

ECSG110-19
(v1.06)

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European Cards Stakeholders Group

Report

Annual Stock Taking Exercise

25 November 2019

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1 Executive Summary

The European Cards Stakeholders Group (ECSG) continues to promote market adoption of its SEPA Cards Standardisation Volume (hereinafter SCS Volume or simply the “Volume”) via market consultations and its Volume Conformance process.

Since the previous stock taking exercise update report presented in November 2018, the ECSG has conducted a consultation of the SCS Volume, aiming at publishing a new version (v9) in December 2019.

Relevance of the Volume conformance process is taking ground in the card payment industry. Additional specifications in the Terminal to Acquirer domain and new ones in the Acquirer to Issuer domain have been granted an ECSG label. That confirms the interest of the market in demonstrating their conformance to the Volume. The ECSG has started a review of the labelling process aiming at improving and reinforcing it. In light of the Eurosystem’s report on card payment in Europe, the ECSG will analyse the impact of a possible evolution of the current process based on a self-assessment towards an independent third-party evaluation process.

In addition to those activities, the ECSG has worked on regulatory as well as functional and technical standardisation development and innovation in Card payment in SEPA. Where relevant, references to updated or newly published standards and specifications have been introduced in the SCS Volume.

Finally, analyses on the coexistence of card and non-card payments at Point of Interaction and potential Volume impact in the form of a ‘Taxonomy’ as well as the evaluation of new technologies in Card payment for integration in future releases of the Volume are currently being carried out by the ECSG.

2 Background

On 16 May 2014 the ERPB issued recommendations related to technical standards for payment cards to the ECSG, formerly named the Card Stakeholder Group, and invited them to carry out a stock-taking exercise on the implementation of standards related to payment cards and to devise a plan on dealing with the practical implementation issues in this respect at the next meeting of the ERPB.

On 29 June 2015 the ECSG presented an executive summary of the carried-out stock-taking exercise. The ERPB took note of the report and invited the ECSG to report back to the ERPB every 12 months, with an update on how implementation of harmonised standards related to payment cards in Europe was progressing.

Three stock-taking exercise report updates have been so far presented to the ERPB. The ERPB took note of those update reports.

In June 2019, the ERPB suggested to rely on the ECSG reporting in the context of their yearly reporting on cards standardisation and to remove these recommendations, as of November 2019, from ongoing ERPB monitoring. Nevertheless, the recommendations remain relevant and the ERPB will continue to support adherence to the SCS Volume.

3 Update on the Card standardisation in Europe

This section presents the main changes compared to the November 2018 situation in relation to Volume conformance and card standardisation in Europe.

3.1 Progress in Volume Conformance

3.1.1 Background: on the ECSG VCMC

Within the ECSG, the Volume Conformance Management Committee (VCMC) is responsible for operating the Volume Conformance Labelling process. The Labelling process is a process by which specification providers demonstrate that their specifications conform to the appropriate requirements of the Volume. Conformance stamps (labels) are granted and published on the ECSG web-site.

The VCMC is composed of 2 representatives of each ECSG sector and meets regularly in order to review applications, discuss process improvements and generally address any topic that may be related to the Volume conformance as defined within the VCMC Terms of Reference.

The VCMC has decision making power. Yet when no consensus can be achieved at VCMC level, the VCMC escalates decision to the ECSG Board. In addition, the VCMC seeks advice by other ECSG Expert Teams and with the ECSG Volume Sub-Group, when technical clarifications are required during the labelling process.

More details on those submissions, as well as any updates since the writing of this document can be found in the labelling section of the ECSG web-site:

<https://www.e-csg.eu/ecsg-granted-conformant-labels>

The VCMC has continued its regular activity of evaluating and granting labels for implementation specifications submitted to the labelling process. In 2019 new labels were granted and two more submissions are under review and should be resolved in short. These submissions prove the effort made by the European Card Payments Industry to conform to the Volume.

During last year two new submissions to labelling have been processed successfully.

The nature and scope of some of the applications prompted new debates in the ECSG. Card transactions are processed by complex technical architectures integrating a high number of processing components and protocols required to support card services.

