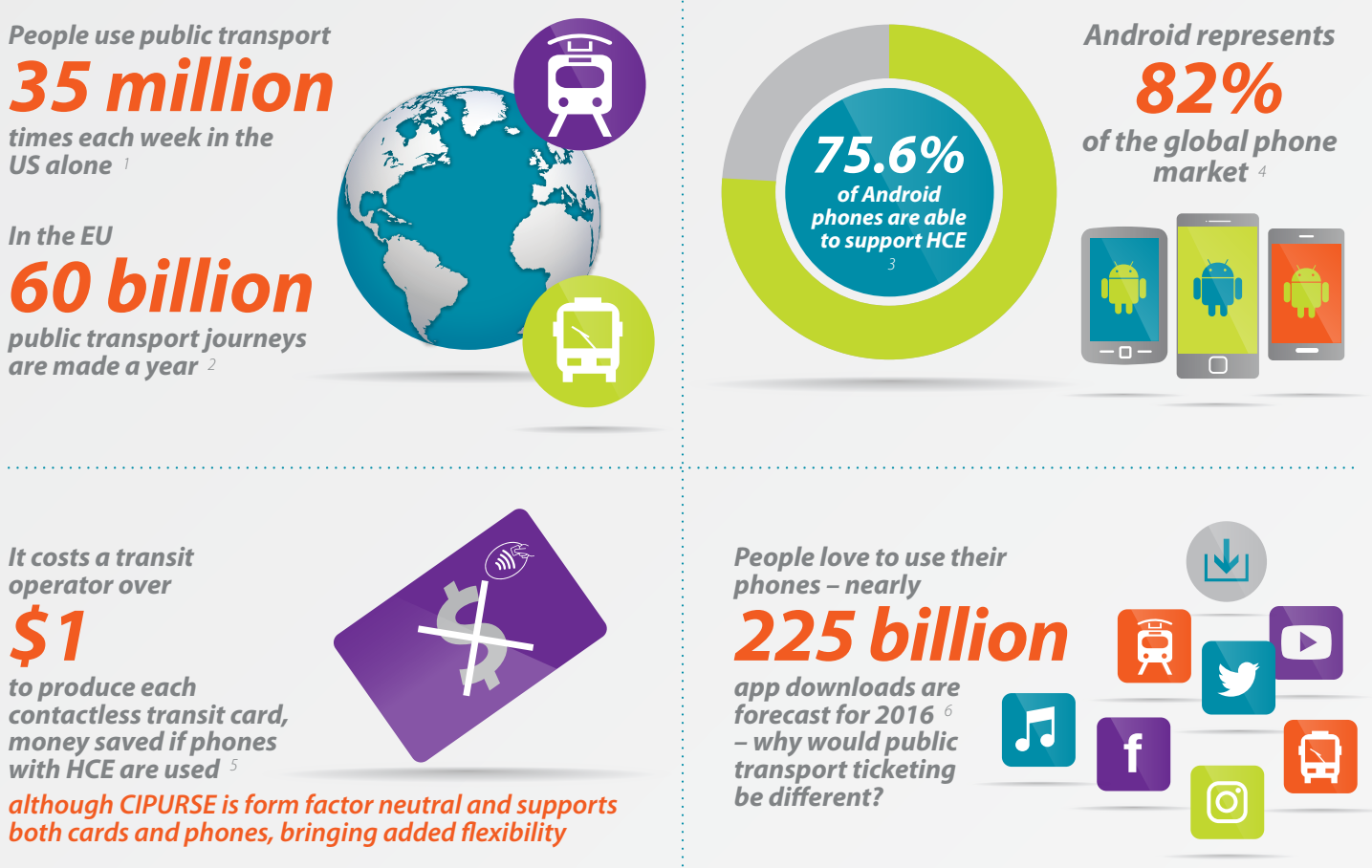# Why use HCE with CIPURSE™ in public transport?

