

VDC Research: RAIN RFID Market Outlook

OCTOBER 2020

Agenda

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- 1 RAIN RFID Research Scope & Methodology
- 2 RAIN RFID: Scenario-Based Outlook
- 3 Leading Commercial & Technical Adoption Drivers
- 4 RAIN RFID Opportunity by Application
- 5 About VDC Research

Research Scope and Methodology

- ▶ RAIN RFID Research Product Scope:
 - Tags
 - Inlays
 - Tag ICs
 - Readers: Handheld and Fixed Position
 - Reader ICs & Reader Modules
 - Printer/Encoders
- ▶ RAIN RFID Research Regional Scope:
 - North America
 - Central/Latin America
 - EMEA
 - Asia-Pacific
- ▶ Research Methodology
 - Leverage existing VDC Research AIDC research databases and reports
 - In-depth interviews with RAIN RFID hardware vendors spanning the entire solution value-chain
 - In-depth interviews with RAIN RFID solution providers/system integrators
 - In-depth interviews with RAIN RFID end users and industry associations
 - Collaboration with RAIN RFID Board
 - Research fielded during first half of 2020

Factors Driving RAIN RFID Opportunity

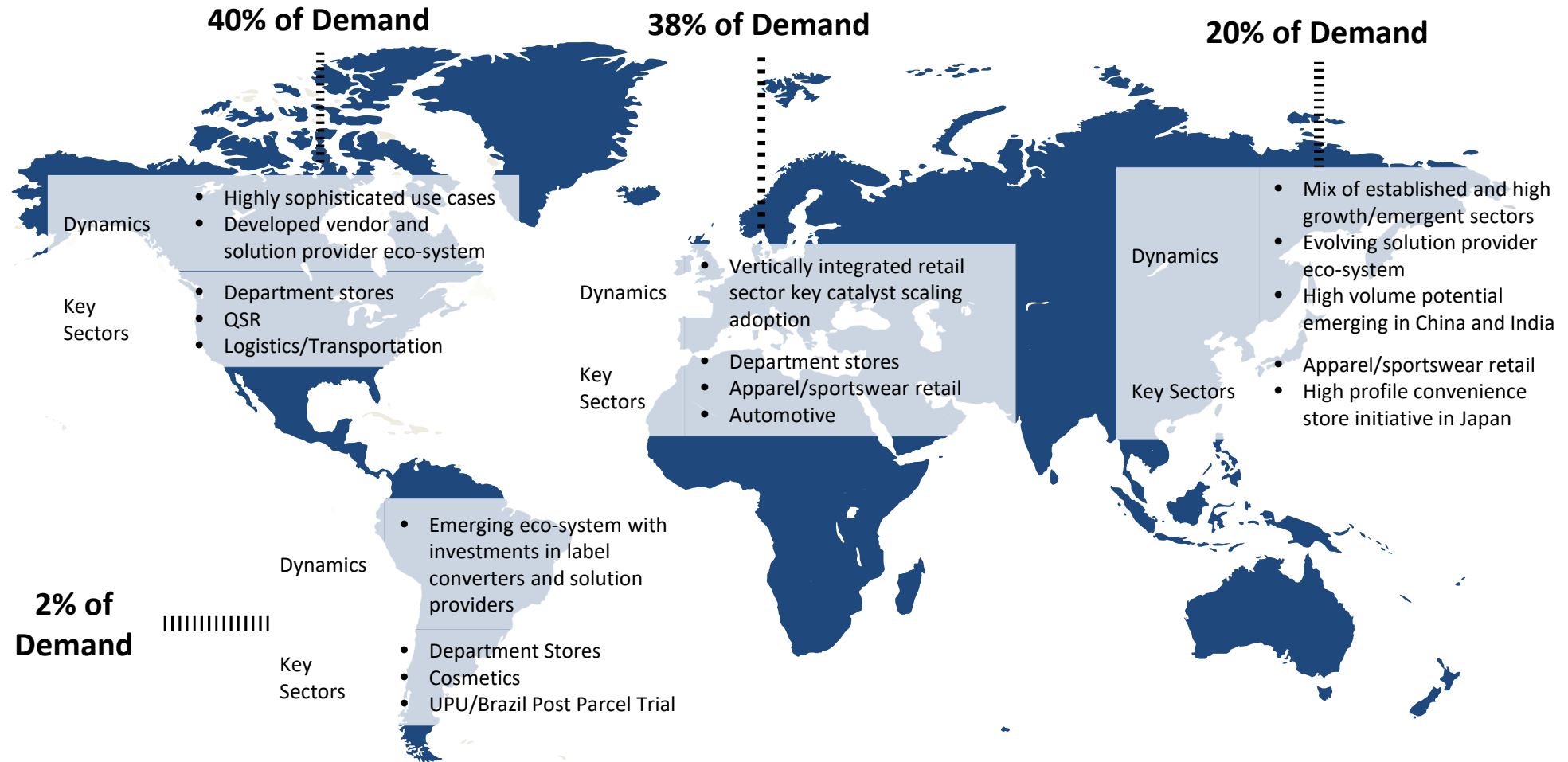


Taggable Items by Category – Vast RAIN RFID

Opportunity

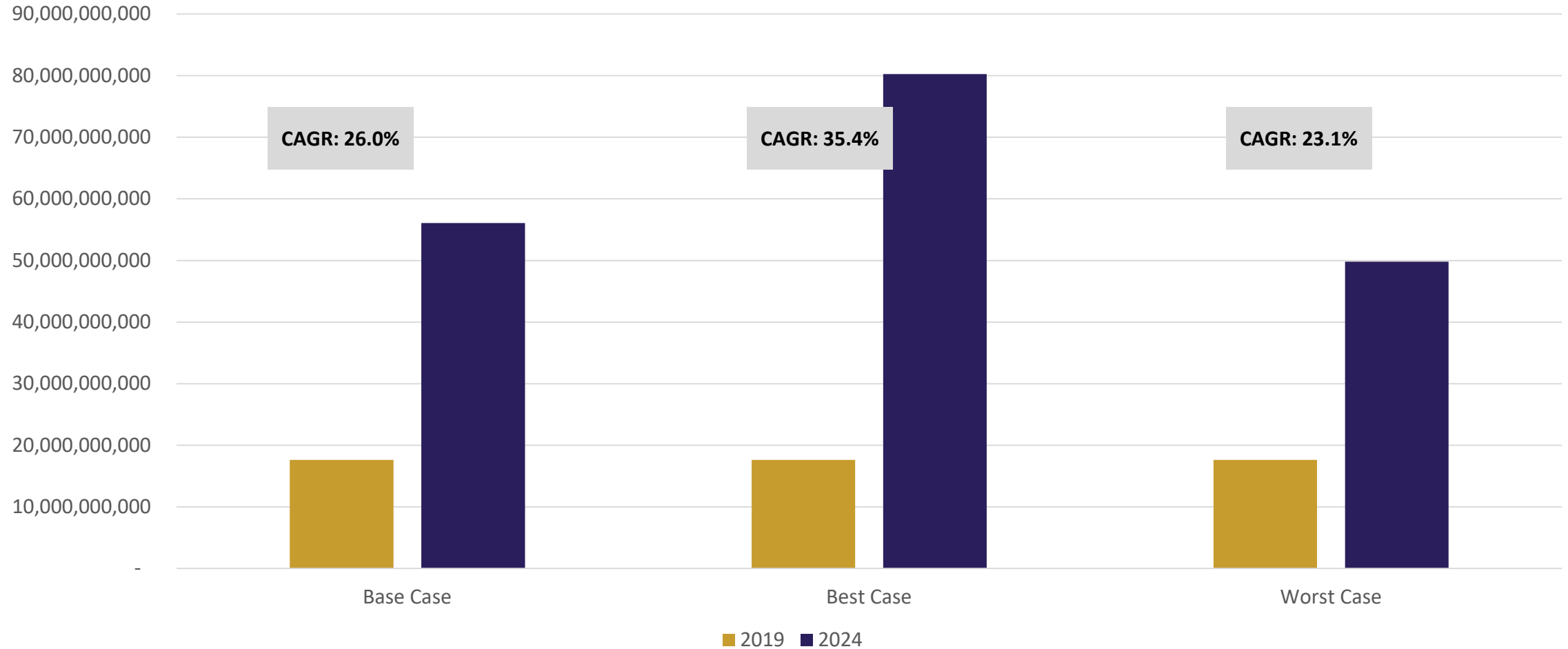
	ANNUAL VOLUME & 2019 ATTACH RATES	KEY CHARACTERISTICS
FOOD ITEMS	<ul style="list-style-type: none"> • 2 Trillion • 0.03% Attach Rate 	<ul style="list-style-type: none"> • Focus around supply chain traceability at pallet and tray level • Emerging use cases in QSR and longer term in convenience stores
