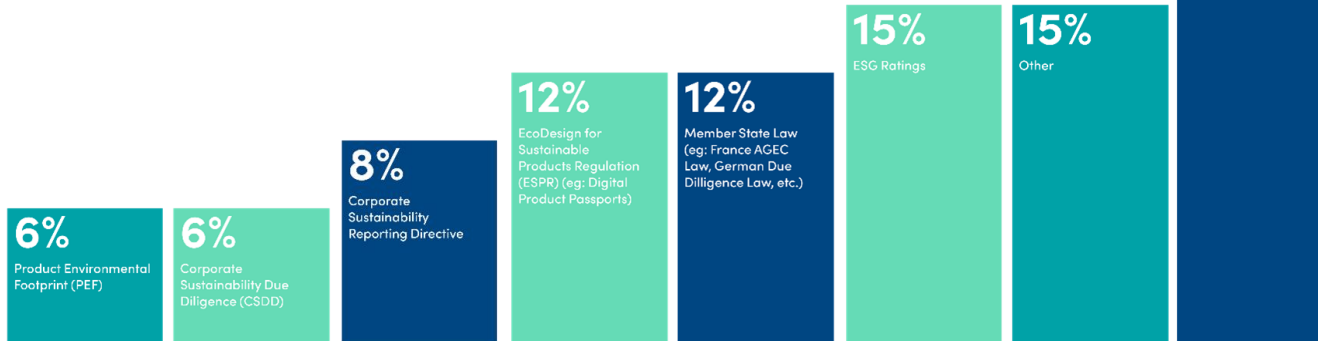


Key Findings

05 Increasing Regulatory Pressure and the Traceability Imperative

'Improving Supply Chain Traceability' was identified as the highest priority within surveyed companies' sustainability strategies for 2023 with 47% selecting traceability as an important regulatory driver.

When asked about most relevant regulations, they chose:



Survey Insight: Top priorities for company sustainability strategies in 2023

When asked about their sustainability priorities, survey respondents answered as follows, in order of priority:

Improve Supply Chain Traceability

Circularity (Improved Re-use, Recycling)

Broad Environmental Data(Energy Use, Water Use, Waste, etc)

Legislative Compliance

Customer Transparency (Informing Customers)

Net Zero (CO2 Emissions)

Tracking Human Rights / Fair Labour Practices Related Data



Key Findings

06 Urgency of Sustainability

With only 15% of the SDGs on track for 2030, businesses need to address their sustainability objectives with more urgency than ever. **RAIN RFID technology can help companies achieve their sustainability goals.**



Key Findings

07 Good for the Planet and for Business

-> Companies with strong carbon-related performance and disclosure practices had higher stock market returns with the financial benefits of climate action outweighing the risks by at least 15 times.*

-> A survey with 10,000 Gen Z customers declare almost 80% of them intended to buy only sustainable products.**

-> Companies with higher environmental, social, and governance (ESG) ratings have lower costs of capital, indicating that investors perceive them as less risky.**

-> 85% of Chief Investment Officers stated that ESG is an important factor in their investment decisions.***

Case Studies

These studies showcase how RAIN RFID is a **data carrier for digital product passports, an enabler of circular business models, a catalyst for sustainability collaborations, while improving customer experiences.**

By examining the experiences of these frontrunners, we gain valuable insights for companies embarking on their journey to integrate RAIN RFID into their operations for sustainability.



