Transforming Transit Ticketing: Integrating MIFARE & UWB for a Future-Ready Experience

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Agenda

NXP & MIFARE overview

NXP UWB

MIFARE UWB: Bringing the hands-free vision to reality

MIFARE UWB ecosystem

A smarter world starts with NXP

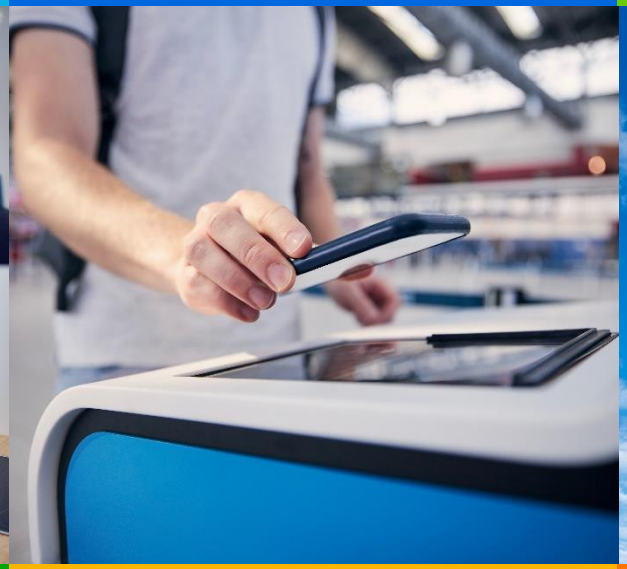
We design purpose-built, rigorously tested technologies that enable devices to sense, think, connect and act intelligently to improve people's daily lives.

Automotive

Industrial & IoT

Mobile

Smart Home

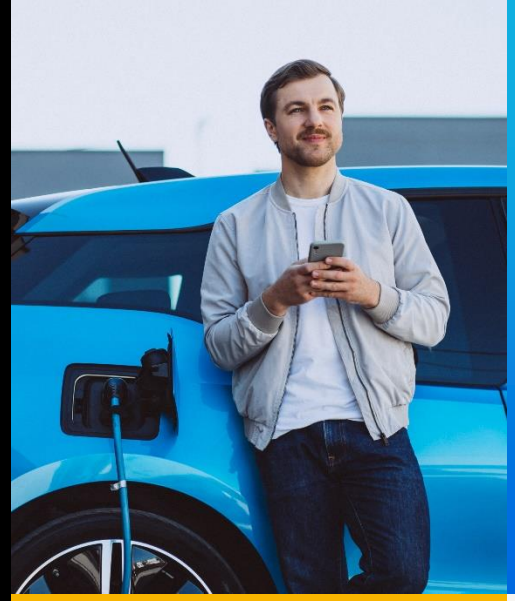


Smart City

Communication Infrastructure

MIFARE®
Innovating for Tomorrow

750+ cities powered
40+ applications & use cases



Globally recognized brand for contactless solutions

Designed to meet the evolving customer needs

MIFARE

Transforming industries and improving daily lives of billions worldwide

Celebrating 30 years of innovation

NXP TRIMENSION
One of the industry broadest UWB portfolios with tailored UWB solutions for Automotive, Mobile, Industrial and IoT

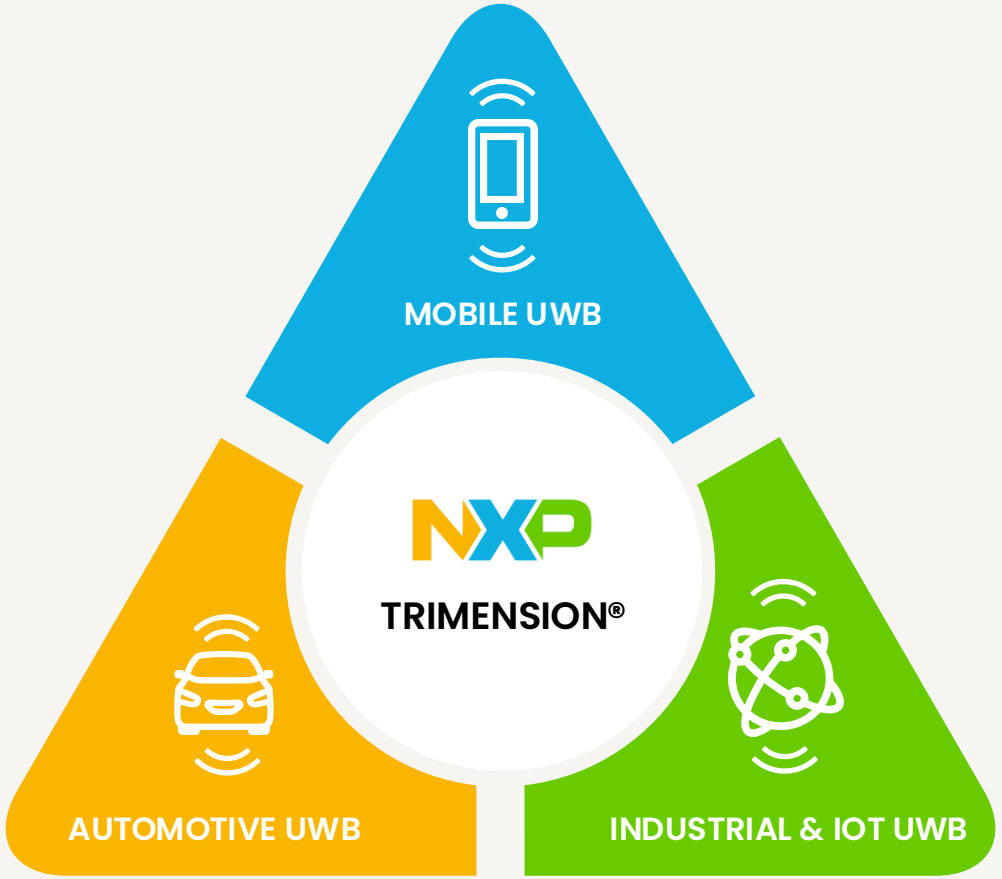
ECOSYSTEM BUILDER
Co-founder of the FiRa Consortium

