Natural Security Alliance

Business model and pilot projects

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Summary

- Natural Security Alliance: an initiative from retailers and banks

- The solution and its benefits

- A deployment model

- Form factors: connected objects & smartphones

- Projects

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Natural Security Alliance

An initiative from retailers and banks

Natural Security Alliance

2007 – 2008   **2008 – 2012**   **2012 – 2013**   **2014 - …**

INIT	R&D PHASE	EXPERIMENTATION & PROJECTS PHASE	NATURAL SECURITY ALLIANCE / IMPLEMENTATION PROJECTS

Retailers and banks looking for a new, fast, convenient payment technology

Creation of a R&D company:
- Patents deposit
- Writing of the specifications and certification process
- Technologies assessment

French experimentation:
- 1000 cardholders
- 2 cities
- 200 POS
- Very good feedback

Provision of the specifications to an **open standard organisation to** share the governance and to facilitate the adoption of the technology.

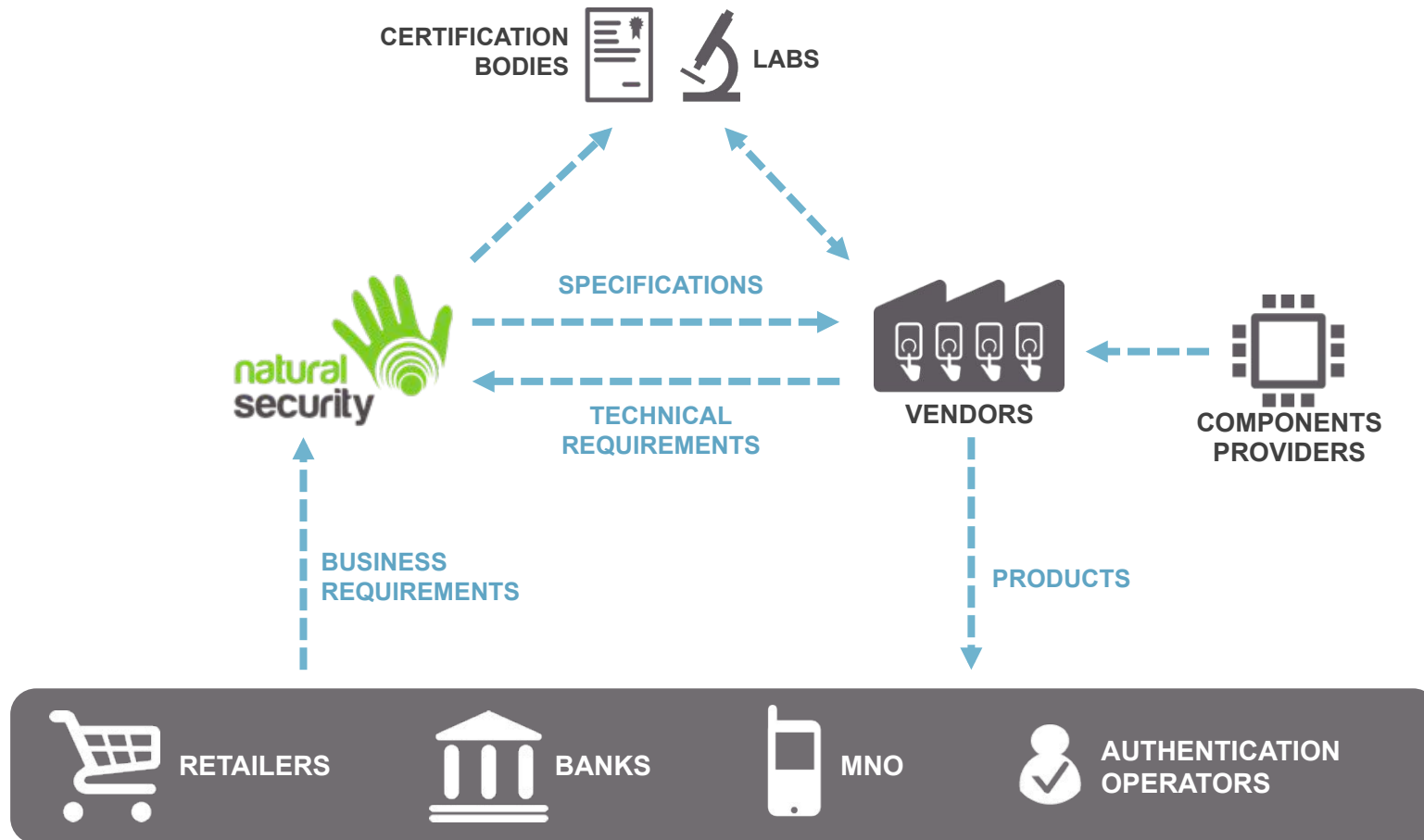**Projects** starting soon in various countries: France, Russia, Chile…

Pictures from the experimentation in France (2013)
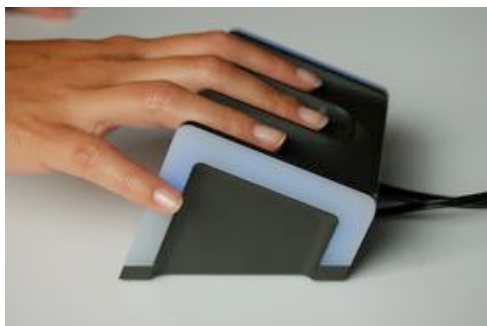
46 Members from various business areas

Natural Security Alliance Ecosystem

Membership Benefits

Rights	Community	Sponsor	Board
Participation & vote in the Board of Directors			✓
Validate creation of working groups			✓
Validate Specifications and IPR modifications			✓
Vote at the general assembly and extraordinary general assembly		✓	✓
Participate in Advisory Committees		✓	✓
Serve as a Chair, Vice-Chair or other position in WG		✓	✓
Participate in WG	**Invitation only**	✓	✓
Propose initiatives (use cases) to be acted upon by the Alliance	✓	✓	✓
Receive all publications of the Alliance	✓	✓	✓
Access to the Specifications & updates	✓	✓	✓
Benefit from the expertise of the Committees	✓	✓	✓
Attend all general assembly and extraordinary general assembly	✓	✓	✓
Attend summits and meetings organized by the Alliance	**1 delegate**	**2 delegates**	✓
Receive services provided by the Alliance	✓	✓	✓
Display the Alliance logo on the website or on any documentation	✓	✓	✓

