

Contactless Solutions with MIFARE & Beyond

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MIFARE Smart Cities
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SECURE CONNECTIONS
FOR A SMARTER WORLD

EXTERNAL

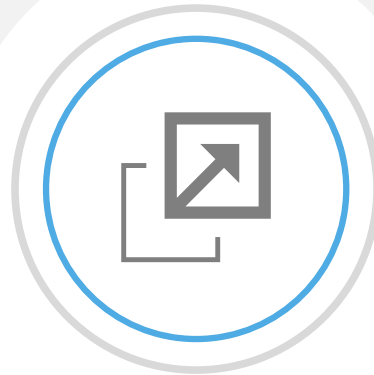
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TRANSPORT TICKETING LANDSCAPE



**TRENDING
TECHNOLOGIES &
SOLUTIONS**



**KEY DRIVERS FOR
ADOPTION**



**GLOBAL MARKET
PRESENCE**

TRANSPORT TICKETING LANDSCAPE

TRENDING TECHNOLOGIES & SOLUTIONS



- EMV (open-loop) & white label EMV
- Account Base Ticketing
- Optical solutions (QR-code)
- NFC
- Mobile & wearables/BYOD (iOS & Android)

KEY DRIVERS FOR ADOPTION



- Infrastructure and operational model optimization
- Superior User/customer Experience & convenience
- Compete with alternative transport solutions
- Complement existing ticketing technology

GLOBAL MARKET PRESENCE

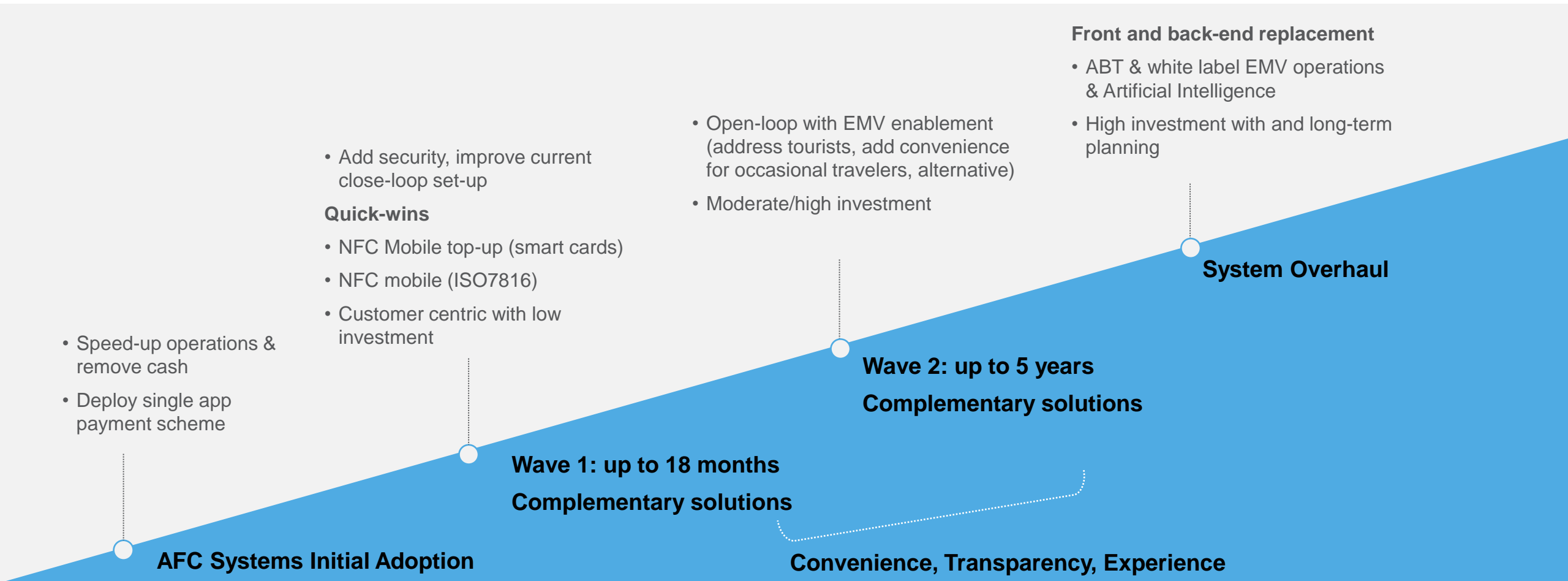


- High: closed-loop (MIFARE, FeliCa, CIPURSE, Calypso)
- Limited*: EMV (PNOs: Visa & MasterCard)
- Limited: Mobile**
- Limited: ABT

Note: *Support of multiple front-end technologies & excluding China.