Secure, cost-effective, open standards ticketing

What are the benefits of HCE for public transport?
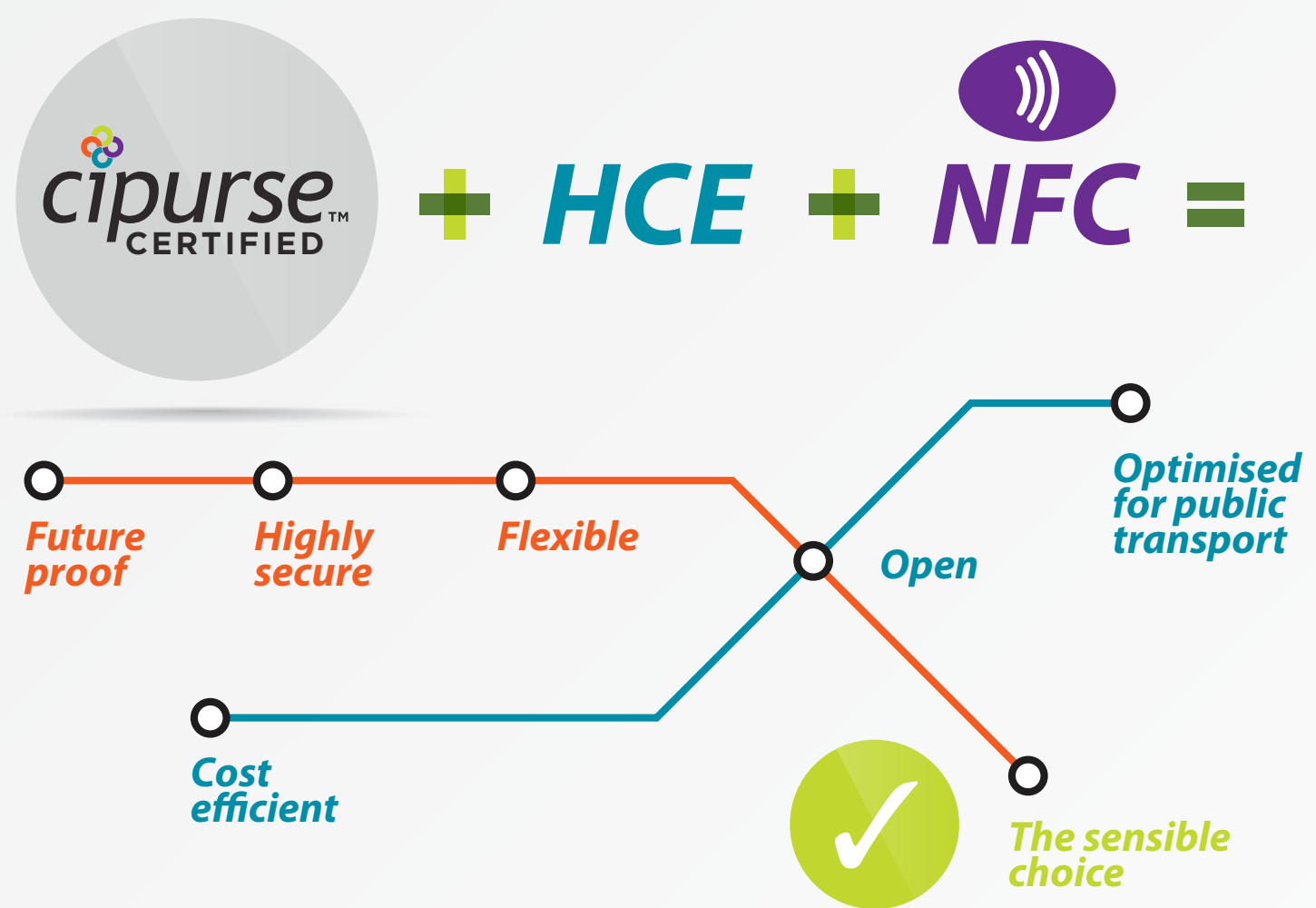
- HCE is cost effective for transport operators to use

- **HCE**
  It's an autonomous alternative to vending machines, kiosks and single tickets

- HCE enables independence from MNOs and OEMs

- No secure element is needed

- They enable interoperability between different closed loop systems

- Low investment is needed to implement HCE with CIPURSE

- HCE and CIPURSE leverage existing infrastructure

- They support multi-application functionality

What's the size of the opportunity?

People use public transport
35 million
times each week in the US alone [1]

In the EU
60 billion
public transport journeys are made a year [2]

75.6% of Android phones are able to support HCE [3]

Android represents
82%
of the global phone market [4]

It costs a transit operator over
$1
to produce each contactless transit card, money saved if phones with HCE are used [5]
although CIPURSE is form factor neutral and supports both cards and phones, bringing added flexibility

