

# Worldwide market of Secure Elements confirms its resiliency in 2021

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*Disclaimer: Eurosmart can confirm the resilience in 2021 of the Secure Elements market despite the current pandemic and chip shortage. We take the opportunity to comment on key drivers and trends for 2021 and extending into 2022. However, and due to the forementioned uncertainties, we have chosen to publish a detailed market forecast when the situation becomes clearer.*

## Telecom:

Despite continued disruptions in the distribution channels caused by the pandemic, the market showed a solid and stable resilience. The sector experienced strong demand for eSIMs and a consequent positive impact thanks to a more substantial adoption of 5G than initially expected. Mobile operators start using eSIMs as the prime channel for distributing subscriptions and onboarding new consumers. 5G is rapidly being adopted in newly launched connected consumer devices, especially in smartphones. The higher demand is also driven by the need for cellular broadband services used, for instance, in remote and home office situations.

It should be noted that in 2022 vendors will face a stronger wind to supply the demand due to chip shortage and logistic challenges. While this may result in a challenging market environment, the eSIM is expected to continue driving the demand up and consequently estimated to grow further in 2022.

## Device Manufacturers:

Increasing mobile security in connected devices contributes to the dynamism of this segment. Eurosmart welcomes standardization efforts from global standardization bodies and the development of new security schemes that contribute toward an increasing demand for security in non-mobile connected devices, such as cars or terminals.

In 2021, the secure elements for mobile devices, which include smartphones, tablets and wearables, is expected to reach 490 million units with a +9% growth compared to the previous year. Eurosmart anticipates this trend to continue with solid growth in 2022.

## Industrial and automotive IoT

Eurosmart expects growing demand in 2021 for secure elements for Industrial IoT, mainly driven by the automotive sector and in smart meters. The market size is estimated at around 160 million and is counted as a sub-segment of the Telecom segment.

## Financial services

The demand for payment cards remained strong at 3,25 billion units by the end of 2021, representing an annual growth of 2,5%. Eurosmart foresees growth to continue during 2022.

In 2021, the sanitary crisis still fostered populations to adopt contactless payments as a hygienic technology that is now firmly part of people's habits. For this reason, penetration of contactless technology continues to gain ground. In 2021, the estimated volume of payment contactless cards reached at least 72% of the global shipments, and a further progression of minimum +3 points is expected during 2022.

2021 witnessed a strong and emerging trend around Environmental and Social Responsibility (ESG). It has also been a pivotal year for the deployment of other banking cards innovations:

- As of today, many banks are proposing sustainable cards to their customers. Eurosmart welcomes this trend as it will have a very positive impact on the environment. Sustainability can be achieved through measures such as the use of recycled material or eco-friendly design.
- While the adoption of metal cards is embraced by a large portion of banks as a way to differentiate their customer segments, a continuous interest in the new financial biometric payment products has led the industry to carry out multiple pilots in 2021. The Smart Payment Association (SPA) recently issued a white paper<sup>1</sup> that provides an analysis of the benefits of this technology which combines user convenience, post-Covid consumer payment behaviour, greater security to cope with situations such as lost or stolen cards and even facilitates access to financial services.

## Government:

2021 was less impacted by lockdowns and travel restrictions compared to 2020, yet a fair amount of uncertainty remains near the end of the year. Eurosmart estimates the growing demand in 2021 to reach 490 million units, or +15% growth. Nevertheless, in spite of this positive growth, the market volumes have still not reached 2019 volumes, mainly due to delayed tenders.

This growth is further supported by the need for credentials related to national pandemic countermeasures, for which the citizens have to prove their identity more often. Additionally, the continuous trend of governmental services digitalization also fosters the renewal of national identity documents.

Eurosmart expects the above trends to continue in 2022 but may be revised according to the evolution of the sanitary crisis.

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<sup>1</sup> BIOMETRIC PAYMENT CARDS - The Next Evolution in Secure Contactless Transactions - An SPA paper - December 2021

<https://smartpaymentassociation.com/index.php/publications-smart-payment-association/position-papers-smart-payment-association/entry/biometric-payment-cards-the-next-evolution-in-secure-contactless-transactions-an>

The 2021 contactless share is estimated to reach 68 to 70 %; in 2022 Eurosmart expects further growth at least by a few percentage points more.

## Transport

The pandemic had a negative impact in 2021 as limited daily commuting resulted in lower shipments of mass transit cards. The year 2022 remains highly uncertain, with an undefined recovery path.

## January 2022

### Eurosmart estimated WW $\mu$ P market size - (Mu)

	2020	2021
Telecom <sup>1</sup>	5100	4900
Financial services	3170	3250
Government- Healthcare	425	490
Device manufacturers <sup>2</sup>	450	490
Transport	230	220
Pay-TV	75	65
Others <sup>3</sup>	90	90
<b>Total</b>	<b>9540</b>	<b>9505</b>

<sup>1</sup> MNOs (secure element with a SIM application)

<sup>2</sup> « Device manufacturers » represent Original Equipment Manufacturers of mobile phones, tablets, navigation devices, wearables and other connected devices without SIM application (Embedded Secure Element without SIM application)

<sup>3</sup> Others include physical and logical access and payTV

### Eurosmart estimated WW $\mu$ P TAM - (Mu) Industrial IoT

	2020	2021
Industrial IoT <sup>4</sup>	135	160

<sup>4</sup> Industrial IoT cellular connectivity: SIMs / eUICCs with specific industrial characteristics (e.g. reinforced resistance, extended t°...) in any form factors (MFF2, removable ...) and currently limited to M2M usage in automotive, smart meters

### Eurosmart estimated WW $\mu$ P TAM - (Mu) Contactless share

	2020	2021
Financial services	69,4%	72%
Government- Healthcare	65,9%	68%-70%

## About us

Eurosmart, the Voice of the Digital Security Industry, is a **European non-profit association located in Brussels**, representing the **Digital Security Industry** for multisector applications. **Founded in 1995**, the association is committed to expanding the world's Digital secure devices market, developing smart security standards and continuously improving the quality of security applications.

## Our members

Members are designers or manufacturers of secure elements, semiconductors, smart cards, systems on chip, High Security Hardware and terminals, biometric technology providers, system integrators, secure software and application developers and issuers. Members are also involved in security evaluation as laboratories, consulting companies, research organisations, and associations.

Eurosmart members are companies (**BCA, Bureau Veritas, Fingerprint Cards, G+D Mobile Security, IDEMIA, IN GROUPE, Infineon Technologies, NXP Semiconductors, PayCert, Prove & Run, Qualcomm, Real Casa de la Moneda, Samsung, SGS, STMicroelectronics, Synopsys, Thales, Tiempo Secure, Trusted Objects, TrustCB, WISEkey, Winbond, Xilinx**), laboratories (**BrightSight, CCLab, CEA-Leti, Jtsec, Red Alert Labs, Serma**), consulting companies (**Internet of Trust**), research organisations (**Fraunhofer AISEC, Institut Mines-Telecom - IMT, ISEN - Institut Supérieur de l'Électronique et du Numérique Toulon**), associations (**SCS Innovation cluster, Smart Payment Association, SPAC, Mobismart, Danish Biometrics**).

Eurosmart is a member of several European Commission's groups of experts: Radio Equipment Directive, eCall, Multistakeholder platform for ICT standardisation, and Product Liability.

Eurosmart and its members are also active in many other security initiatives and umbrella organisations at EU-level, like CEN-CENELEC, ECIL, ETSI, ECSO, ESIA, GlobalPlatform, ISO, SIA, TCG, Trusted Connectivity Alliance and others.

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