Therefore, card payment solutions available in the market offer very different levels of integration. It is not always easy during the labelling process to evaluate these solutions against the SCS Volume for different reasons:

- The Volume's Books do not have the same level of technical detail depending on the domain/interfaces they address

- An implementation specification may claim compliance with requirements from different Books and the label must be granted based on the global picture

3.1.2 Last year VCMC highlights

The first submission within the A2I domain was the SEPA Card Clearing specification (SCC) published by the Berlin Group. The SCC specifies a card clearing model using as a starting point a SEPA direct debit infrastructure enriched with data elements to support card originated data as well.

The SCC was mentioned in the last “Card Payments in Europe Report” published by the Eurosystem in April 2019. This report suggested that interoperability for access to clearing & settlement facilities for transactions initiated with different SEPA payment instruments was positive for market integration.

The SCC submission raised two specific issues with respect to its scope and the scope of the Volume:

- The SCC is a protocol and there is no single Book specifically focusing on protocols, but requirements for protocols are spread over different Books. The VCMC concluded that a protocol compliant at least with Book 3 Data Elements is eligible for an ECSG label.
- The SCC is a Clearing protocol, and so far, the ECSG has not produced a substantial technical outcome in the Acquirer-to-Issuer domain. After some debate in the ECSG, it was agreed that even if the Clearing & Settlement processes were out of the scope of the Volume, the protocols required to initiate both processes were in scope.

Based on the information provided by the Berlin Group (BG) and subsequent discussions within the appropriate ECSG groups the VCMC decided to grant a label to the SEPA Cards Clearing (SCC) implementation specification.

3.1.3 Next steps to improve the ECSG Labelling process

Another submission has prompted the ECSG to start another internal review on the granularity required to provide the ECSG label, i.e. can only specifications of full solutions be labelled or can also specifications for components of such solutions also obtain a conformance stamp? The intention of the ECSG is to specify some minimum criteria for the eligibility of an Implementation Specification. The outcome of this review may have impacts on the evolution of the labelling process itself which will be detailed in a future version of this report. This work will take place during the new 3-year cycle for the revision of the Volume starting in 2020.

The VCMC welcomes the remarks and suggestions in the recent Eurosystem report with regards to the labelling process. The ECSG board has set up a working group to review those suggestions.

At present, the VCMC baseline for Labelling submissions is:

1. To be a voluntary process
2. To be based on a self-assessment by the applicant
3. To bring the proof of compliance with the relevant Book 5 requirements of the "Volume"
4. The confidentiality of the submission and review process

3.2 Annual Report on ISO 20022 initiatives in the Acquirer to Issuer Domain

3.2.1 Context

The CSG presented to the ERPB during its 13 June 2016 meeting the conclusion of a study on the acquirer-to-issuer (A2I) domain and on the interest and potential benefits of a migration to a single payment message standard and standardised clearing and settlement practices. This study recommended ***the adoption of a market driven approach to migration to ISO 20022 where such a migration is decided based on business considerations.***

The ERPB invited the CSG to further refine the proposed framework. The newly-formed ECSG produced a new report with the following content:

1. Refinement of the proposed framework in the initial report;
2. Analysis of alternative migration strategies (clearing only, specific geographical domains, groups of schemes, etc.);
3. How to liaise with the relevant ISO committees so that SEPA requirements are taken into account.

Subsequently, during its meeting on 3 May 2017, the ECSG Board decided to task the Volume Sub-Group to monitor the relations with ISO and carry out the following activities:

- Identify new initiatives to use ISO 20022 in the A2I domain in the market
- Monitor existing initiatives to use ISO 20022 in the A2I domain in the market
- Identify specific SEPA requirements to be taken into account, e.g. triggered by Schemes or by Regulation
- Assess those specific SEPA requirements
- Define a proposal on how to handle those specific SEPA requirements and submit it to the ECSG Board
- Produce an annual report to the ERPB, which describes the evolution of the market initiatives

The ECSG's Volume Sub-Group has therefore continued its monitoring activity on submitting organisations active with ISO 20022 in the A2I Card Payment domain.

3.2.2 New initiatives using ISO 2022 in the A2I domain in the market

At the date of the report, compared to last year, no new initiative using ISO 2022 in the A2I domain has been identified in the market.

