

# Mastercard Card Quality Management Overview

September 2020

# CQM Introduction

- ❑ Involved companies:
  - Personalization bureaus
  - Card manufacturers (card vendors)
  - Suppliers of the card vendors (chip, modules, inlays manufacturers)
  
- ❑ Involved products:
  - Mastercard EMV cards
  
- ❑ Requirements:
  - Quality Management
  - Product Quality (modular structure)
  
- ❑ Methodology:
  - Self-assessment controlled by on-site audits
  - Corrective actions plan.

CQM = Mastercard Card Quality Management

# CQM Benefits

## For the Bank (Card Issuer)

- ✓ Cardholder satisfaction
- ✓ Less card replacement
- ✓ Higher card life time

## For the Supplier or Vendor

- ✓ Cost reduction (less rework, less defects)
- ✓ Bank tenders compliance
- ✓ Mastercard rules compliance
- ✓ Corporate quality tool to both support and control the remote sites
- ✓ External independent view
- ✓ Modular approach with suppliers

The Letter of Approval (LoA) or Card Vendor Conformity Statement (CVCS) requires CQM certification.

# Mastercard Card Approval Overview

	Company Program	Product Program
Global Vendor Certification Program “Physical and Logical Security”	GVCP GVCP-helpdesk@mastercard.com	
Brand and Card Design Rules		Card Design card_design@mastercard.com
Card Structure Integrity and security “Innovative form factors or card bodies”		CSI CSI_Security@mastercard.com
Card Quality Management	CQM cqm@smart-consulting.com	
Compliance And Security Testing		CAST cast@mastercard.com
Interface Security Testing “Functional and RF testing”		IAT chip_certification_chd@mastercard.com

# Chip Card Based Approval Process 1/2

## Card Vendor

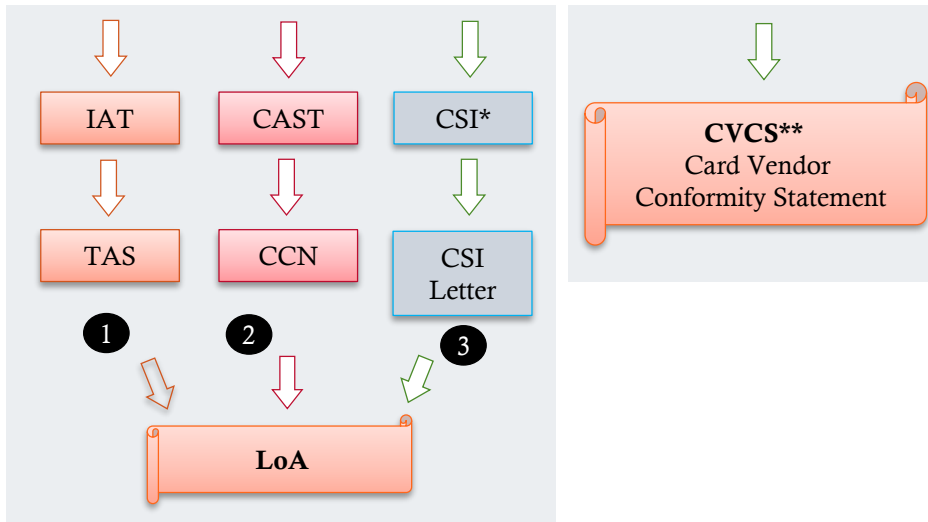
From full product conception to end-user delivery

GVCP Certification

M/Chip Dev. Agreement and Card Manufacturer Agreement

CQM - Labels

Testing Requirements



\*CSI - For non-ID1 Form Factors, Interactive and Innovative Card bodies or Products

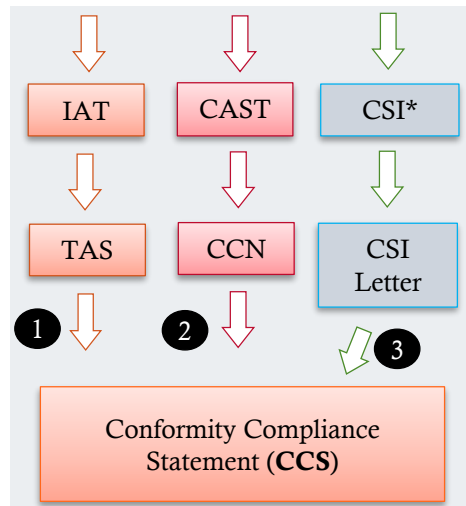
\*\*CVCS – Effective since 01<sup>st</sup> Jan 2020, it allows Card Manufacturers to produce (Embedding and Card Body activities) some products that already got an approval from Mastercard (CCS or LOA). Please refer to the Mastercard Announcement AN\_3253

# Chip Card Based Approval Process 2/2

**Module Supplier**  
Chip + Operating System  
+ Payment App

M/Chip Dev. Agreement

CQM - Labels

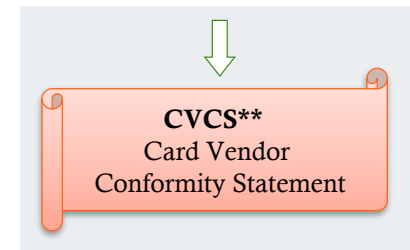
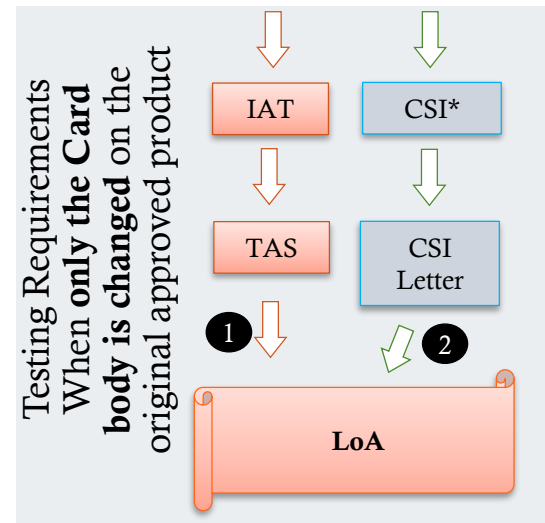