People love to use their phones – nearly
225 billion
app downloads are forecast for 2016 [6] – why would public transport ticketing be different?
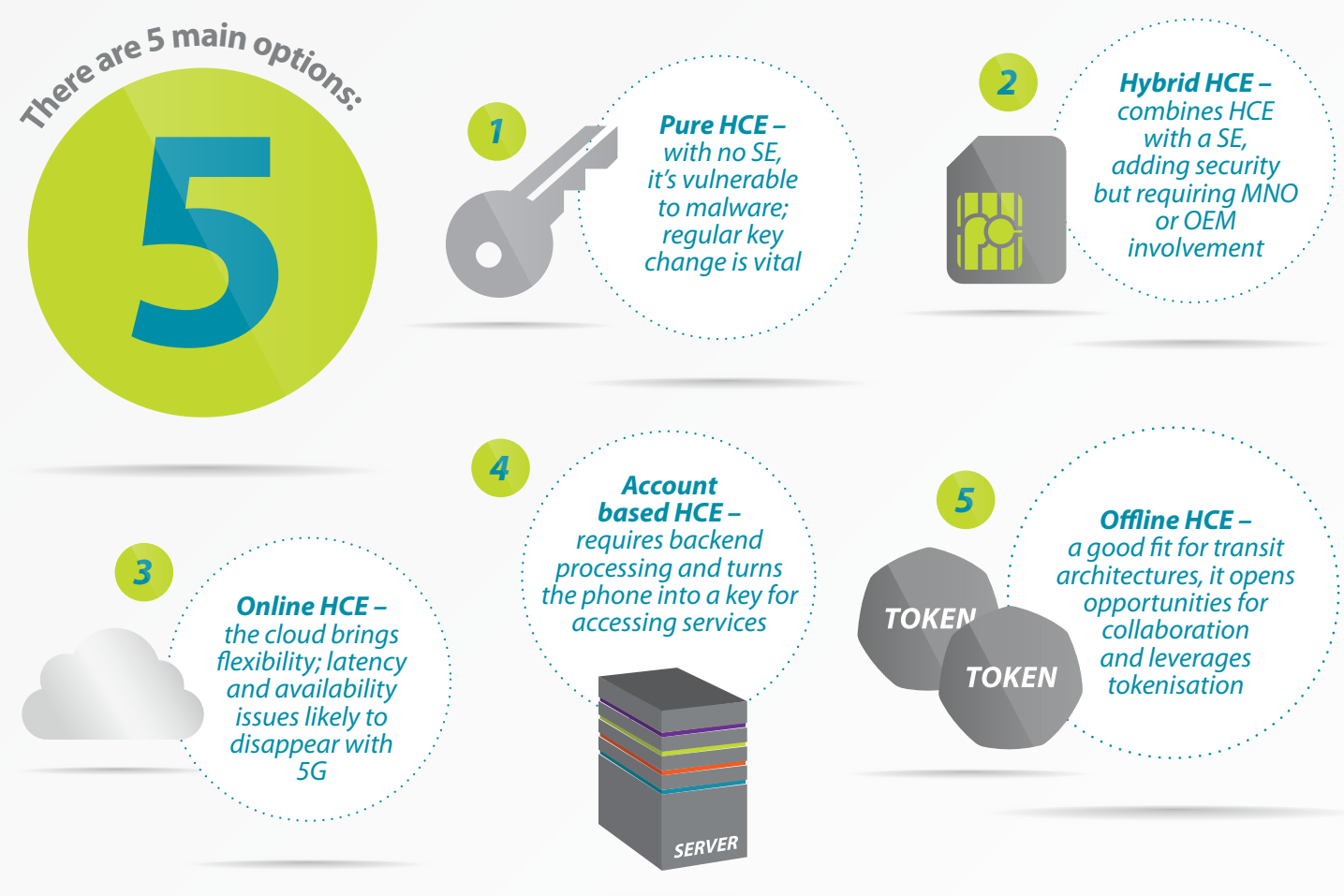
Why use HCE with CIPURSE?

CIPURSE is an open standard providing an advanced foundation for developing highly secure, interoperable, and flexible transit fare collection solutions and beyond. It is built on proven standards, including *ISO 7816, AES-128, ISO/IEC 14443-4* for securing multiple payment types.

cipurse CERTIFIED + **HCE** + **NFC** =

Future proof   Highly secure   Flexible   Open   Optimised for public transport

Cost efficient   The sensible choice

How do I use HCE with CIPURSE?

There are 5 main options:

5

1. **Pure HCE** – with no SE, it's vulnerable to malware; regular key change is vital

2. **Hybrid HCE** – combines HCE with a SE, adding security but requiring MNO or OEM involvement

3. **Online HCE** – the cloud brings flexibility; latency and availability issues likely to disappear with 5G

4. **Account based HCE** – requires backend processing and turns the phone into a key for accessing services

5. **Offline HCE** – a good fit for transit architectures, it opens opportunities for collaboration and leverages tokenisation

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1. http://www.publictransportation.org/news/facts/Pages/default.aspx
2. http://www.uitp.org/key-eu-statistics
3. https://developer.android.com/about/dashboards/index.html
4. http://www.idc.com/prodserv/smartphone-os-market-share.jsp
5. https://www.whatdotheyknow.com/request/info_about_oyster_cards
6. http://www.statista.com/statistics/266488/forecast-of-mobile-app-downloads/