PARCELS	<ul style="list-style-type: none"> • 90 Billion • 0.02% Attach Rate 	<ul style="list-style-type: none"> • E-commerce surge driving parcel volumes to 250B by 2025 amid shifting competitive dynamics • UPU sponsored efforts in Brazil
APPAREL & FOOTWEAR	<ul style="list-style-type: none"> • 80 Billion • 16% Attach Rate 	<ul style="list-style-type: none"> • Leading RAIN RFID use case around inventory control • Use case expansion into loss prevention and POS
COSMETICS	<ul style="list-style-type: none"> • 120 Billion • 0.01% Attach Rate 	<ul style="list-style-type: none"> • Expansion category among retailers currently supporting RAIN RFID in apparel/footwear
AIRLINE BAGGAGE	<ul style="list-style-type: none"> • 4 Billion • 7% Attach Rate 	<ul style="list-style-type: none"> • IATA RAIN recommendation driving awareness and demand beyond early adopters • COVID-19 sector impact on technology investment budgets
AUTOMOTIVE	<ul style="list-style-type: none"> • 603 Billion • 0.02% Attach Rate 	<ul style="list-style-type: none"> • Build to order dynamics driving shift in automotive production • Diverse use cases for inbound parts, recalls, reverse logistic, chassis tracking, parts verification
LOGISTICS	<ul style="list-style-type: none"> • 10 Billion • 15% Attach Rate 	<ul style="list-style-type: none"> • Shift from closed loop asset tracking to open loop supply chain visibility • Growing opportunity for real time location solutions