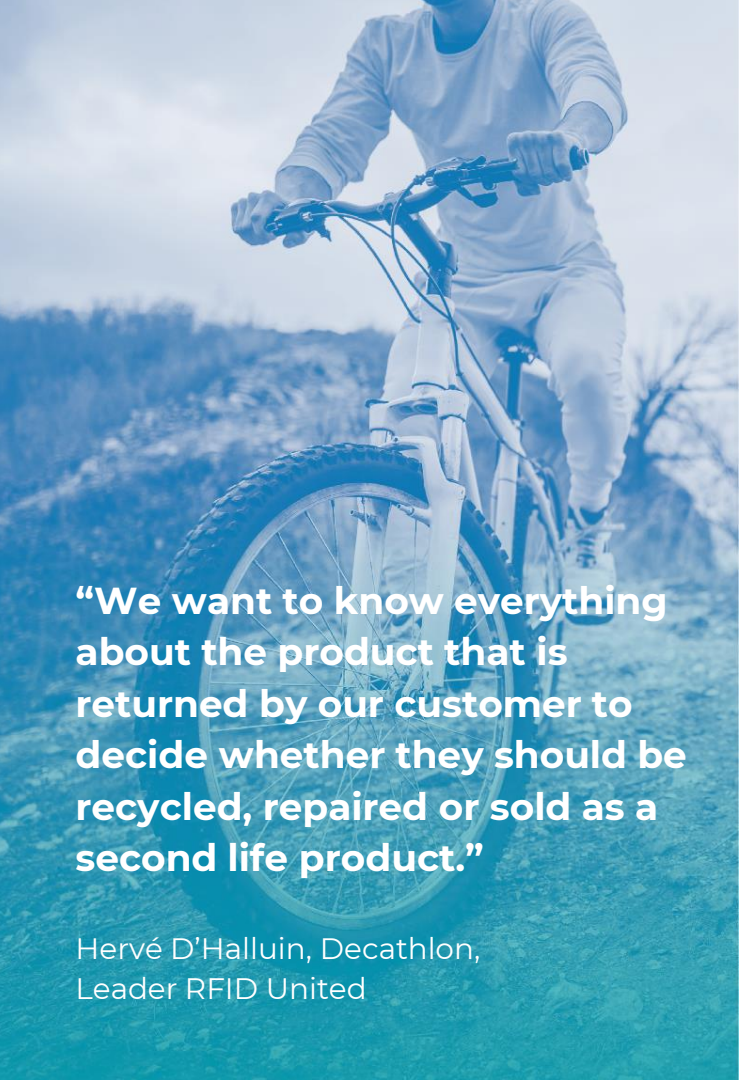
RAIN RFID Enabling New Circular Business Models at Decathlon



The Power of Collaboration in the Tyre Industry with Michelin



Providing value to customers and reducing food waste with IFCO



“We want to know everything about the product that is returned by our customer to decide whether they should be recycled, repaired or sold as a second life product.”

Hervé D'Halluin, Decathlon,
Leader RFID United

Case Studies

Decathlon – RAIN enables new circular business models

-> Initial driver of RAIN RFID implementation:
Inventory transparency, supply chain efficiency, and shrinkage reduction.

L-> How:
In 2008 Decathlon started implementing RAIN RFID and achieved 100% of the products source-tagged in 2019.

-> Sustainability Outcomes:
Decathlon anticipates economic gains and regulatory compliance through RAIN RFID integration and new circular business models, positioning itself ahead of industry standards such as the EU Digital Product Passport.


Case Studies

Michelin – from competition to collective action

-> Initial driver of RAIN RFID implementation:
Traceability and compliance.

L-> How:
RAIN RFID embedded in tyres and the adoption of industry wide data standards.

-> Sustainability Outcomes:
RAIN RFID has improved various aspects of operations and sustainability, including end-of-life, retreading and recycling through more efficient sorting.



“We try to get people to think about the long term view of the tyre, all the way to its end of life, the recycling and the recovery of the tyre. All of that is a necessity and an embedded RFID tag is the only way to accomplish that.”

Peter Ramirez, Michelin, Industry Standards and Government Regulations Manager



“Our customers expect value creation from us. Historically, they mainly focused on cost savings but now companies are also expecting value from a sustainability point of view.”

Inigo Canalejo, IFCO,
Vice President of ESG

Case Studies

IFCO – RAIN crucial to reusable assets

-> Initial driver of RAIN RFID implementation:
Traceability and compliance.