Board members of CCC and CSA

CAR CONNECTIVITY consortium®

csa connectivity standards alliance

fira The Power to Be Precise



Deployment of UWB in Mobile is an enabler for Industrial & IoT Ecosystem

By 2025, ABI Research anticipates there will be over 1 billion annual device shipments of UWB technology.

Automotive

- Secure car access
- Child presence detection
- Seatbelt reminder
- Intrusion alert
- Kick-sensing

Mobile

Spatial awareness for mobile devices

UWB is an extension of the mobile wallet

Industrial & IoT

Integration of UWB into mobile devices unlocks IoT use cases

Smart home

- Find my item
- Hands free access
- Home control
- Enhanced audio

Smart enterprises

- Access
- Indoor navigation
- Factory automation

Smart retail

- RTL Services
- Asset tracking
- Hands free payment

UWB devices

World's first UWB Transit is Live!

BYD Yunba SkyShuttle line in Shenzhen went live in 2024, making hands-free UWB-based transit a reality.

NXP Collaborates with Shenzhen Tong to Enable the Industry's First UWB-Based Mass Transit Solution

October 8, 2024 by Gregor Klezin

SHARE

Shenzhen Tong is using NXP's Trimension UWB portfolio to enable contactless ticketing for mass transit, allowing riders to simply walk through ticketing gates without tapping a phone or transit card.

NXP® Semiconductors today announced its Trimension® portfolio will be deployed by Shenzhen Tong, the provider of automatic fare collection systems to the Shenzhen Transit, as part of a new Ultra-Wideband (UWB)-based ticket platform. Trimension UWB will allow mass transit riders to simply walk through ticketing gates with their phone in their pocket or bag, without the need to stop and tap a phone or transit card.

Hands-free transit & access experience with MIFARE UWB

Ease of use & flexibility

Infrastructure compatibility

Precise & secure

No user interaction

EASY INTEGRATION

PTO can keep the business logic, transaction flow, SAMs and Master Key from current infrastructure.

FORM FACTOR AGNOSTIC

MIFARE UWB can be implemented in smart phones and tags, adapting to different user needs.

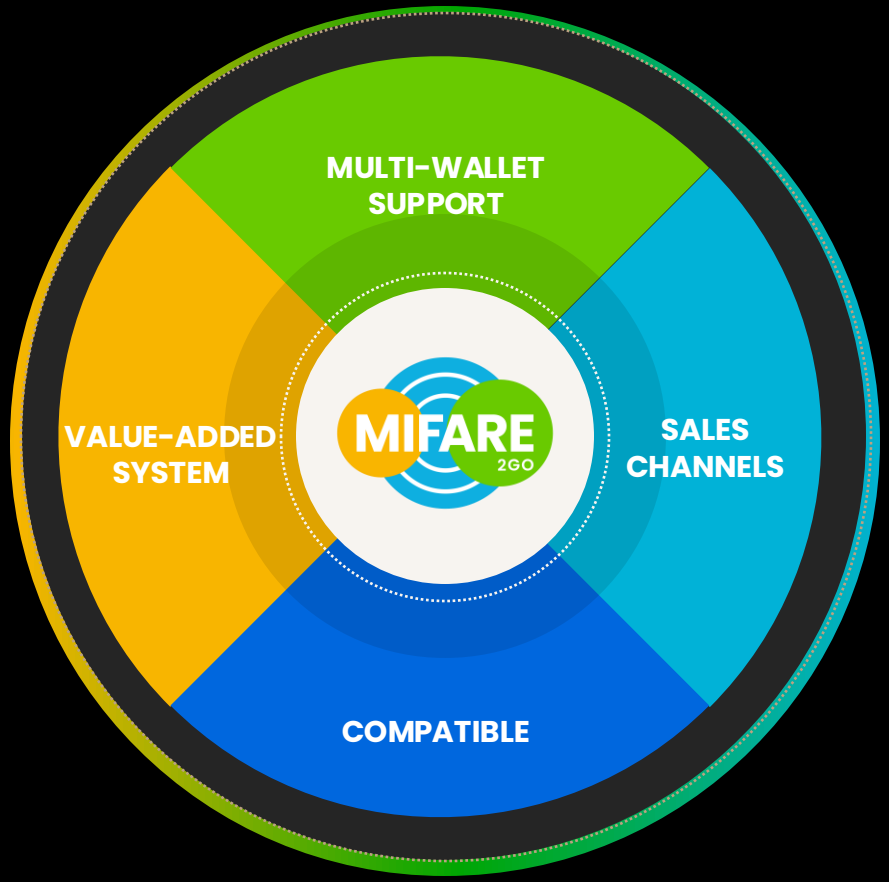
FASTEST TRANSACTION

UWB and MIFARE are integrated to optimize the transaction timing and integrate the authentication flow.