Diverse Use Cases Regionally

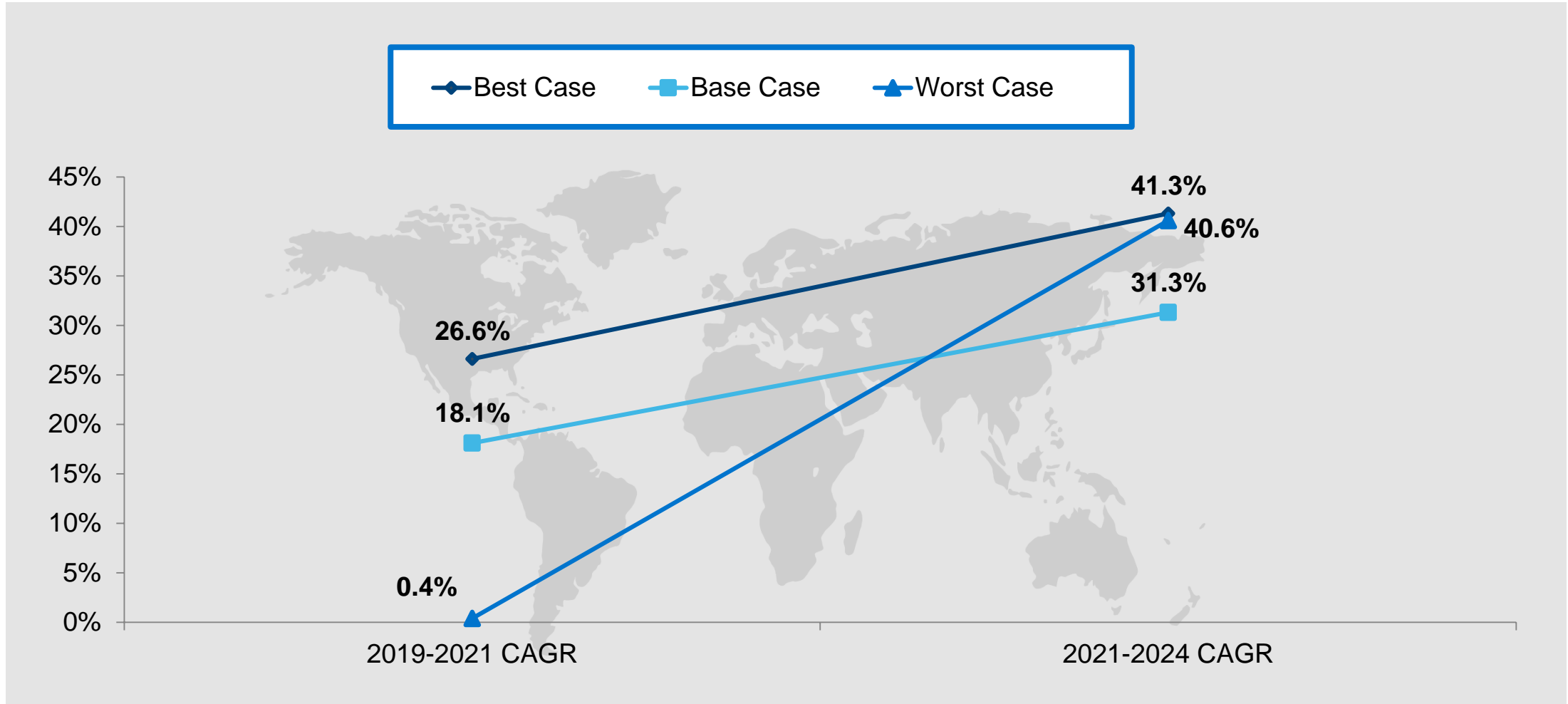


RAIN RFID Tag Outlook – Global Market Scenarios