Organization, Committees and Working Groups

Chair BOARD OF DIRECTORS

Create

Submit for validation

CEO STEERING COMMITTEE

COMMUNICATION, LEGAL, MARKETING & TECHNICAL **ADVISORY COMMITTEES**

WORKING GROUPS

Use Cases Proposals (any member)

BOARD members

SPONSOR members

COMMUNITY members

Participate, chair

If invited
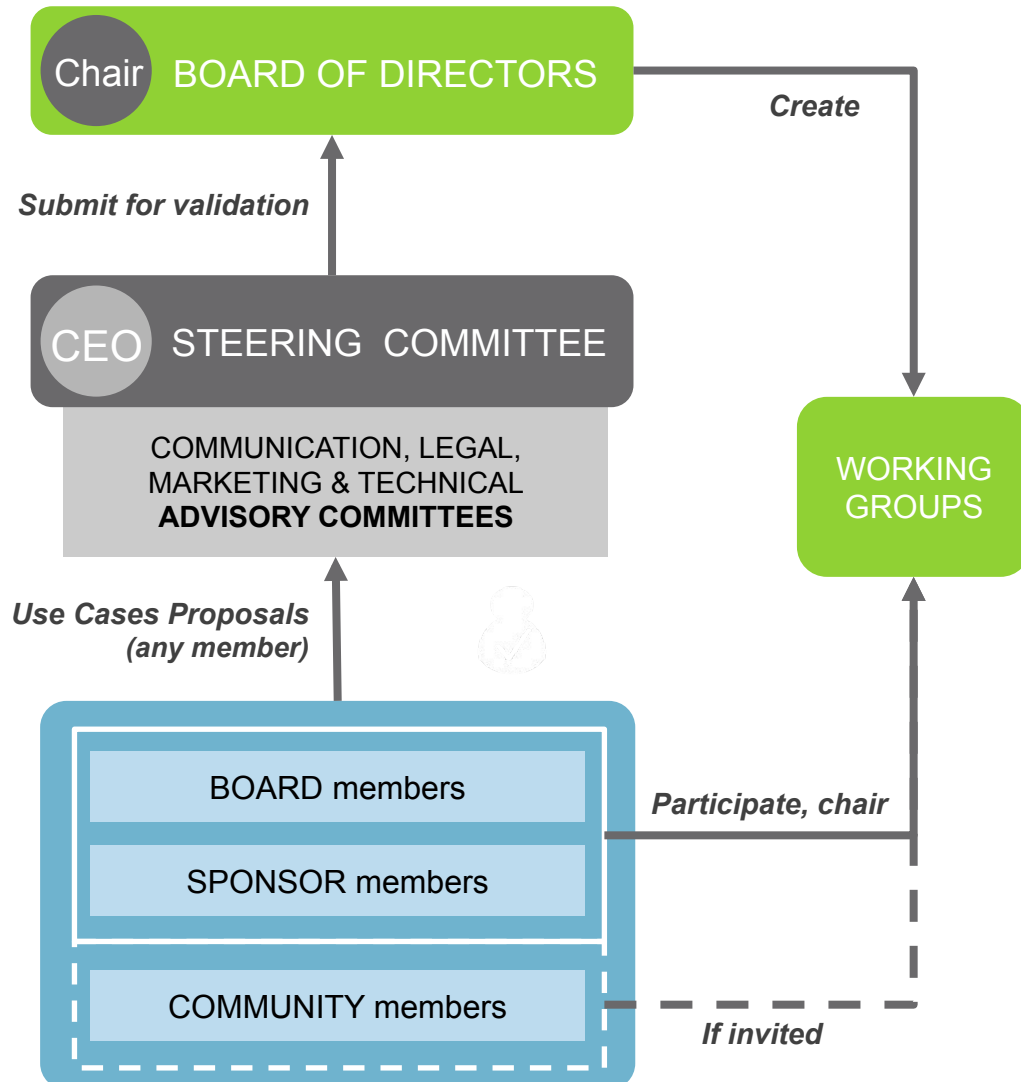
Board of Directors
- – Define the Alliance strategy
- – Governance
- – Contribute to the promotion of the Alliance to the market

Steering Committee
- – Internal coordination
- – Driving and coordinating Working Groups & Advisory Committees

Members
- – Bring operational expertise and added-value to the Alliance

Membership annual fees
- – Board: 60K€ (+ entry fees: 30K€)
- – Sponsor: 20K€
- – Community (> 100 empl.): 7.5K€
- – Community (< 100 empl.): 1.5K€
- – Associations, universities: 1.5K€

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The solution and its benefits

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Natural Security Alliance - Standard

BIOMETRICS

Pairing & Authentication

BIOMETRIC READER

Compatible with other user experiences (biometrics + code, ...)

