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# Mobile Security Consumer



# Mobile security consumer multiple secure applications

**Secure  
connectivity**



**Digital car key**



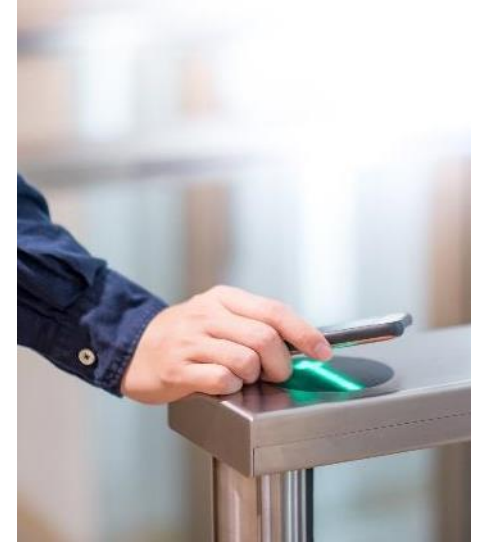
**Payment**



**NFC Wireless  
Charging**



**Ticketing**



# A full range of eSIM, SIM and NFC/SE

To support multiple secure mobile transactions

## ST33 eSIM, SIM, eSE

- Up to 2MBytes Flash
- Multipackages (WLCSP, DFN8, D16)
- GSMA SAS-UP certified flow
- EMVCo, CC EAL5+, MTPS

#1 eSIM

## ST21NFC controller

- Boosted for tiny & metal cover antenna
- Reduced BOM
- Low-power mode
- Card emulation, reader & P2P

