Next Generation Smartcard Technology

LEGIC

Lukas Steinemann

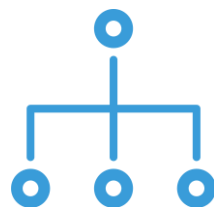**connect23**

Credentials – a short History

1992 — Contactless **LEG**itimation by **I**ntegrated **C**ircuit

LEGIC **prime**

2003 — LEGIC **advant** & **MTSC**

2007 — LEGIC **advant** applet AFS4096-JP1x

2012 — **Mobile** Access LEGIC Connect

LEGIC **CTC** transponder

2014

2021 — LEGIC **neon** / LEGIC **Orbit**

LEGIC **???**

2023
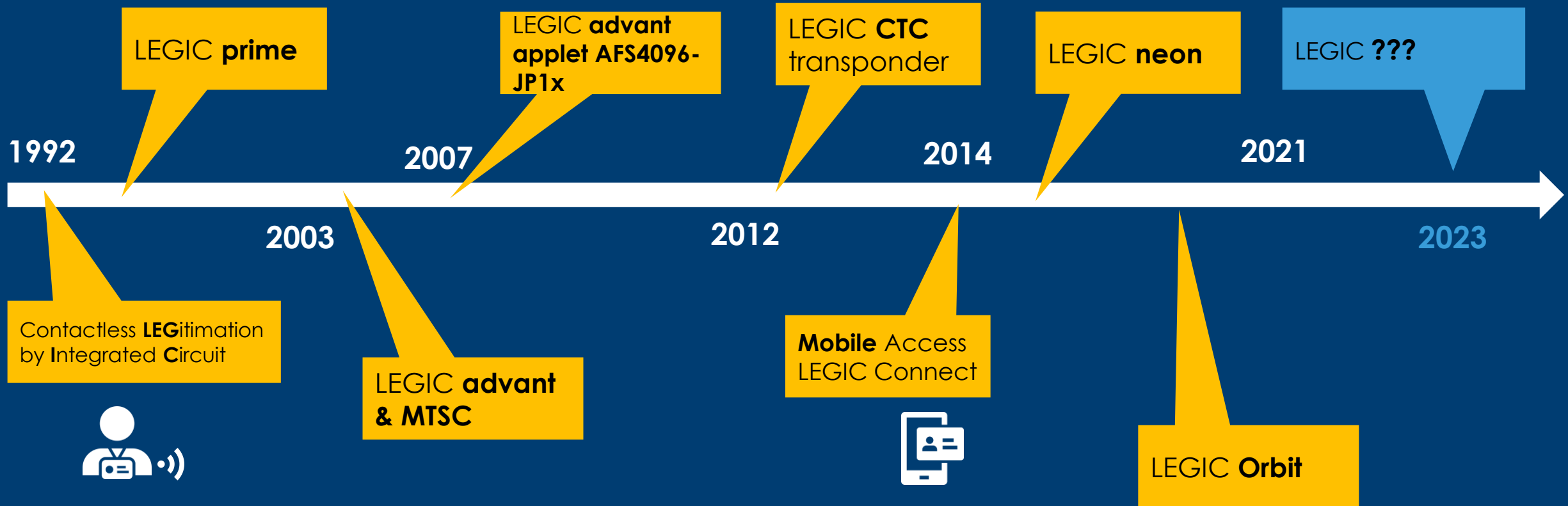
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Until Now