3.2.3 Existing initiatives using ISO 2022 in the A2I domain in the market

There are at present two initiatives using ISO 2022 in the A2I domain in the market:

- The SEPA Card Clearing (SCC) initiative
- The ATICA initiative

1. ISO 2022 based SEPA Card Clearing (SCC)

In the Acquirer to Issuer domain, ISO 2022 has currently been successfully implemented as the SEPA Card Clearing (SCC) Framework by the German girocard Scheme since 2014 and billions of transactions are being cleared annually.

The ECSG Volume Conformance Management Committee has labelled the Berlin Group SEPA Card Clearing (SCC) Framework as conformant towards the SCS Volume Version 8.0 published on 28 February 2017 (see section 3.1.2).

The SCC Framework leverages the ISO 2022 payments infrastructures. Governance and change management of the main payment message reside with the ISO Payments SEG and governance and change management of the SCC Framework extension resides with the Berlin Group. As owners (at ISO level) of the SCC Framework extension, the Berlin Group works on the support of all card-related services within the supplementary data field approach for payment messages.

ISO 2022 based SCC messages offer a simple message extension to the SEPA Direct Debit definition for including additional card originated data in ISO2022 payment messages, for the purpose of clearing and settlement of card payment transactions via SDD, as an opportunity to leverage investments in ISO2022 SEPA infrastructures. SCC data elements are already included in Book 3 of the ECSG Volume and alignment on data elements, values and IDs will be discussed with ATICA once the ATICA messages and XML-schemes are published in a version 2.0.

2. ISO 20022 - ATICA

ATICA version 2 was submitted to the ISO 20022 RA (Registration Authority) in January 2019 and after successive interactions the ATICA v2 related Message Definition Report (MDR) has been submitted to the Cards SEG (Standards Evaluation Group) for evaluation on 15th October 2019. This Message Definition Report (MDR) will be used by the ECSG Book 3 Expert Team to update and include ATICA v2 in the Book3 of Volume v9 which is expected to be published in June 2020 via bulletin after the consultation process.. ECSG Book 3 will contain cross references among ATICA, CAPE, ATM, the 3 versions of ISO 8583 and SCC.

TG1, the Working Group overseeing the definition of ATICA, is now generating the MUG (Member User Guide) which will be helpful for implementers and as well the Convergence Guide with a very detailed mapping and reference between ATICA and ISO 8583.

ISO 20022 ATICA version 2 provides an additional specification for the market to cover the full transaction life cycle (Authorisation, Clearing, Settlement and Disputes) within the Acquirer to Issuer environment. ATICA version 2 also includes messages to address a full set of functionality: Authorisation, Financial presentment, Reversal, Chargeback, Verification, Inquiries, File Action, Retrieval and Fulfilment, Fraud Reporting, Network Management, Batch management, Settlement report, etc.

3.2.4 Specific SEPA requirements

Part of the Volume Sub-Group's activity in the Acquirer to Issuer domain regards specific SEPA requirements on ISO 20022, and in particular:

- The identification of any specific SEPA requirements to be taken into account, e.g. triggered by Schemes or by Regulation
- The assessment of those specific SEPA requirements
- The definition of any appropriate proposal on how to handle those specific SEPA requirements and submit it to the ECSG Board

Specific requirements regarding the ATICA initiative have been identified in the past year deriving from the entry into force of the second Payment Service Directive (PSD2). Most of them are introduced by the Delegated Regulation on regulatory technical standards for strong customer authentication and common and secure open standards of communication (RTS on SCA) published by the European Banking Authority (EBA). Those specific requirements have been and are being duly managed by the relevant ATICA working groups and particularly by the ECSG Members involved in those working groups.

3.3 Standardisation progress in the Card-to-Terminal, Terminal-to-Acquirer and Acquirer-to-Issuer domains

The future integration of ATICA messages in the Volume once included in ISO 20022 will contribute to achieve a better level of interoperability for the Terminal-to-Acquirer and Acquirer-to-Issuer domains.

The ECSG has debated to what extent the card processes in the Acquirer-to-Issuer domain are in the scope of the Volume. So far, in successive consultations, market players have not expressed a will to extend the number of requirements in the Acquirer-to-Issuer Domain.

It remains that the ECSG is paving the way for the future harmonisation of payment infrastructures by incorporating the opportunity to use protocols based on ISO 20022 messaging as an additional option. A way forward has been found with the recent debate about the labelling of SCC. The ECSG is not going to set functional requirements in the way schemes and banks implement and operate Clearing & Settlement systems.