MULTI GATE SUPPORT

Automatic gate selection based on user trajectory.

Fast TTM



Wide Coverage

Multi-wallet support

One integration, many wallet providers (HCE & eSE) with cost-optimized structure

Compatible

Virtual card adopts existing business rules (products) & smart card data structure

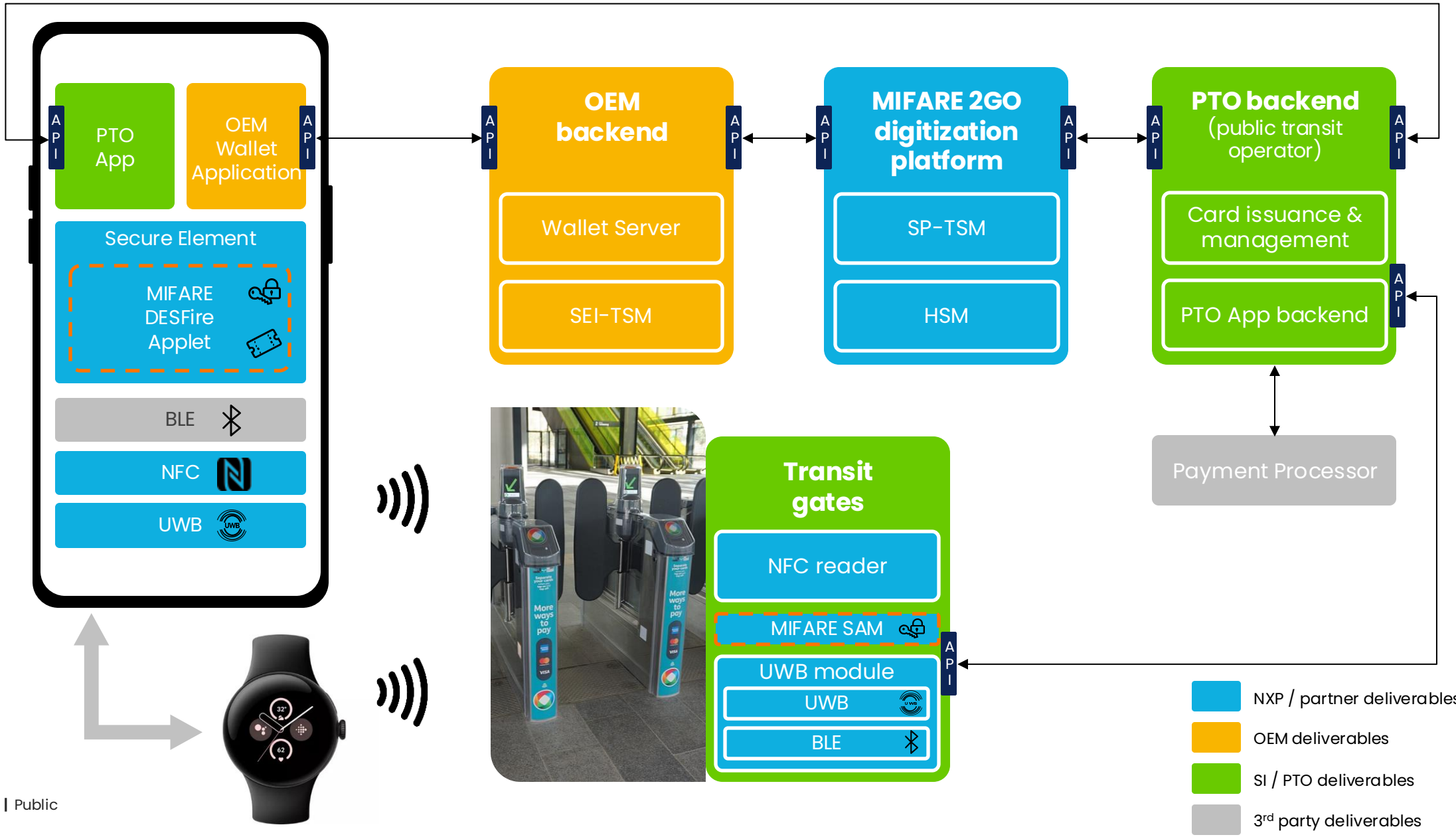
Digital channel

Interactive on the go digital customer journey via wallet providers

Value-added system

Adding value to your own fare collection system, brand and community

MIFARE UWB transit top level architecture



Booth E22

nxp.com/mifare

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