SERVICES

SECURE WIRELESS PERSONAL DEVICE

BLE / BT4 Bluetooth Low Energy

Securely storing personal data and biometric matching software
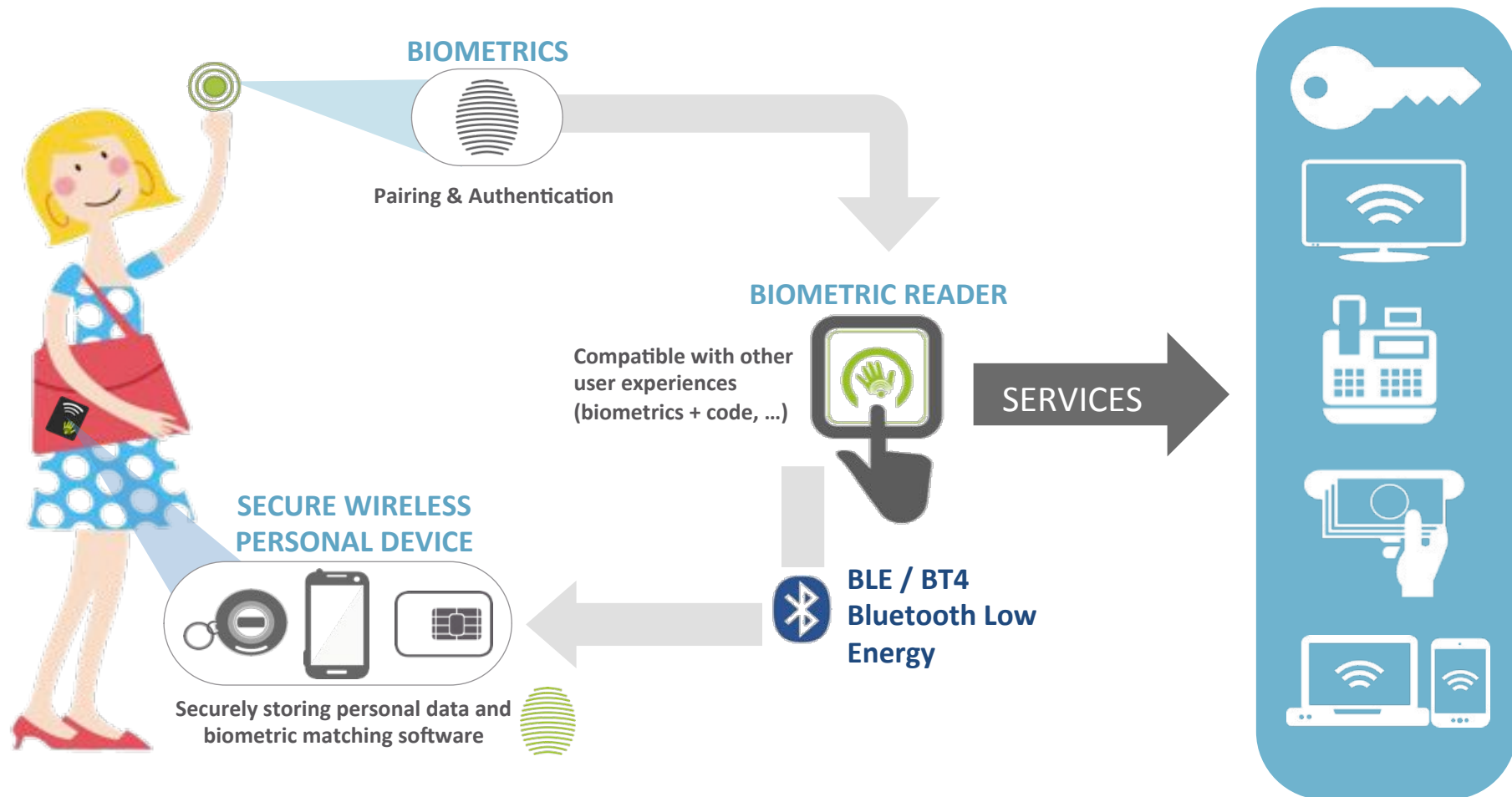
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Same user experience whatever the context

Online Services

Services

Personal Device
&
Biometric Reader
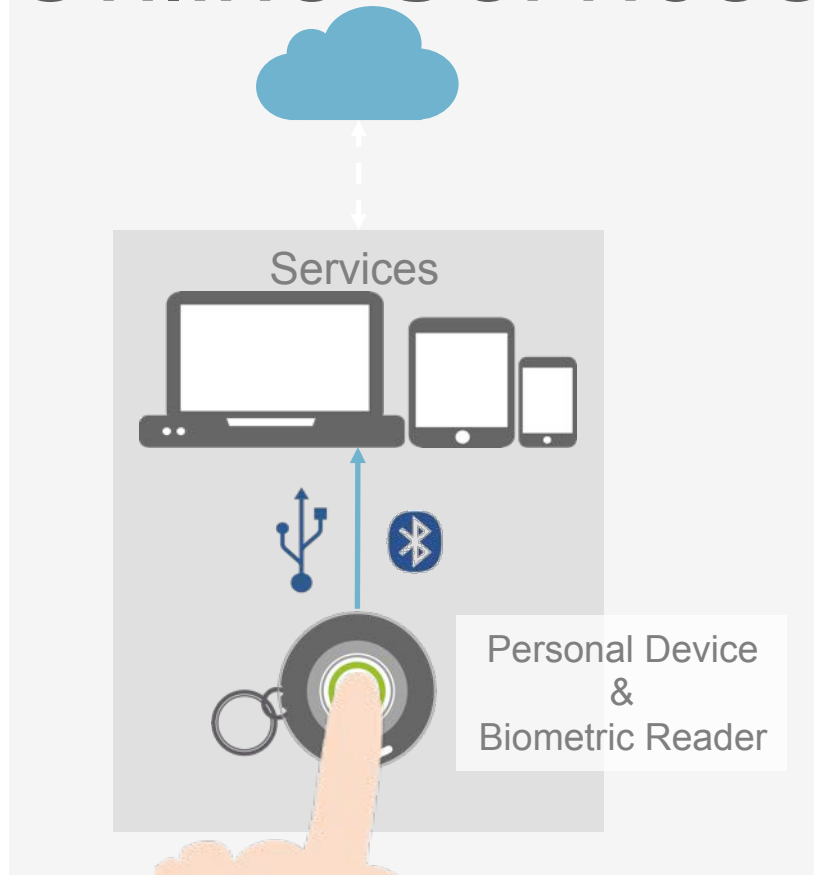
In the real world
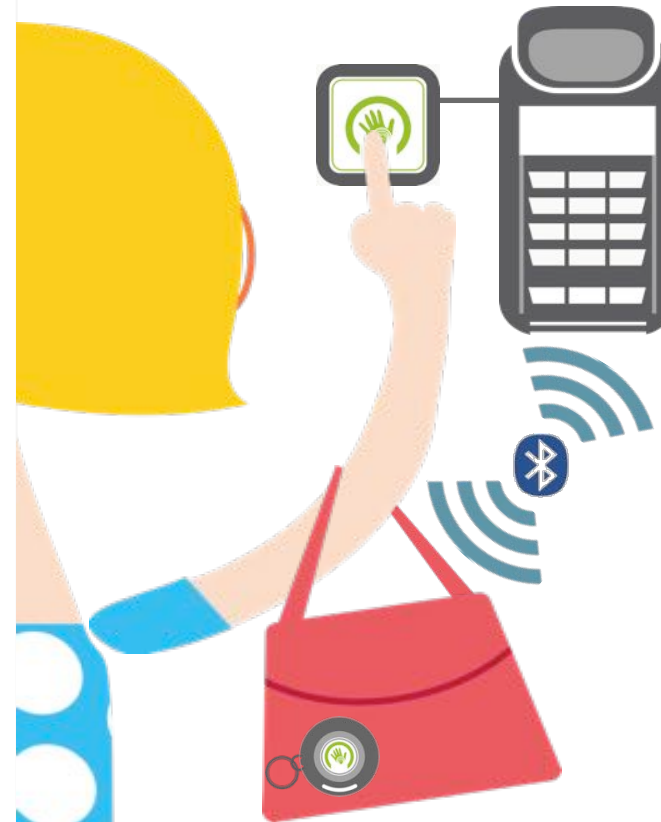
Pairing & Authentication at the same time