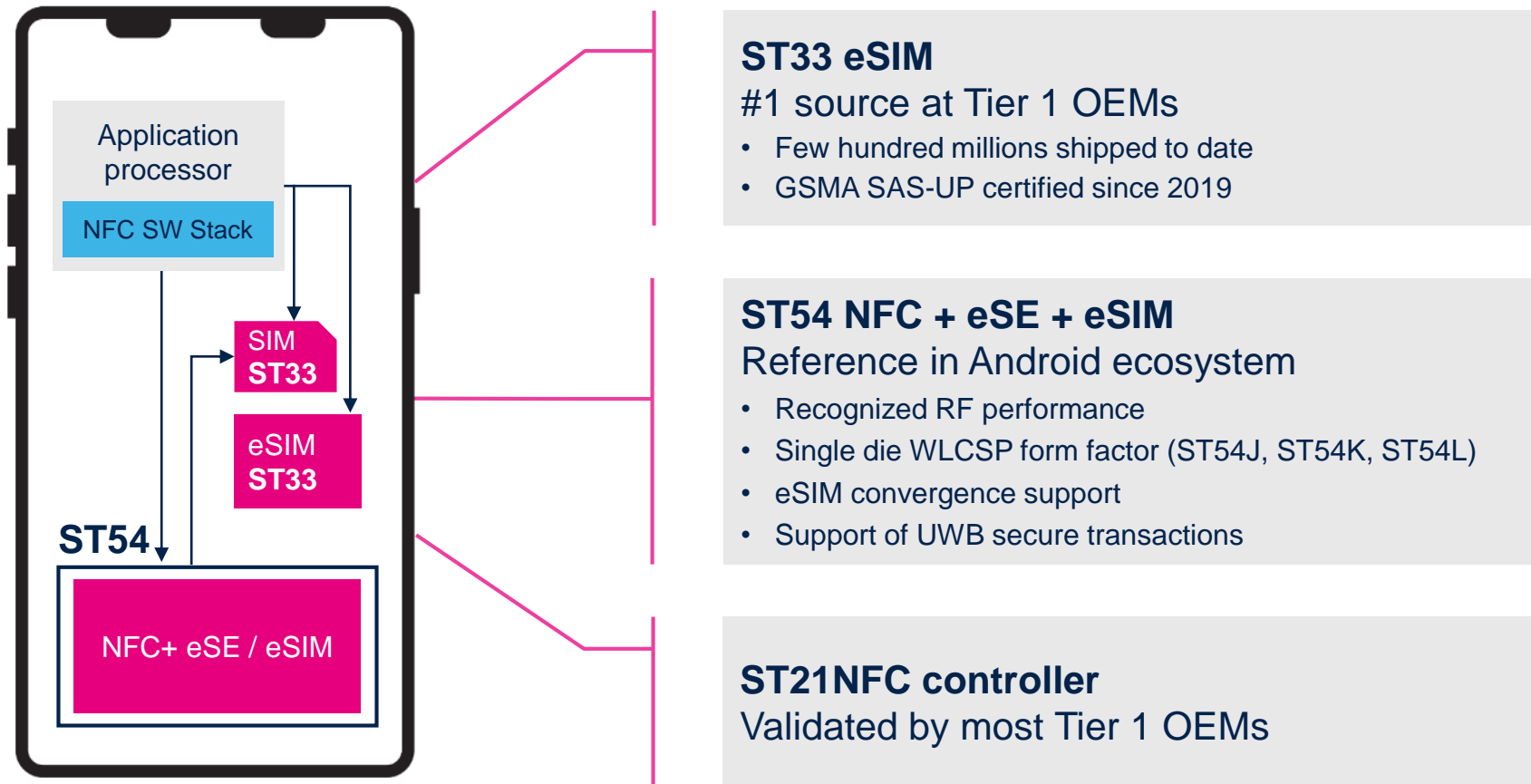
Best-in-class performance

## ST54 NFC/eSE/eSIM convergence

- NFC, eSE, eSIM in a single chip
- Small WLCSP package
- GSMA SAS-UP certified flow
- EMVCo, CC EAL5+, MTPS
- MIFARE®, FeliCa®, China transit

All-in-one solution

# A full range of eSIM, SIM and NFC/SE



**Tailored to support OEM wallet strategy**

# ST33 eSIM: #1 in consumer eSIM

## ST partners

- Partnership with major eSIM OS developers
- 251 MNOs over 84 countries <sup>(1)</sup>
- 300+ compatible eSIM management platform

## Standards

- ST participation to key industry standards



## ST positioning

- Pioneer in consumer eSIM deployment
- ST market share: over 85% in 2021 <sup>(1)</sup>
- 900+ Munits ST33 eSIM to date <sup>(1)</sup>
- Proven interoperability
- Selected by all Tier 1 OEMs
- Android, iOS, Windows
- Multiple Enabled Profile (MEP) ready
- Tiny WLCSP package

Sources:  
(1) ST estimates



# NFC controller solutions

Validated by most Tier-1 OEMs

## Market

- Payment, transport, access control, gaming
- For multiple devices, smartphone, wearables, console

## Key applications

- Mobile ticketing
- Mobile payment
- Access control

## ST positioning

- Integrated and mass prod at most Tier 1 OEMs
- Best-in-class RF performances
- Reduced bill of material and power consumption



# ST54 NFC + Secure element solutions

Reference solution in Android ecosystem

## Market

- NFC/SE market opportunities:
  - Combining NFC/eSE or NFC/eSE/eSIM
  - Cover various applications and devices

## Key applications

- Mobile ticketing
- Mobile payment
- Car Digital Key

## ST positioning

- Volume production at various Tier 1 OEMs
- #1 Felica, MIFARE® integration in Android framework
- Best-in-class RF performances
- Reduced bill of material and power consumption