**At the gate/reader transit system accepting EMV.

2030 & BEYOND: TRANSPORT TICKETING TECHNOLOGY ADOPTION



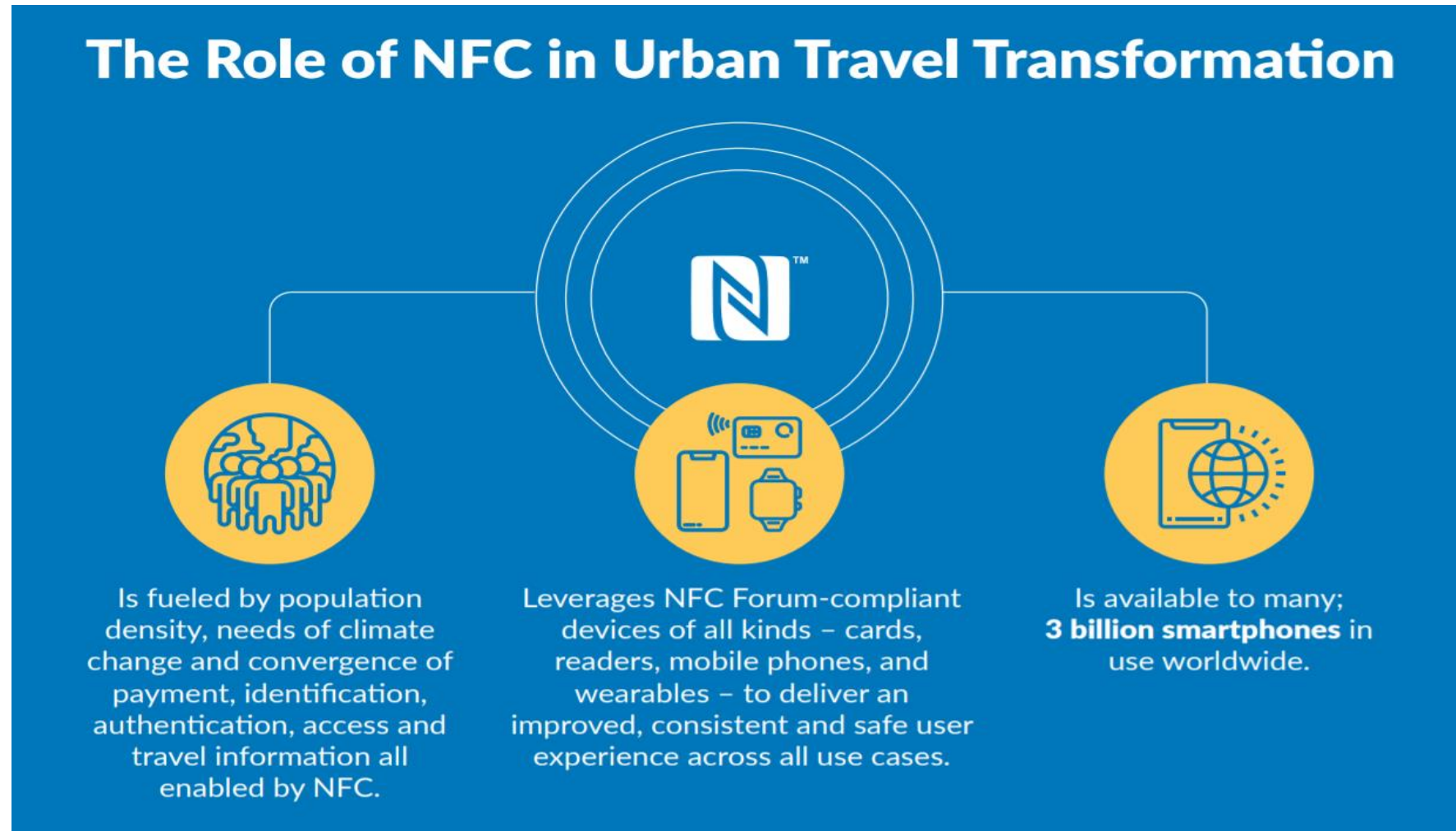
WHY NFC FOR SMART CARDS & MOBILE?



The NFC Forum brings the convenience of NFC technology to life. We empower organizations to deliver secure, tap-based interaction with an intuitive, simplified, reliable experience to users around the globe.

“45% of the global population use NFC contactless cards or NFC-enabled smart phones nearly everyday, according to an ABI Research survey.”

LEVERAGE THE MARKET PRESENCE OF NFC





NTA Case Study, NFC Mobile PoS & MIFARE® DESFire®



The NTA in Ireland introduced NFC mobile reload app for their Leap card
Android: January, 2016
iOS: April, 2021



Pre-COVID: active users 480,000 (Android)
May, 2021: over 200,000 active users (Android, iOS)



Pre-COVID share of total top/moth: 27.00% (Android)
May, 2021 share of total top/month: 43.60% (Android, iOS)
Surpassing retail top-up for the first time, making NFC apps the most popular top-up/sales channel.