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Scope of work

Service Providers →

| Service 1 | Service 2 | Service ... |

Hands-free Multiservice Biometric Authentication Framework

Define and develop services based on NS guidelines

***Natural Security Alliance** handles:*
- *Core specifications of the technology*
- *Implementation guidelines*
- *Tests & Certification process*

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Benefits

CONVENIENT	FAST	SECURE	PRIVACY
hands-free experience /no fumbling	No code to Remember	Strong authentication based on two factors	Respectful of privacy & personal data

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Why retailers initiated that technology?

- Retailers want to **speed up** the checkout process

- Almost all possible optimizations have already been explored

Gain with NS technology (face to face payment):

Payment reference time (Chip&PIN)	**45s**
Contactless payment time (< X€) (Contactless card)	Gain in time
Contactless payment time (< X€) (Mobile)	Gain in time
Payment time with NS support (any amount)	Gain in time: 25s

Benchmark on a business day
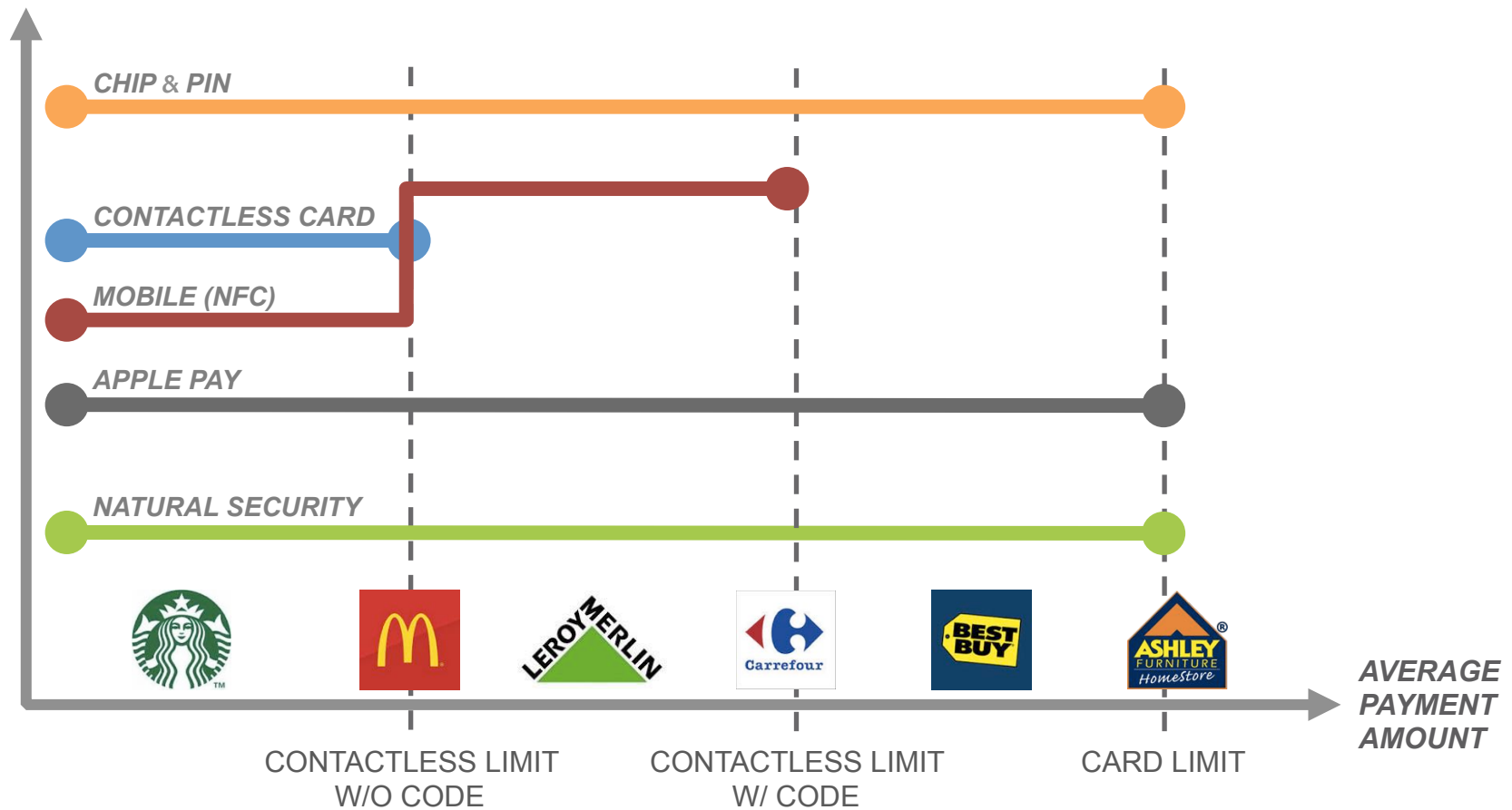
A viable business model for retailers