L-> How:
Equipping IFCO’s Reusable Packaging Containers with RAIN RFID to track the movement and usage of each crate.

-> Sustainability Outcomes:

RAIN RFID supports IFCO’s circular model, enabling precise tracking of reusable plastic crate movement and usage to maximize efficiency and reduce the need for additional packaging.

The data accuracy through RAIN RFID not only improves customer satisfaction, but also supports efforts to reduce food waste and minimize the environmental impact of the food supply chain and food packaging.

Roadmap:

How to leverage RAIN RFID for companies to achieve sustainability objectives.

01

Secure top-down
commitment

02

Clearly define
your strategy

03

Reframe existing
data for sustainability

04

Learn from
successful models

05

Seek education
and expert
support

06

Enhance
integration between
departments

07

Pilot
implementation

08

Full-scale application
and continuous
improvement

09

Establish
collaborative
partnerships

Sustainability Use Cases to existing RAIN RFID applications

Inventory management data

- > Track energy use and measure, calculate and reduce energy use at item level.
- > Track and improved inventory forecasting for overproduction mitigation as well as waste management and reduction.
- > Asset tracking to optimize maintenance schedules to keep products in use for longer.
- > Enable new business models eg; rental, resale, repair.

Supply chain traceability data

- > Inform and comply with CSRD, DPP, and other incoming mandatory sustainability reporting legislation requirements.
- > Inform LCA methodology to provide a more accurate understanding of a product's footprint.
- > Verify social and labor compliance in the supply chain, and with modern anti-slavery policy.

Product component and production data

- > Facilitate end-of-life sorting and large scale recycling efforts, and benefit from utilizing recycled materials.
- > Customer transparency, informing customers of sustainability attributes.
- > Raw material traceability and resource optimization.
- > Ensure product compliance with incoming Ecodesign for Sustainable Products Regulation (ESPR) and verify environmental claims via Digital Product Passport.

Conclusion:

A Sustainable Future Enabled by RAIN RFID

There are multiple potential sustainability use cases for RAIN RFID application: new service models, enabling sorting and recycling through product composition information, improving supply chain traceability, collection of environmental information to track and report on CO2 reduction, etc.

The business case for incorporating RAIN RFID is strong, contributing to company efficiencies along the supply chain, reducing shrinkage at retail, and powering new consumer interactions.

With today's market drivers such as regulation, sustainability urgency, consumer and investor demands, the time to implement RAIN RFID beyond inventory management is now.

The opportunity for companies to achieve their sustainability goals leveraging RAIN RFID is enormous.



About RAIN Alliance and the Sustainability Work Group

The RAIN RFID brand name represents passive ultra-high frequency (UHF) RFID technology.

The RAIN Alliance is a consortium of companies that together want to create a smarter and more sustainable world by using RAIN RFID technology to connect trillions of everyday items across their entire lifecycle, simply and inexpensively.

The RAIN Alliance drives awareness and fosters market adoption of RAIN technology and supports the development of the RAIN brand.

The RAIN Alliance offers a variety of membership benefits, including industry research, educational sessions, promotion, and networking opportunities that connect industry members and end-users.

For more information, please visit www.RAINRFID.org

The RAIN Alliance and Sustainability Work Group

The mission of RAIN Alliance Sustainability Work Group is to promote the value of RAIN RFID to help companies achieve their sustainability objectives and targets.

This report is a contribution to this debate.

Work Group members*:

Advanced Material Development Limited	Nedap NXP Semiconductors Powercast
All4Labels	Primo 1D
Anantics	PY Cube
Arizon RFID	Sato Corporation
Avery Dennison	Sensormatic by Johnson Controls
Beontag (Co-leader)	Smooth & Sharp Corporation
Caen RFID	SPF-Inc
Decathlon	Tadbik
Fineline Technologies	TAGEOS
GSI Global	Talkin' Things (Co-leader)
GSI US	Voyantic
Hana RFID	Zebra
Impinj	Technologies
Logopak	
Michelin	

*As of March 2024

Thank you



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