Global Unit Shipments: RAIN RFID Tags



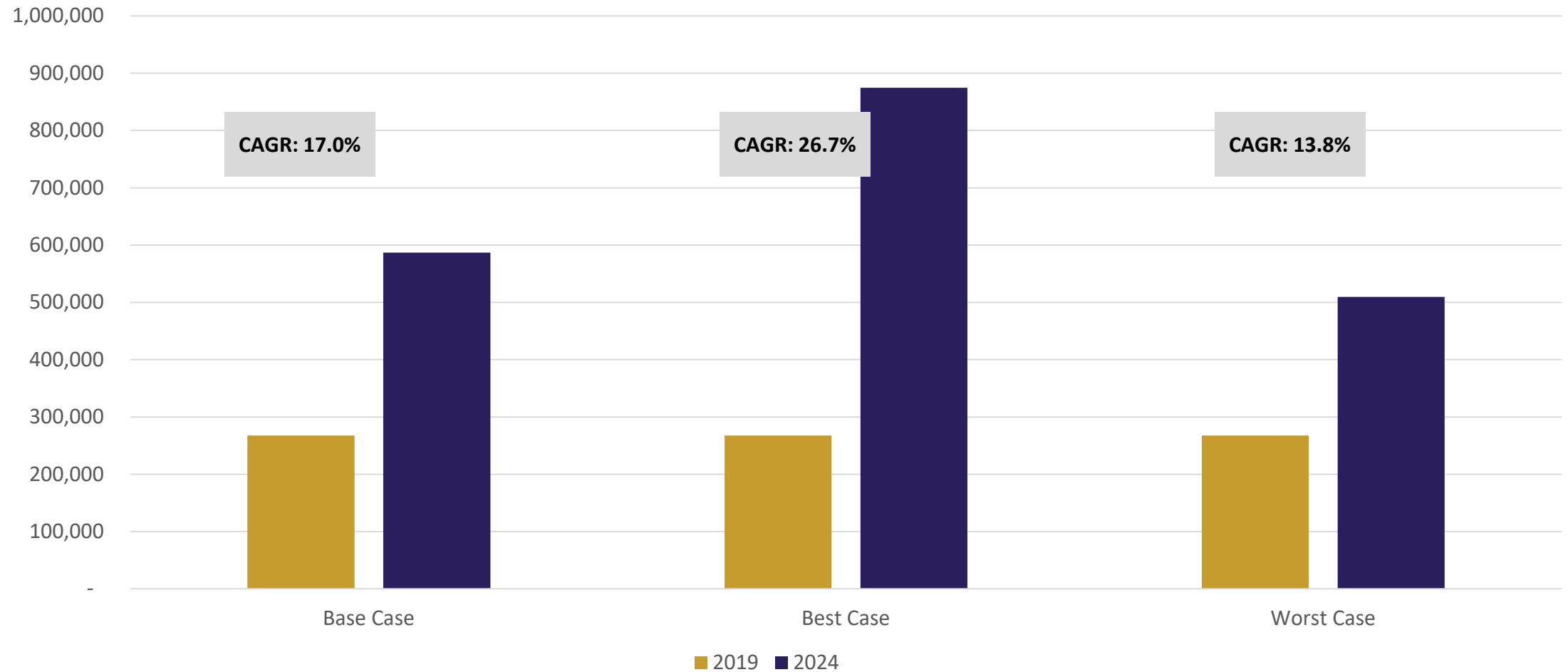
RAIN RFID Tag Outlook – Near & Longer Term Scenarios