Gain
(M€ per year)

7.5

2.4

0.6

5%   30%   100%   *Part of payments with Natural Security*

2s   8s   25s   *Global gain in time at the checkout per year*
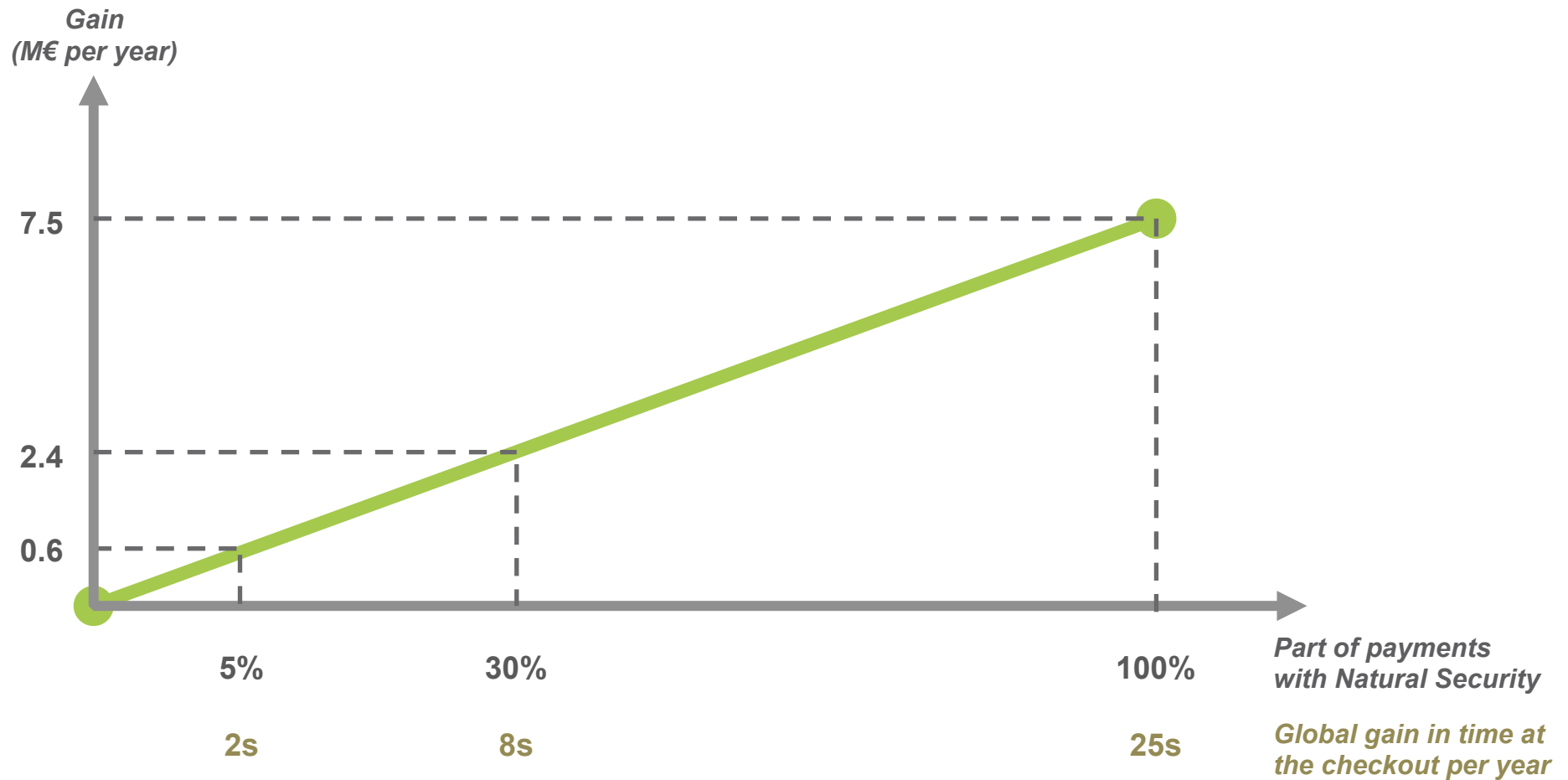
Figures from a real case in France (10.000 POS)

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Why banks support our technology ?

▎ Future-proof **multi-factor authentication solution** which has the key features to be largely adopted by users:

- **Convenient**
- **Privacy respect**
- **Security**
- **Multichannel**

▎ Reduce identity fraud and its related costs

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Why did they join the Natural Security Alliance ?