Improvement of operational model
Savings from sales channel shift & cash handling
Customer convenience and transparency

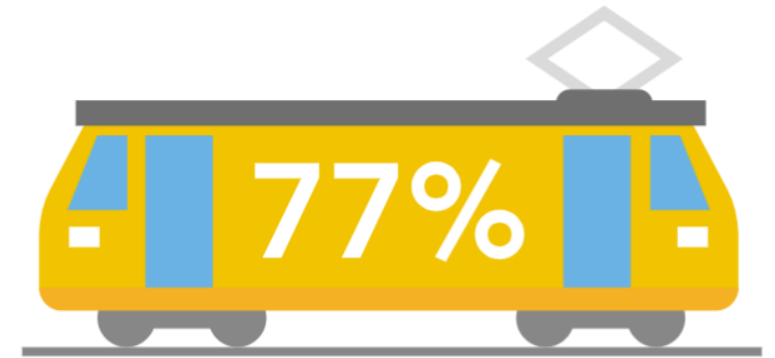
MIFARE® LEADER IN CONTACTLESS ICS



Running in **over 750 cities**

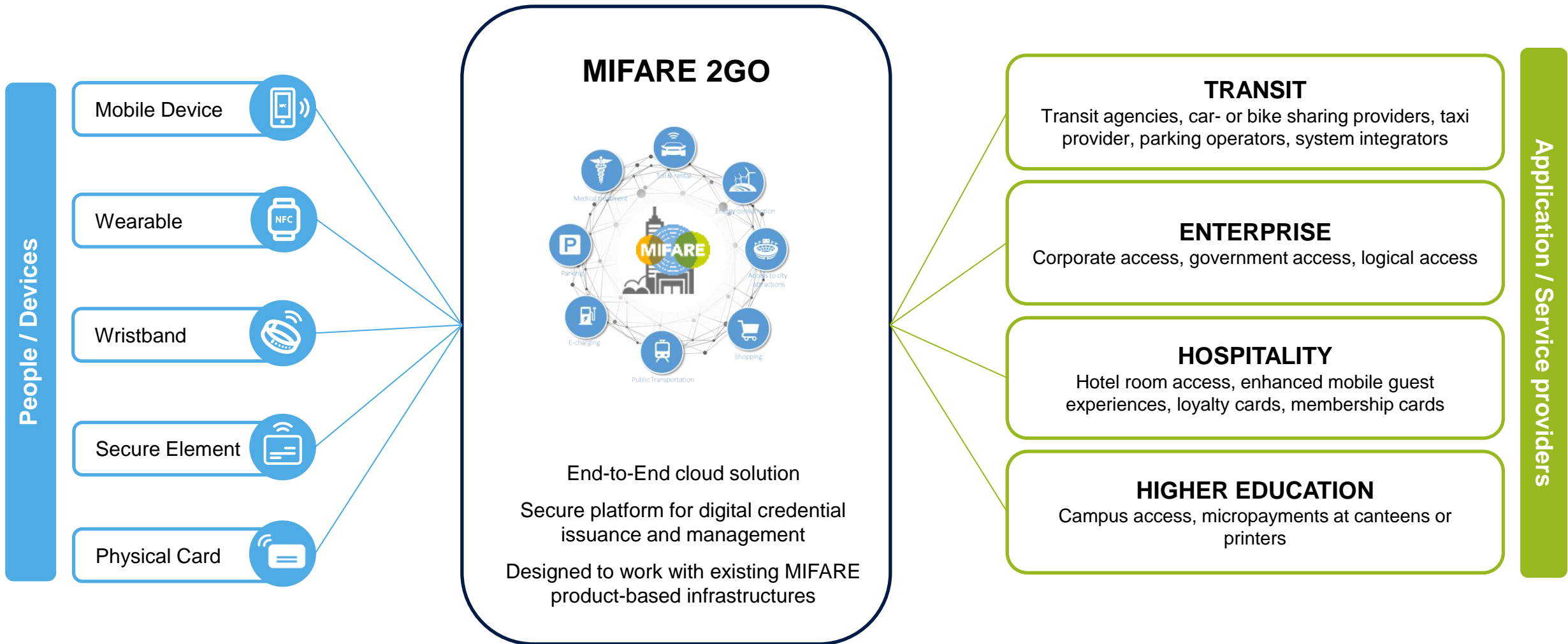
1.2 Billion

People use **MIFARE** every day for **smart mobility, access, micropayment, loyalty**

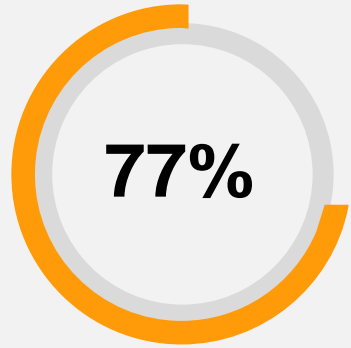


#1 in automatic fare collection, with **77%** market share in **transport ticketing**

MIFARE 2GO CLOUD SERVICE ECOSYSTEM



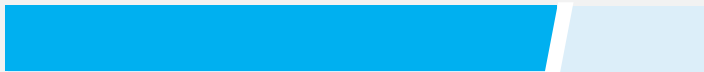
TRANSIT & ACCESS LEADING THE SERVICE EXTENSION



MIFARE is the leading contactless transportation solution used in 750+ cities worldwide

5/7

Continents adopted MIFARE 2GO for public transport



7+ countries

50+ transit agencies

20+ universities

2B Android devices

enabled on MIFARE 2GO





SECURE CONNECTIONS
FOR A SMARTER WORLD