RAIN RFID Reader Outlook – Global Market

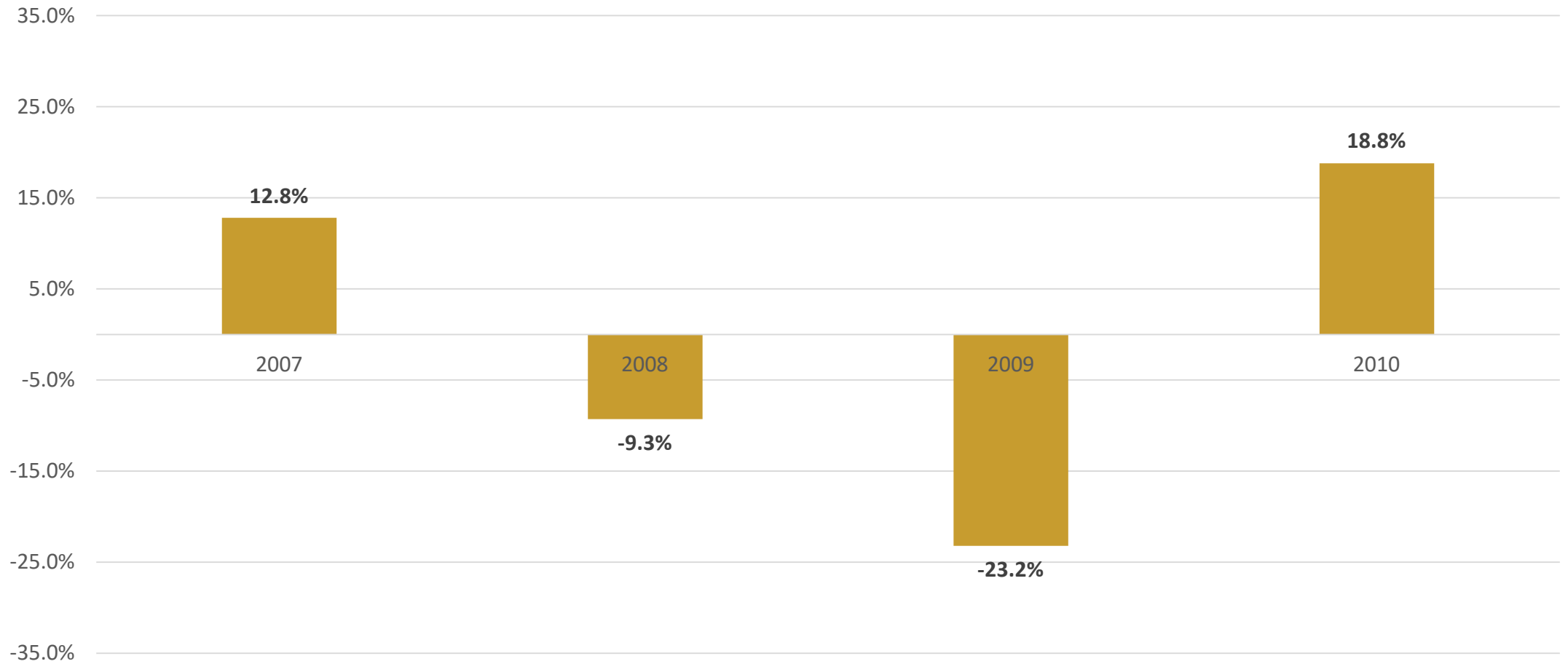
Scenarios

Global Unit Shipments: RAIN RFID Readers (Handheld and Fixed)