Benefit from **$25M** investment

Develop and promote the new generation of **strong authentication** technology

Define a viable wireless mobile **payment ecosystem**

Get access to the **knowledge** and **expertise** behind the standard

A deployment model

Known ecosystem: OTT Centric (smartphone)

Service Providers

| Bank |
| Retailer |
| Media |

One-off fee per sale →

Service →

OTT

App Store   Google Play

← App purchase

User

*Smartphone (**Multipurpose** Multiservice device)*

MNO

Device Provider

Device Manufacturers

Device Provider

hTC   🍎   SAMSUNG
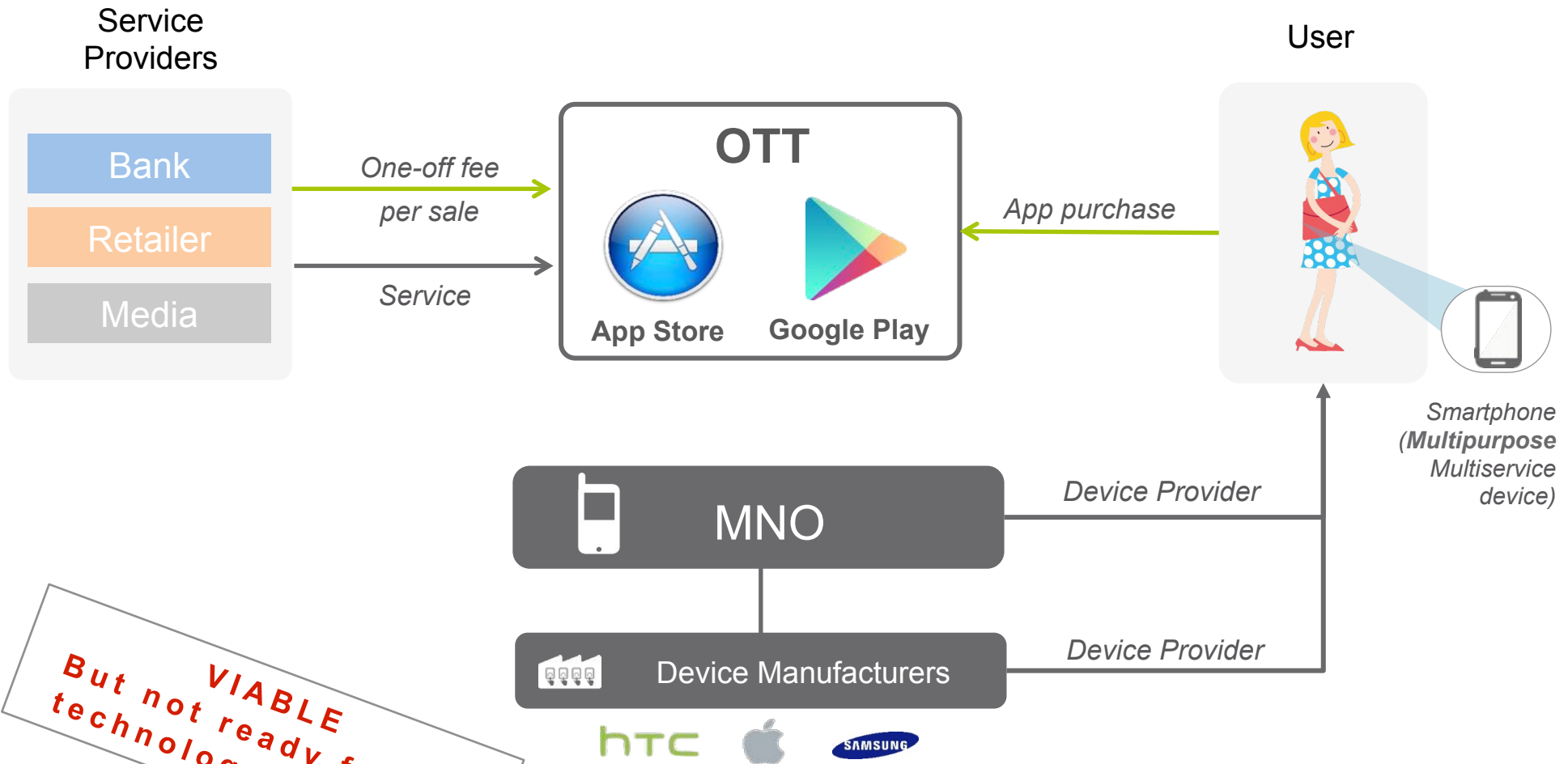
VIABLE But not ready for NS technology (not yet)

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Known ecosystem: MNO Centric (SIM)

Service Providers

User

NFC Payment

Mass Transit

TSM

Annual fee

MNO

Device Provider

SIM Card (**Multipurpose** *Multiservice device*)