LEGIC
MTSC

LEGIC
Orbit

LEGIC

LEGIC neon & LEGIC advant
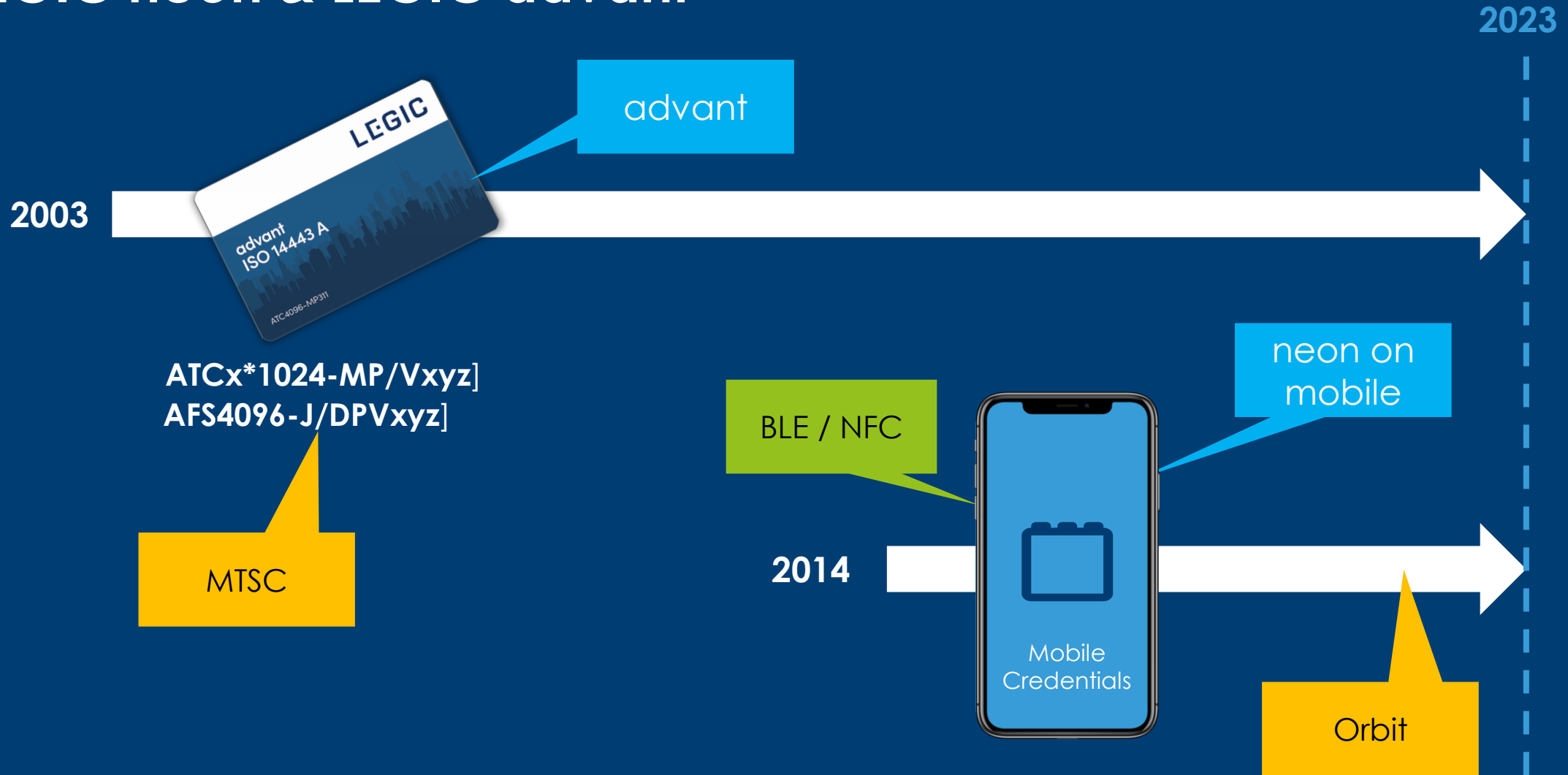
Changes to the LEGIC Security Platform