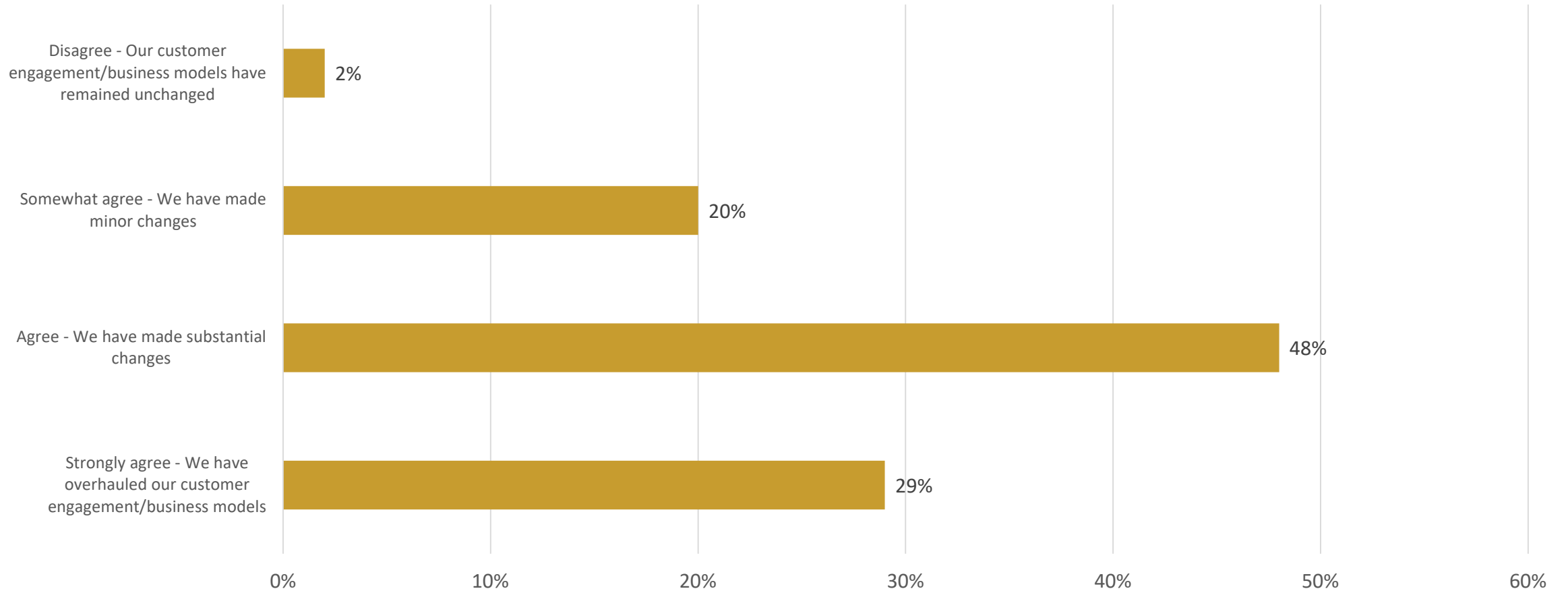
Global AIDC Market Performance – “Great Recession”