In the **Card-to-Terminal (C2T), Terminal-to-Acquirer (T2A) and Acquirer-to-Issuer (A2I) domains** the specifications labelled by the VCMC will allow merchants, acquirers and vendors to deploy solutions for which the Volume Conformance has been claimed.

ECSG Label Number	Submitter (Organisation)	Labelled Specification	Domain	Conformant to Volume	Granted Date**
ECSG L 001	nexo	nexo Acquirer v6.0	T2A	version 8.0	20/12/2017
ECSG L 002	nexo	nexo FAST 3.1 & nexo bulletins	C2T	version 8.0	20/12/2017
ECSG L 003	nexo	nexo IS v4.0	T2A	version 8.0	20/12/2017
ECSG L 004	GBIC	The global girocard specifications	T2A	version 8.0	20/12/2017
ECSG L 005	IFSF	IFSF POS to FEP Interface Specification Part 3-40 version 2.0	T2A	version 8.0	22/05/2018
ECSG L 006	IFSF	IFSF Host to Host Interface Specification Part 3-50 version 2.0	T2A	version 8.0	22/05/2018
ECSG L 007	nexo	nexo FAST 3.2	C2T	version 8.0	26/10/2018
ECSG L 008	Berlin Group	SEPA Card Clearing (SCC) Framework	A2I	version 8.0	11/07/2019
ECSG L 009	RedSys	PUC (Protocolo Unificado Comercios)	T2A	version 8.0	26/09/2019

** These Labels are valid for three years from their granted date.

3.4 Standardisation progress in the Terminal Security domain

Terminal Security domain has shown the following evolutions:

Significant cooperation over a number of years has seen strong standardisation and alignment at a high level of security requirements for Point of Interaction (POI) Devices used in Face to Face transactions in the SEPA area. The latest version of the volume which will be released as v9.0 includes the latest version of these high-level requirements against which a vendor can develop a solution.

A POI device conformant with ECSG Book4 high-level requirements, has also to comply with the detailed requirements of one of the following Specifications: PCI PTS, Common.SECC, PCI PTS with ECSG+¹ or Common.SECC with ECSG+. Approval to use a certified product in a particular market remains with the relevant Approval Body or Card Payment Scheme, the process for which is detailed in Book 5 e.g. UK Finance and girocard follow Common.SECC, other Schemes follow PCI PTS. Other Schemes may require PCI or Common.SECC with additional ECSG+ requirements.

This ensures the maximum opportunity for all sectors in the provision of secure POI terminals in the SEPA market and ensures a continued high level of security for face to face transactions. In addition, the high level of collaboration of all sectors within the Book 4 Security Expert Team along with collaboration and involvement of other teams such as the Innovation Expert Team enables new payment techniques and opportunities to be discussed with a view to them being included in future versions of the standards.

¹ ECSG+ are additional ECSG European security requirements

4 Other relevant ECSG activities

Besides the preparation of a new release of the SCS Volume v9, the ECSG has conducted several activities analysing the impact of the development of Card payment in SEPA, the European regulations, as well as assessing innovations to be integrated in future Volume versions.

4.1 Future Developments & Impacts on interoperability

4.1.1 Digital Payments Task Force

In September 2018, the ECSG Board took the decision to create a Digital Payment Task Force (hereafter DPTF) whose sole purpose is to analyse the coexistence of card and non-card payments at Point of Interaction and potential Volume impact in the form of a 'Taxonomy' as well as an impact assessment to be presented to the ECSG Board in September 2019 at the latest.

That analysis consists in:

- Performing an analysis on the following use cases:
 1. Mobile device initiated Credit Transfer C2B "Ecommerce": between a merchant web site and the customer using a web technology
 2. Mobile device initiated Credit Transfer C2B "Mobile": between a merchant application and a payment application (In App or App2App)
 3. Mobile device initiated Credit Transfer C2B "Proximity": between a classical merchant POI (terminal) and the consumer device using a proximity technology such as NFC, QR code, BLE...
- Developing an impact assessment template for the impact on the ECSG, with a focus on the coexistence of card and non-card payments (whilst leveraging the existing work of the EPC and others).