NFC services only

TOO COMPLEX

Device Manufacturers

gemalto
security to be free

oberthur
TECHNOLOGIES
THE M COMPANY

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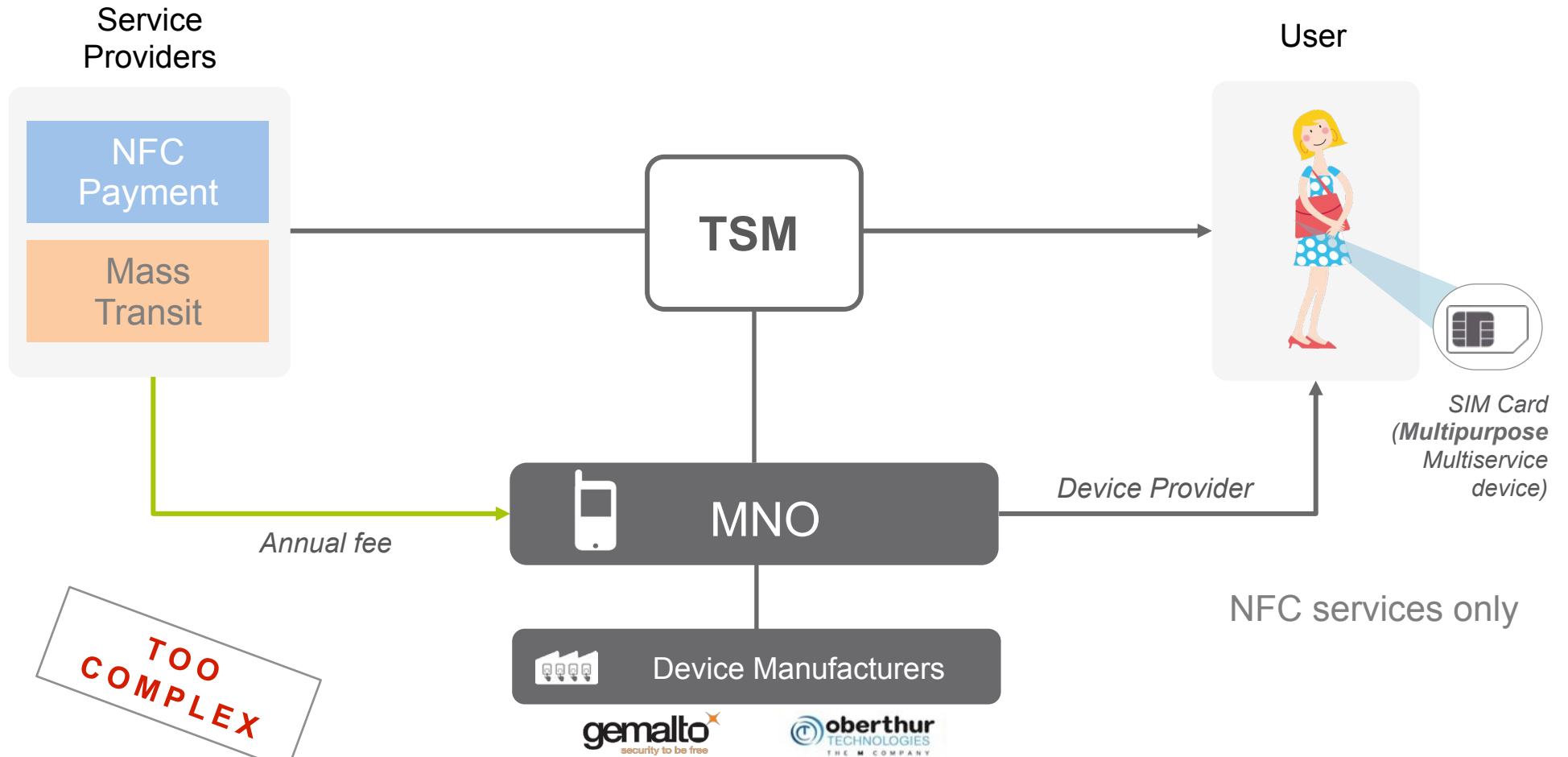
NS Alliance ecosystem: User Centric (Choose Your Own Auth. Solution)

Service Providers

User

Any kind of services
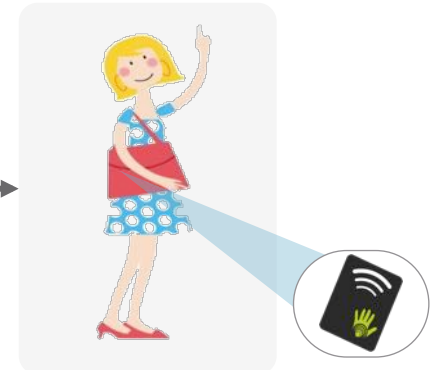
SERVICES MANAGEMENT

User's choice

Trusted Authentication Operator

Device provision and support

Device Manufacturers

S I M P L E & V I A B L E

Note: project underway in France with this model

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Form Factors

Connected Object & *Smartphone*

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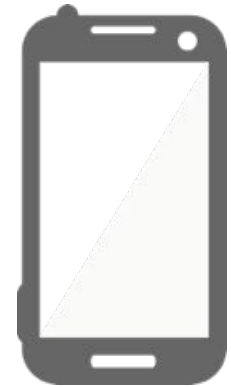
Form factors targeted

Connected object

- Internet of Things goes mainstream
- Easier to understand and to use: One object, One function
- Totally worthless to anyone but the user (no more theft)
- Affordable for customers
- Very handy and convenient

amazondash

Ready to go

Smartphone

- One device to rule them all
- Massive adoption
- Storage of biometric data depends on the security level required and accessibility/availability of handset components: SIM, microSD, eSE, TEE…
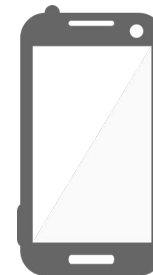
Work in progress in **WG4** of the Alliance

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Market Trends

▌ Smartphones are useful to develop mobile usages

▌ But now they are too complex to use: taking the device, unlocking it, searching an App among many, opening the app and finally using it. Too many manipulations to get a specific service with an average of 120 uses a day!

▌ Smartphones are not safe as they are build to communicate: GSM, 3G/4G, WiFi, BT, NFC…

▌ Data management is the challenge of tomorrow: privacy, access…

▌ Users are interested by:
– Accessing simple service in a simple way (ex. TV remote control)…
– … through a dedicated object or device

With the surge of connected devices and the IoT, smartphones will become an internet access point.

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Natural Evolution: biometric capable smartphones