YoY Revenue Growth



COVID Impact on Customer Engagement

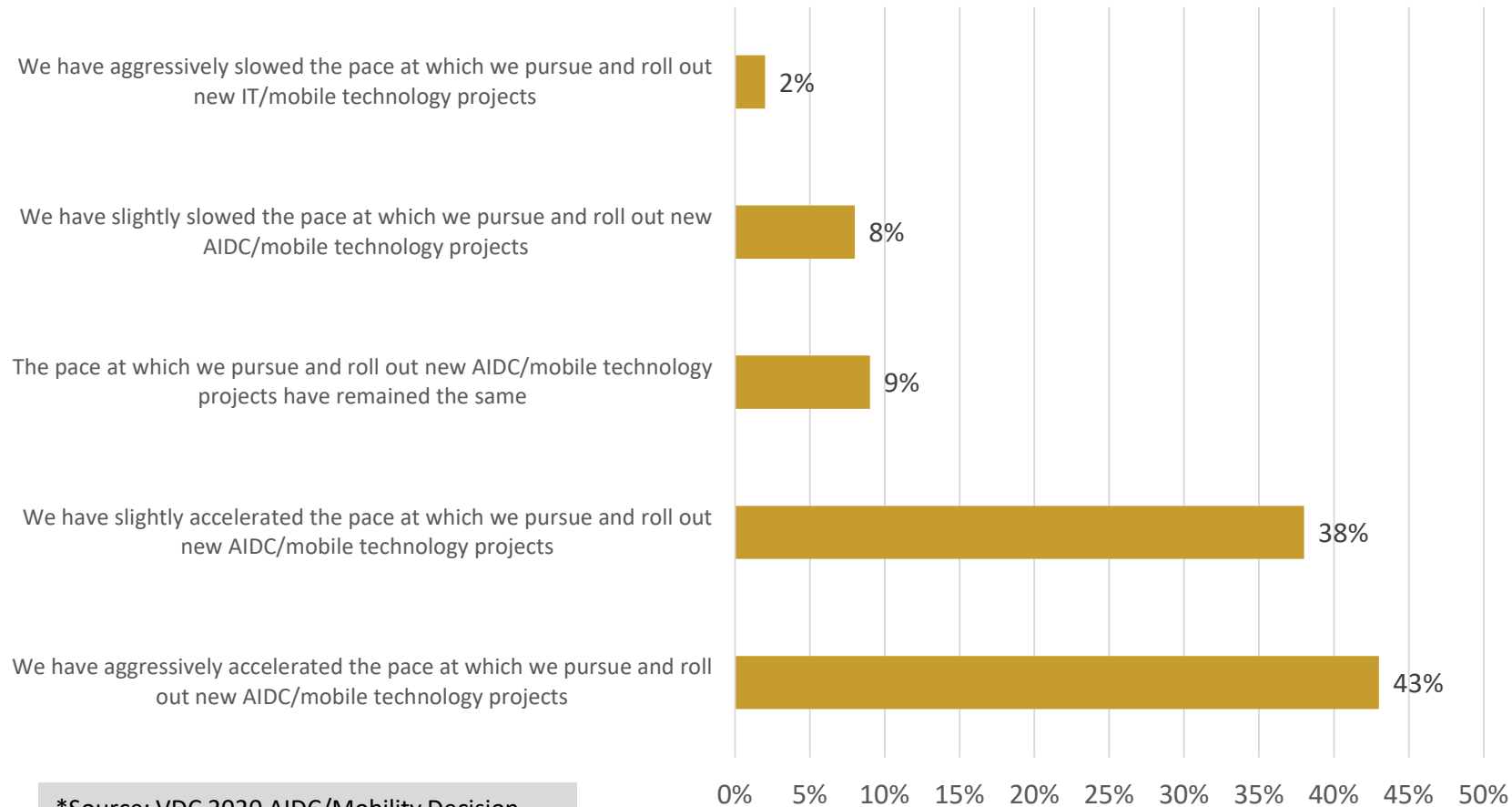
Transformation of Customer Engagement Models in Response to COVID-19



*Source: VDC 2020 AIDC/Mobility Decision Maker Survey; n=250

COVID Impact on AIDC/Mobility Investments

How has COVID-19 Impacted Organization's Approach to AIDC/Mobility Technology Investments to Support Operations*



“We can already see that the pandemic has caused changes in customer behavior that will accelerate the digitalization of our industry. To meet this future, we will continue adapting the organization and improve our ways of working to become more flexible, fast and efficient. As we are accelerating our digital development, we continue optimizing the store portfolio and integrating the channels.”
H&M CEO Helena Helmersson

*Source: VDC 2020 AIDC/Mobility Decision Maker Survey; n=250

What's Next: Ushering in Next Wave of RAIN RFID Adoption



**Breaking the mold:
application
and use case
expansion**



**Technology
enhancements:
performance
improvement,
higher yields,
lower costs**



**Fixed reader
infrastructure
investment:
virtualizing
operations**



**Visibility as
competitive
currency: enabling
real time decision
making with scale**



About VDC Research

Scale 1:85,000,000 at 0°
Miller Cylindrical Projection

Coordinated Universal Time (UTC)
Time zones are shown by
International Date Line (IDL)

French Southern and Antarctic Lands
(AFM)

Who We Are

VDC

Founded in 1971, VDC Research provides in-depth insights to technology vendors, end users, and investors across the globe. As a market research and consulting firm, VDC's coverage of AutoID, Enterprise Mobility, Industrial Automation, and IoT & Embedded technology is among the most advanced in the industry, helping our clients make critical decisions with confidence. Offering syndicated reports and custom consultation, our methodologies consistently provide accurate forecasts and unmatched thought leadership for deeply technical markets. Located in Natick, Massachusetts, VDC prides itself on its close personal relationships with clients, delivering an attention to detail and a unique perspective that is second to none.



AutoID & Data Capture



IoT & Embedded Technology



Enterprise Mobility & Connected Devices



Industrial Automation & Sensors



Custom Research & Consulting

Ways to Work With Us



Our market research is the basis for the many other ways that VDC can help you to grow your business. Our clients rely on us to provide actionable insights that support their most important strategic initiatives including corporate development projects, opportunity assessments, and lead generation programs.





679 Worcester Road, Natick,
MA



(508) 653-9000



www.vdcresearch.com

Thank You!