At the end of its mission, the DPTF came to the following conclusion:

In considering that

- *The Volume already takes into account the co-existence of applications on a Physical POI and has defined security guidelines to protect the sensitive data for transactions on Virtual POI;*
- *Today several applications may already co-exist on the physical POI (e.g. loyalty, meal voucher payment) and on the Virtual POI; the 'Mobile device initiated Credit Transfer C2B' application must be considered an additional application;*

The DPTF concludes that there is potential limited impact to the Volume and recommends:

1. *That the Book 4 ET looks at whether to update the security requirements for Virtual POI's for when multiple payment applications co-exist.*
2. *That the ECSG contribute to work on the issues raised in the "Findings non-Volume impacts" (payment instrument selection and compatibility/interference between interface technologies). Part of the consideration is to identify appropriate bodies to collaborate with.*
3. *That the DPTF, having completed their mandate, be disbanded.*

This conclusion was presented to the ECSG Board of September 2019 which approved it.

The "Findings non-Volume impacts" highlight that when the Physical POI supports multiple payment instruments (i.e. cards and other electronic based payment instruments), there will be a number of considerations in designing an optimum Consumer experience, such as capabilities of the Consumer device, interface technology to be used, compatibility/interference between interface technologies, choice between card or non-card payment instruments, interaction between Merchant and Consumer (who selects?).

The DPTF also identified an opportunity to develop a standardized 'payment instrument selection process' allowing Consumer and Merchant to exchange (via NFC, BLE, ...) on payment instruments supported and their respective preferences.

The ECSG Board recommends ERPB to define the addressees to investigate the identified topics raised in those "Findings non-Volume impacts". ECSG remains available to participate to these discussions with the identified parties.

4.1.2 Evolution towards enhanced cryptography

EMVCo has recently announced a revision of the EMV v4.3 specifications to include the use of Elliptic Curve Cryptography (ECC) as an optional alternative to the present use of RSA for card authentication purposes and Offline Encrypted Cardholder Verification (PIN and biometrics). In principle, this revision only impacts contact card transactions, but individual card schemes may decide to extend the use of ECC to contactless card transactions as well. The ECSG notes that most of EMV cards issued in SEPA are dual, supporting both contact and contactless card payments.

The Volume Sub-Group, with EMVCo collaboration, has been assigned the task to look into the migration aspects that fall within the remit of the ECSG and to assess the impact of ECC migration in card and terminals as soon as the revision of EMV v4.3 is available. In a second step, the ECSG will proceed to evaluate the potential impact of the EMV v4.3 evolution in the Volume.

4.1.3 Standardisation of contactless kernels

The contactless kernel is the Point Of Interaction (POI) component directly interacting with the contactless card application. It provides the service to retrieve the card application data needed to authorise the transaction.

The kernel for a particular transaction is the one corresponding to the application selected by the interaction of merchant and consumer. POIs may support different contactless

kernels. A single contactless kernel has not been produced by EMVCo. Instead, EMVCo acts as a voluntary registration authority for EMV based contactless kernels deployed by local or global schemes.

As mentioned in the Eurosystem card report, two additional contactless specifications, namely PURE and CPACE, are currently deployed in SEPA.

Upon ERPB's request, the ECSG submitted in 2017 to the ERPB the report "Feasibility Study on the development of open specifications for a card and mobile contactless payment application". Chapter 4 of this report elaborated on the Acceptance Side considerations, and the implications of implementing a common standardised contactless kernel for SEPA. The ECSG's conclusion was then negative with respect to the short-term benefits of the migration to a single contactless kernel. Two years later, we observe a dramatic increase in the number of contactless card transactions despite the diversity of contactless kernels deployed in the field. The ECSG's conclusions of the 2017 report have been confirmed by the very positive evolution of the contactless card payments market.

As a consequence of the market initiatives and the success of the contactless technology for retailers and consumers, there appears to be at this point in time no need for further standardisation of the contactless kernels however the ECSG will continue to monitor this area.

4.1.4 ECB/Eurosystem Request about the interoperability of card message formats among processors.

On 25 April 2017, the Eurosystem sent a letter to European Cards Stakeholders Group (ECSG-IL005 17) titled 'Interoperability of card payment message standards', where it was stated that:

The Eurosystem welcomes the publication of the 8th version of the SEPA Cards Standardisation (SCS) Volume on 1 March 2017. Even though the Volume clarifies the interoperability issue for products/services using the same implementation specifications of the same technical message standards under the same card payment scheme, it is not considered sufficiently detailed to facilitate technical interoperability in case different technical message standards or different versions of one standard are used.