▌ What about iPhone 5S, Galaxy S5, …

Today

Smartphone

App

Bio. matching

TEE

Tomorrow

Smartphone

App

BLE Controller

Bio. matching

TEE
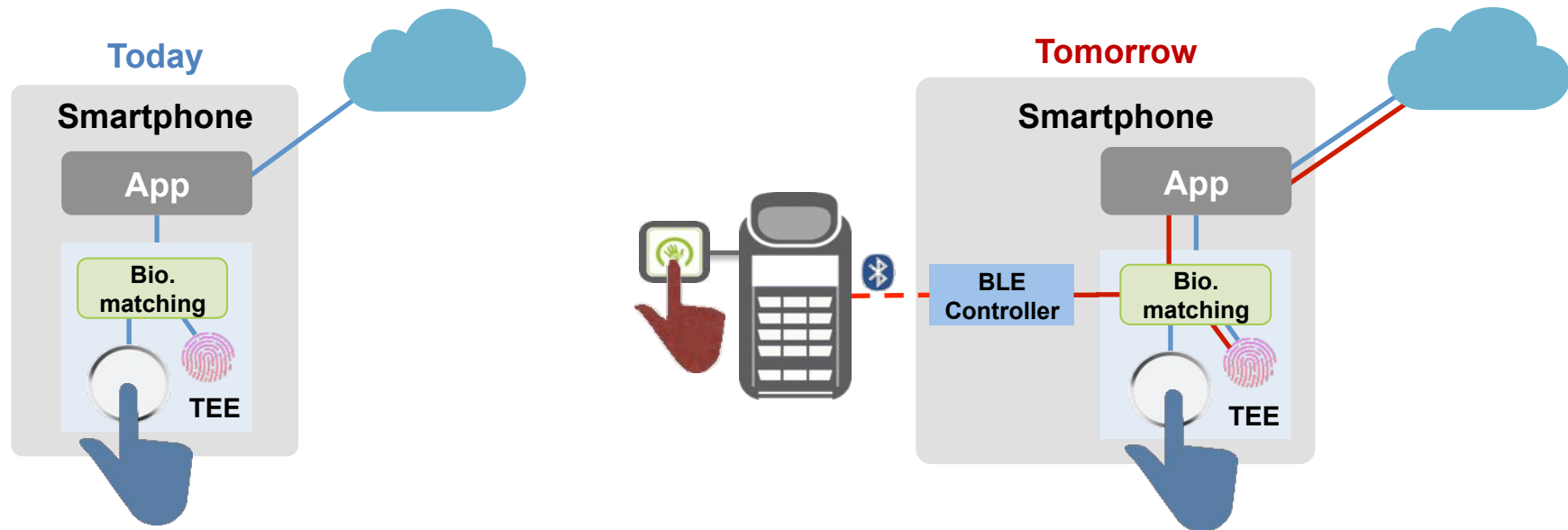
Prerequisites for "Tomorrow":
- ISO compliant biometrics (or at least open)
- Open and certified implementation (NS Alliance or other standard)
- Open access (no fee)

Offer a viable alternative to mobile NFC payments

Open new opportunities for handsets manufacturers (e.g. retail)

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Projects

GIE Cartes Bancaires Approval (Chip & Tips)

▌ GIE Cartes Bancaires started the certification process of a NS device:
EMV-based payment with biometrics as new CVM

▌ 2015: France will be the first country
to roll out wireless biometric EMV-based
supports

Payment   Service 2   Service ...

Hands-free Multiservice Biometric
Authentication Framework

Risk
Assessment

Release
Acceptation
Bulletin

Acquirer and issuer
Approval framework

Approval
Reference
document

2014

2015

September

December

May

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Association Française des Transactions Sécurisées
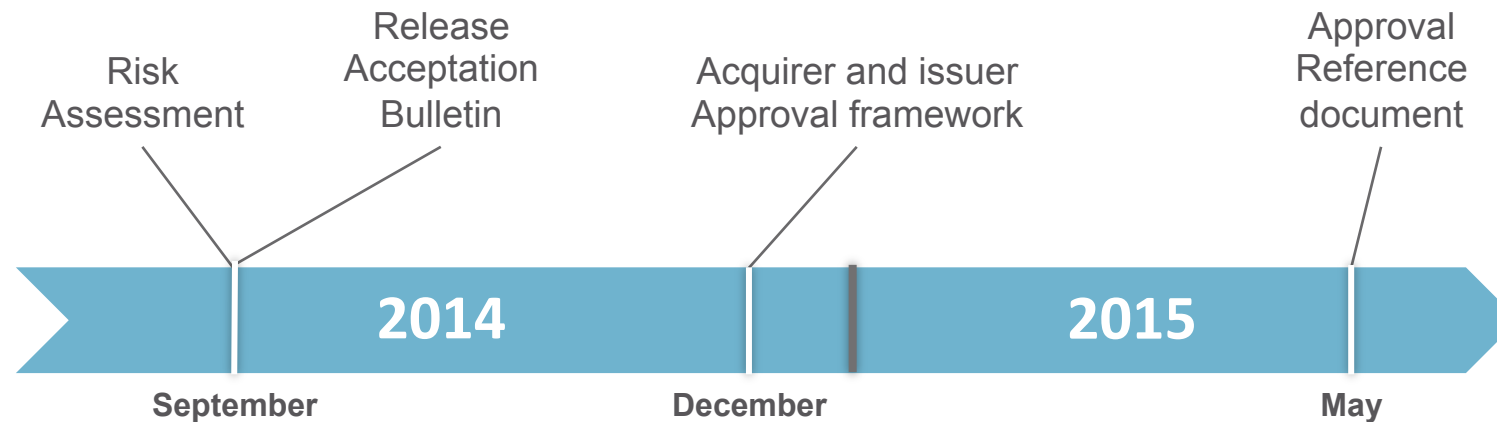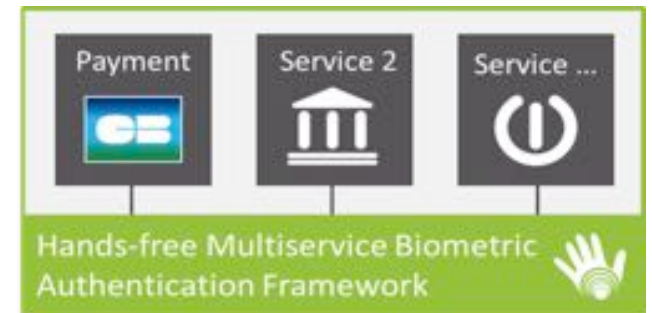
▌ The AFTS is providing a payment mobile wallet…

– Based on the Natural Security authentication

– Interoperable among all retailers

– Whatever the context: face to face and online payment

Conclusion

Keep in mind

▌ Deployment projects
  – Viable deployment model exists
  – Projects underway in France

Service Providers

SERVICES MANAGEMENT

Trusted **Authentication Operator**

Small annual fee

Device provision and support

User

Object (Dedicated Multiservice device)

▌ Two Form factors
  – **Dedicated objects** with Secure Element
    • Full security compliance, specifically for storage of the biometric template
  – **Smartphones**
    • Depending on the level of security
    • Under study in WG4

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