ATC4096-MP313
managed with MTSC

2023

neon applet
with a size 2-32k

any JAVA
platform

2014

LEGIC neon
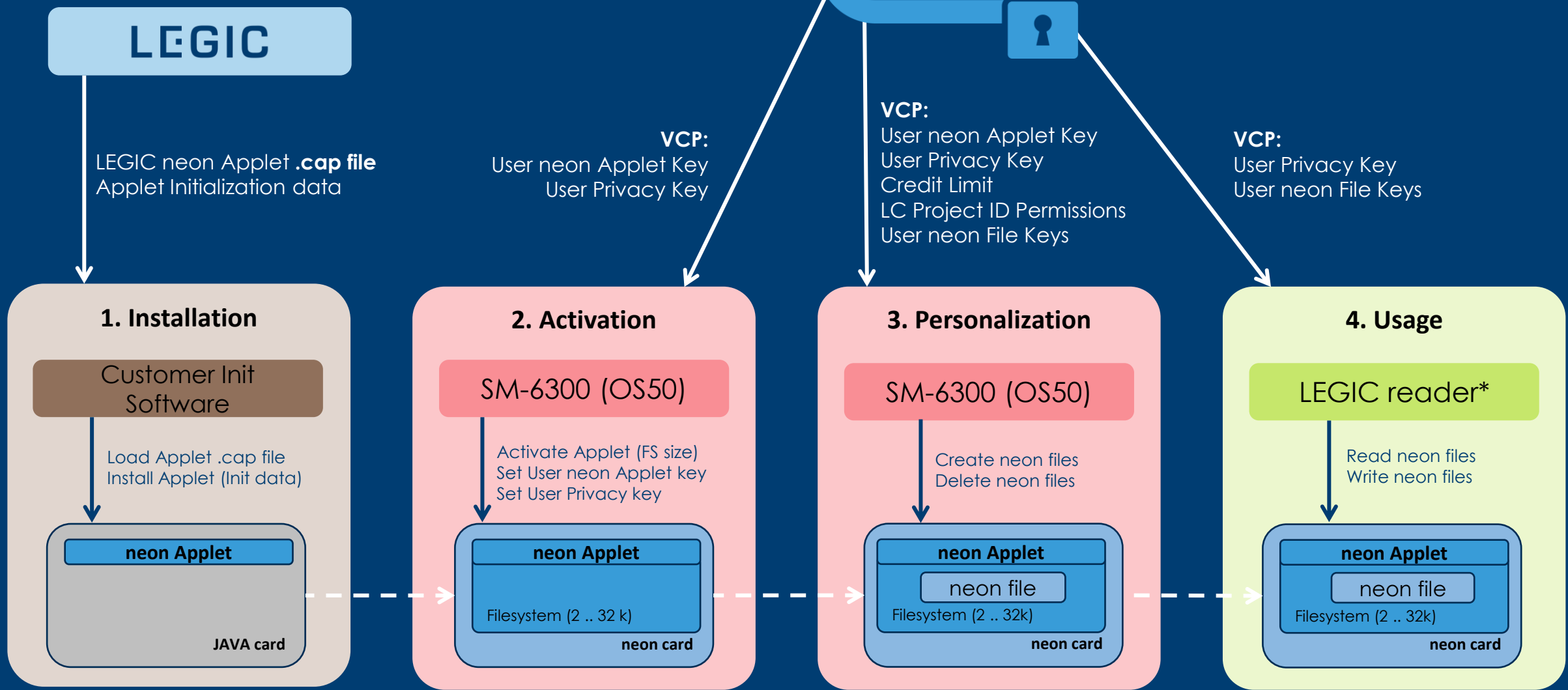managed with Orbit

Mobile
Credentials
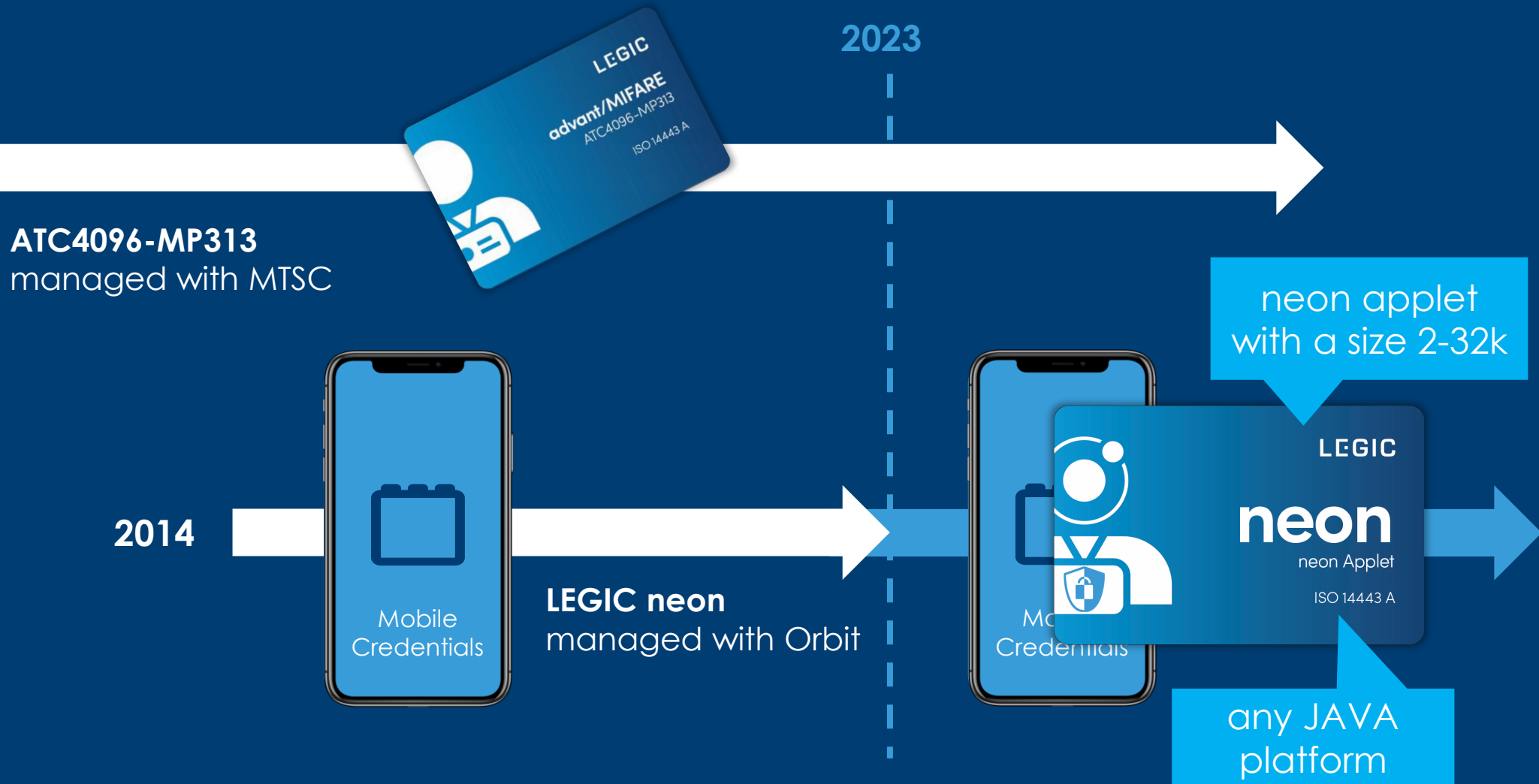
The New LEGIC neon Smartcard - Key Points

processor card with
LEGIC neon applet

- LEGIC neon applet for Java cards (e.g. NXP SmartMX™)
  - ✓ can be installed on Java card to support migration scenarios

- supports the well-known LEGIC neon files used for LEGIC mobile credentialing with LEGIC Connect:
  - ✓ card init control by end user (neon file name)
  - ✓ control of neon file cryptographic keys by end user, including secure reader configuration (based on LEGIC Orbit)

- Flexible smartcard encoding:
  - ✓ simple loading with flexible memory size allocation (2-32k)
  - ✓ adding new neon files with any SM-6300 reader, max number of neon files depending on neon file size and memory allocation

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Card Initialization and Usage

live demo

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LEGIC neon Applet **.cap file**
Applet Initialization data

VCP:
User neon Applet Key
User Privacy Key

VCP:
User neon Applet Key
User Privacy Key
Credit Limit
LC Project ID Permissions
User neon File Keys

VCP:
User Privacy Key
User neon File Keys

1. Installation

Customer Init Software

Load Applet .cap file
Install Applet (Init data)

neon Applet

JAVA card

2. Activation

SM-6300 (OS50)

Activate Applet (FS size)
Set User neon Applet key
Set User Privacy key

neon Applet

Filesystem (2 .. 32 k)

neon card

3. Personalization

SM-6300 (OS50)

Create neon files
Delete neon files

neon Applet

neon file

Filesystem (2 .. 32k)

neon card

4. Usage

LEGIC reader*

Read neon files
Write neon files

neon Applet

neon file

Filesystem (2 .. 32k)

neon card

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Customer Benefits

Customer controlled keys

Harmonized Credentials

Availability

neon applet on processor card
[NXP Smart MX, Infineon Secora, ST…]

LEGIC
neon
neon Applet
ISO 14443 A

2-32K applet space migration possible

dormakaba

AIRBUS

same file on mobile and on card

Thank you for your attention

Live demo at LEGIC booth

Demo possible on your premises

We're looking for early adopters

LEGIC