The Eurosystem would like to ask the ECSG to discuss in more detail the aspect of used data elements, with the focus on:

- i *(i) how to best facilitate technical interoperability in case different technical message standards in the terminal-to-acquirer and acquirer-to-issuer domains are being used, and*
- ii *(ii) if commonly agreed conversion rules would be a promising approach to foster technical interoperability (If not, why not? If yes, which body would be best suited to establish these conversion rules?).*

In September 2017 the ECSG replied by:

- Addressing the background describing the current situation and how interoperability among different standards are now being covered by the card payment industry,
- Describing a proposed solution based in a future version of Book 3, after ISO 20022 ATICA Version 2 is integrated, including a conversion rule section among all the referenced standards to facilitate harmonisation.

The ECB/Eurosystem acknowledged the ECSG response and stated they have taken it up into their assessment of replies to the survey into SEPA for cards, as this included a question on ISO 20022 for card payments.

4.2 Regulation impacts

Dedicated ECSG working groups reviewed the impact of the latest EU regulation on Data protection, Payment Services Directive 2 and their delegated regulations on SCA and publication of the Eurosystem's perspective on card payments.

In some cases, analysis has demonstrated that solutions are implementation specific and hence it is not possible to standardise requirements at the ECSG level.

4.2.1 GDPR regulation

The General Data Protection Regulation (GDPR) requires privacy by design which encourages Pseudonymisation as a measure to ensure that appropriate technical measures and safeguards are in place for the protection of personal data. Pseudonymisation can reduce the risks to the data subjects concerned and help controllers and processors to meet their data protection obligations.

In the latest Volume:

- A Tokenisation Annex has been developed which is one of the techniques of data Pseudonymisation defined in the GDPR Article 4.
- A recommendation to support EMV 3DS for 3 Domain Security has been introduced.

ECSG highlights some GDPR aspects relevant to Tokenisation and the EMV 3DS authentication method with data information relating to an identified or identifiable natural person.

4.2.2 PSD2 Regulation

The ECSG established the PSD2 Task Force (TF) to approach the necessary topics that may require standardisation work in the Volume with the new regulation of the PSD2 and the EBA RTS in a coordinated and comprehensive way. The TF had two dedicated tasks:

- To identify the Volume impact of the PSD2 and the EBA RTS for the different Volume books to contribute for a consistent update of the impacted books and,
- To mirror the ongoing discussion about the regulation's interpretation and evolution, e.g. regarding the EBA Opinion Papers and the EBA Q&A status.

Beyond that the TF contributed to a permanent and fruitful exchange on possible regulation's implementations like Article 11 implementations or the usage of Merchant Category Codes for Article 12 of the EBA RTS. In addition, it provided a platform to listen to the positions of non TF members, e.g. from the UK.

Multiple references to PSD2/RTS articles have been added to the Volume, notably in Book 2 and Book 4.

4.2.2.1 EBA RTS Art 11 Implementation guidance

Article 11 of the EBA RTS defines limits within which an issuer may allow contactless card transactions without SCA. This Article challenged the retail sector in the ECSG to ask for information and clarification of implementations in the market with a particular view on a harmonised approach for issuer SCA requests if these limits are exceeded. The ECSG has determined that four solutions exist to handle the “SCA required” response from the issuer in a contactless card payment.

A bulletin has been issued providing clarification of those solutions for compliance with article 11.

4.3 ECB Eurosystem’s Report “Card payments in Europe”

The Eurosystem published the “Card payments in Europe” report in April 2019, which, amongst others, welcomes the ECSG activities.

However, the report expresses the wish that “further action ... to address outstanding issues hampering a SEPA for cards is much needed.” Thus, the ECSG Board decided in May 2019 to perform an impact analysis on the Volume.

4.4 Innovations in Card Payments

4.4.1 Introduction

This year the ECSG elaborated the programme of work for the next two years and pre-selected a series of innovative technologies presenting an interest for the development of card payments. Some of the technologies hereafter have been investigated by the ECSG during last year for integration into Volume v9, according to the procedure described below.