# ST solution for Mobile OEMs



## STPay-Mobile

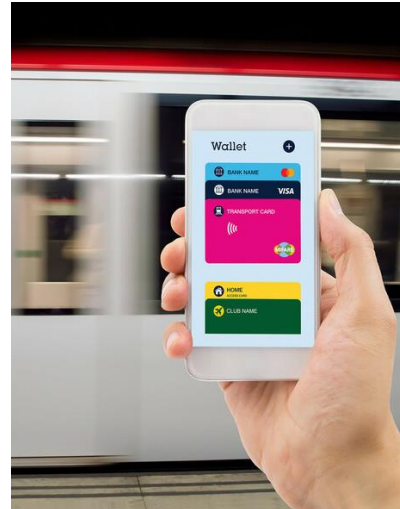
enables secure virtual applications



An **innovative** solution for new, connected lifestyles

An **end-to-end** solution to secure the assets that people value the most

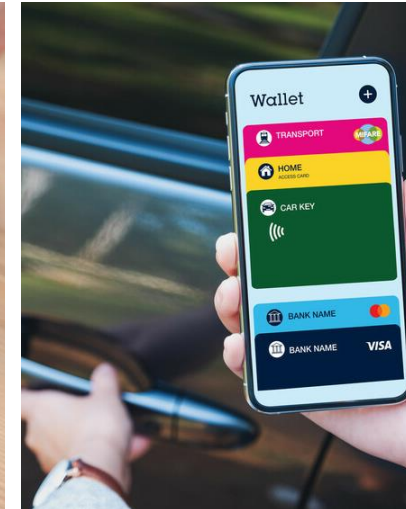
A **fast and cost-effective** way to digitalize services overseas



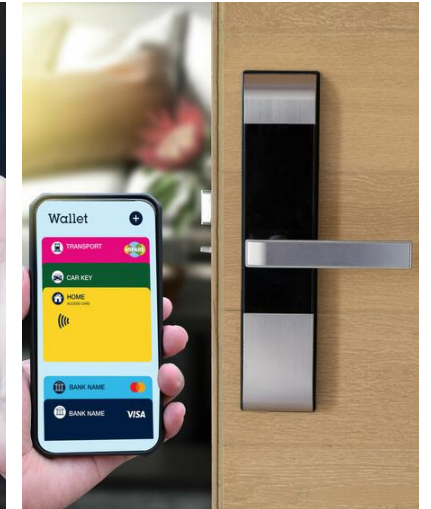
Mobile  
ticketing



Mobile  
payment



Mobile car  
access



Mobile access  
control



# STPay-Mobile transport solution

## Connect to existing technology and schemes

- Virtual transit card emulation on mobile
- Same scheme and technology as existing physical cards
- Compatible with any proprietary and open-transit card standards

Calypso  
Networks Association

ospt  
ALLIANCE

MIFARE

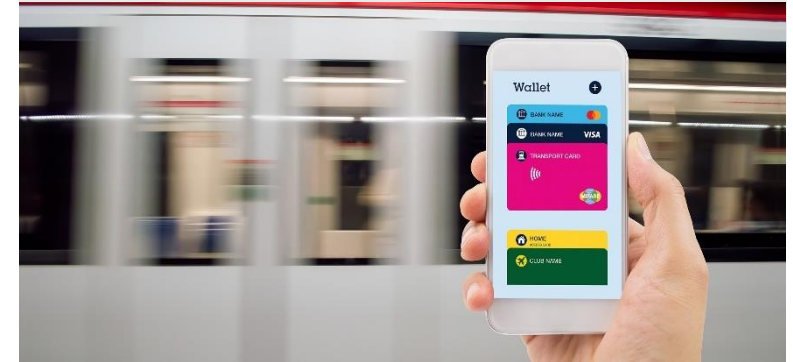
## Offer a white-label solution: STPay-Mobile

- An ST cloud-based solution powered by **SNOWBALL**
- A secure transit platform
- Installation, top-up, transaction
- Refund, backup, restore
- Based on ST54 secure element



## Deploy a single-tap mobile solution worldwide

- 50 Public Transit Agencies worldwide
- 125+ cities launched globally
- Used by 680 million people in urban areas



# STPay-Mobile payment solution

## Connect to service providers and standards

- Connected to major token service providers worldwide  
(Mastercard MDES, Visa VTS, and more)



- Compliant with PCI DSS security standards



## Offer a white-label NFC wallet: STPay-Mobile

- An ST cloud-based solution
- A certified payment SDK
- Token management
  - TR-TSP (request to TSP)
  - I-TSP (interface)
  - Lifecycle management
- Based on ST54 secure element



## Deploy a Plug & Play solution for digital payment services

- For online / in-app / in-store payment
- Android-iOS interoperability
- Multi-user authentication (CD-CVM certification)
- Multi-card enrollment option



# Mobile security consumer takeaways



eSIM market leader: 900+ millions ST33 eSIM to date

ST54 NFC/SE in mass production at major Tier-1 OEMs

Partnership in place with major OS vendors

STPay-Mobile “white-label wallet” for ticketing and payment services

# Our technology starts with You



Find out more at [www.st.com/secure-nfc](http://www.st.com/secure-nfc)  
[www.st.com/sim-esim](http://www.st.com/sim-esim)

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