4.4.2 Management of Innovation in the ECSG

In the ECSG, the Innovation Expert Team (Inno ET) is responsible to recommend to the Board the integration of new technologies in the Volume. It is important to point out that “innovation” does not necessary mean “cutting-edge” technology. It rather refers to the assessment of the ECSG of an existing technology to improve the provision of card payments.

The Inno ET classifies technologies eligible for the Volume in five categories:

1. IT and mobile technology
2. Fight against card payment fraud
3. Compliance with new regulatory requirements
4. Optimisation of the card payment processing
5. Convergence with other international payment standards

In order to identify candidate technologies, the Inno ET has developed three sequential internal processes:

1. Prioritization of technologies, that leads to a preselection of technologies considered relevant for the card payment industry in the short-medium terms.
2. “Taxonomy”, meaning that for a pre-selected technology, the Inno ET proceeds to a comprehensive analysis of possible use cases and a common understanding
3. The Volume Inclusion Assessment Criteria (“VIAC”) is an evaluation exercise of the technology against 30 criteria (market potential, market impact, market availability, legal aspects, security)

The previous 3-stage process enables the Inno ET to provide the ECSG Board with a recommendation in terms of integration of the evaluated technology into the Volume.

Next sections illustrate different technologies under consideration by the ECSG for the next release of the Volume.

4.4.3 Tokenisation

The publication of the “Tokenisation Annex” document as an Appendix to Volume v9 shall constitute a significant step forward for the security and the privacy of card payments in SEPA. Tokenisation is an area for innovation in our industry. Additional use cases for Tokenisation (e.g. tokens as authentication means, specific tokens for IoT card payments...), new token categories and their coexistence, security aspects for token generation and renewal as well as new roles for token management will be investigated for potential inclusion in Volume v10.

4.4.4 QR code

In 2019 the ECSG concluded their initial investigation for the use of QR codes in SEPA card payment systems. A taxonomy summarising the different use cases for QR code card payments has been produced. This initial work outlined the interest of the Retailer Sector for a QR code presented by the merchant and captured by the consumer device to initiate a payment. This particular mode is likely to be privileged when specifying functional and security requirements for QR code card payments in Volume v10. The ECSG will benefit in this respect from the expertise of the ECSG representatives invited to participate in the EPC Multi-Stakeholder Group on Mobile Contactless Payments. This EPC Group has produced a White Paper expanding the scope to non-NFC proximity payments. This document provides insight into QR code payments as perceived by the European payments industry and will be used as an input for future ECSG work.

4.4.5 Bluetooth Low Energy Technology (BLE)

In a similar way, the ECSG produced in 2019 a Taxonomy for use cases for Bluetooth Low Energy Technology (BLE) card payments. This effort has been however put in stand-by for three different reasons:

- (1) The technology is less mature and there are no significant market deployments at present,
- (2) The security vulnerabilities that need to be fixed first and,
- (3) The fact that EMVCo is going to investigate the interest of the technology.

4.4.6 IoT

Lacking a strong use case, the banking industry has been slow in embracing Internet-of-Things (IoT) technologies for financial applications. IoT however remains a potentially rich area for new ways to consume and pay using a card. An ecosystem could be created to authenticate the payment requests initiated by IoT networks. Pending further analysis, it might turn up to be a case for blockchain-based technology. Moreover 5G mobile networks and mobile devices will make it possible to have more objects connected with faster data communication rates. The introduction of 5G will certainly enhance innovations in IoT retail technology that in turn will benefit the consumer.

Compliance with PSD2 is a key area of investigation for IoT payments. Yet different legal scenarios are possible depending on the way the IoT network will be managed. Moreover, the design of security mechanisms for the distribution and maintenance of payment credentials in IoT devices is challenging. The ECSG is producing a Taxonomy for IoT use cases for card payments in order to prepare a realistic program of work for the Volume.

4.5 Collaboration with standardisation bodies and specification providers

4.5.1 EMVCo

In 2019 EMVCo has contributed with the ECSG in four main areas:

1. The drafting process of the “Tokenisation Considerations Document” published for consultation with the Volume v8.5, to become the Tokenisation Annex to be released in the Volume v9
2. The references in the Volume v9 of 3-DS as a protocol to support implementations of the PSD2 and the RTS on SCA for online card payments. EMVCo 3-DS is agnostic with respects to the specific authentication elements to be used for the strong customer authentication process
3. Details regarding the evolution of EMV 4.3 specifications to include Elliptic Curve Cryptography as a means to authenticate the card. As explained in a previous section, the ECSG intends to initiate an internal discussion in order to anticipate potential migration issues
4. Finally, in 2019 EMVCo provided insight in the scope of the EMVCo Security Remote Commerce Framework (SRC). The integration of the SRC into the Volume v10 will also be part of the programme of work of the ECSG

4.5.2 PCI-SSC

The liaison with PCI-SSC enables a consistent approach between the PCI Specifications and the card payment acceptance domain as standardised by the Volume.

Ongoing revisions of PCI-SSC specifications are likely to have an impact on different Books of the Volume v10. These revised specifications include Contactless Payments on COTS Standard, Point to Point Encryption (P2PE), PCI DSS , PTS POI as well as the PCI Software Security Framework.

4.5.3 FIDO

Unlike the EMVCo and PCI-SSC cases, the ECSG has not established at present a formal liaison with FIDO. FIDO is a global industry consortium focused on personal authentication protocols and on the certification of devices compliant with the FIDO specifications.

During 2019 the ECSG initiated the first formal contacts with the FIDO consortium. FIDO technology appears appropriate to implement strong customer authentication and dynamic linking according to the PSD2 and the RTS on SCA. FIDO officers presented to the ECSG experts the different protocols. There is a consensus in the ECSG, that referencing FIDO protocols in the Volume v9 is valuable considering the deadlines for the effective implementation of the RTS on SCA. To what extent FIDO protocols will be reflected in the content of future Volume versions is still a topic for internal ECSG discussion.

4.5.4 Other standardisation bodies and specification providers

The ECSG maintains informal contacts with other bodies which are active in the production of standard specifications for payment at European level. Some of the members of those bodies, such as EPC, are also members of the ECSG, which facilitates the transfer of information and the identification of possible areas of collaboration.

5 Conclusion

Since the last ERPB report the ECSG's efforts focused mainly on the following topics:

- ✓ Public consultation towards Volume version 9
- ✓ Integration of the new regulations (PSD2, EBA RTS and GDPR)
- ✓ Consideration of new standardisation programmes like Tokenisation and ATICA
- ✓ Enhancement of the Labelling process
- ✓ Analysis of card and non-card coexistence in retail payment market.

The new regulations were integrated and/or guidance was provided to the extent possible given the remit of the ECSG (which must remain implementation agnostic) in the Volume comprehensively by establishing dedicated working groups ensuring a consistent coverage of the new regulatory requirements in all Volume books. The permanent exchange of regulatory updates and views among all stakeholders provided for more transparency and clarity to achieve a common understanding of the regulations' targets and measures leading to harmonised SEPA requirements in the Volume, as demonstrated by the issuance of the bulletin introducing guidance about the implementation of EBA RTS Article 11 with SCA exemption for Contactless payments at point of sale. The work structure established in the last two years will efficiently support the necessary further work to evolve the Volume in line with future updates of the SEPA regulations.

The ECSG analysed the programmes of other standardisation bodies in order to be aligned with important developments having the potential to impact SEPA card payments standardisation. Within the current release cycle EMVCo 3DS, Tokenisation and ISO 20022/ATICA have been investigated which lead to recommend EMVCo 3DS in the Volume and to a dedicated Volume Annex about Tokenisation; the latter will be developed in more detail in the coming months.

A new Volume version 9.0 will be published at the end of this year, integrating all those developments. As the final delivery of the ISO standardisation of ATICA version 2.0 has been further delayed, it has not been able to include it into this Volume version. A dedicated consultation of Book 3 including ATICA version 2 will therefore be carried out, followed by the publication of a dedicated bulletin in spring 2020.

The procedure to foster conformance to the harmonised Volume requirements, the Labelling, gained momentum. Not only more labels have been issued in the acceptance domain, but new labels have been granted in other domains such as the acquirer to Issuer domain. Collecting such experience will enable the ECSG to enhance the Labelling processes also taking in account the recommendation made in the ECB report on "Card payments in Europe".

Finally, the ECSG drew a list of innovative technologies (such as Bluetooth Low Energy or Internet-of-Things) on which to carry out investigations and started the process of analysing the coexistence of card and non-card payments at Point of Interaction and their potential Volume impact. The ECSG thus demonstrates its flexible approach to address the retail payment market evolution.