**Card Supplier**  
End-user product manufacturing and delivery based on an approved 'Module + Inlay'

GVCP

Card Manufacturer and OEM Agreement

CQM - Labels



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\*CSI - For non-ID1 Form Factors, Interactive and Innovative Card bodies or Products

# Requirements

## Categories

- Interoperability with ATMs and POS terminals:  
*Electrical, contactless, magnetic, physical characteristics*
- Durability and Reliability:  
*Mechanical, Electro-Static Discharges, magnetic, ageing, resistance to chemicals...*
- Mastercard Brand  
*Design, colors, layout.*
- Visual Security Features  
*UV print, hologram, signature panel...*
- Miscellaneous  
*No toxicity for health and environment*  
...

## Examples

- ❑ Reading distance between the contactless card and a POS
- ❑ Resistance to:
  - ESD
  - Card bending or torsion
  - Abrasion
  - Chemicals: sweat, fuel...
  - Temperature and humidity

# Labels 1/4

## Manufacturing Flow

### Classic Card



### Interactive Card





# Labels 2/4

## unique CQM identifiers

- ✓ CQM labels are identifiers granted to a CQM certified company to cover their certified activities.
- ✓ CQM label structure is “ACCLTTTTS”.

A	= Activity of manufacturing
CC	= Company
LL	= Location of the manufacturing site
TTTT	= Interface Technology (Contact, Dual, Contactless)
S	= Status ( <b>R</b> :interim label for <b>R</b> ecognition, <b>A</b> :label for <b>A</b> pproval)

**CQM Recognition** is a 6 month max interim period aimed  
- for companies starting the CQM process  
- for a new activity started by a CQM certified company

**CQM Approval** is the step achieved when the audit pass recommendation is accepted.

# Labels 3/4

## Label first digit

### ❑ Classic Card

1 Chip

2 Chip Modules

6 Inlays

3 Card Body

4 Chip Embedding

P Chip Card Personalization

### ❑ Interactive Card

1 Chip

2 Chip Modules

8 Inlay for Interactive Card

9 Interactive Card Manufacturing

P Chip Card Personalization

# Labels 4/4 Certificate



## Card Quality Management Statement of Quality

### Specimen Cards Ltd

Having its principal place of business at

Tokyo bd, 155  
9871 Taipei, TAIWAN

has submitted for approval by Mastercard a number of Smart Cards Products and Services in conformity with the Mastercard Card Quality Management (CQM) Requirements. The following CQM labels have been granted.

Site's Country	Site's city	IC		IC Module		Inlays	InterActive Card Inlay		Card Body		InterActive Card		IC Card		Card Personalization	
		Contact-only	Dual	Contact-only	Dual	Dual	Contact-only	Dual	Contact-only	Dual	Contact-only	Dual	Contact-only	Dual	Contact-only	Dual

Mastercard  
Enterprise Security Solutions  
EMV & Digital Devices

This letter is valid until May 28, 2019

Bruno Parfum  
Product Approvals Director

# Documents

- ❑ Documents available on line: [smart-consulting.com](http://smart-consulting.com)
  - Overview presentation (this presentation)
  - Registration Form
  - CQM Yearly Services Offer
  - Assessment Plan (Quality questionnaire)
  - Requirements specification
  - Non Disclosure Agreement (NDA) template.
  
- ❑ Documents available on demand: [cqm@smart-consulting.com](mailto:cqm@smart-consulting.com)

Always check online for the last release of the documents.  
Your documentation system shall point [smart-consulting.com](http://smart-consulting.com)

# Audits 1/3

## Accredited Auditors

Name	First Name		Company	Tel office	Email	Country
Chen	Luke	陳明乾	TÜV SÜD	+886 228986818	luke.chen@tuv-sud.tw	Taiwan
Ferreira	Luis		Agora Consult	+32 470822142	agoraconsultsprl@skynet.be	Belgium
Gase	Axel		Kiwa Telefication	31 316 583 114	agase@telefication.com	Netherlands
Janczek	Thies		Cocaso	+49 170 9127252	janczek@cocaso.com	Germany
Shinmoto	Tamon	真本 多聞	TÜV SÜD	+81 449801675	tamon.shinmoto@tuv-sud.jp	Japan
Trüggelmann	Uwe		TruCert	+1 2504349456	uwe@trucert.com	Canada
Van Voorst	Ries		Dekra	+31 263563419	ries.vanvoorst@dekra.com	Netherlands

The auditors are acting worldwide.

# Audit 2/3 Findings

- ❑ Major non-conformity  
Product functionality might be compromised
  
- ❑ Minor non-conformity  
Product functionality is not compromised
  
- ❑ Observation  
Identified issue that should be resolved to reduce the risk of NC
  
- ❑ Improvement opportunity  
Auditor leaves the decision to the vendor if the vendor wants to resolve/implement it.

# Audit 3/3

## Quality Grade

Grade		Action plan Completion Check	Certificate Validity	Next audit
A	Pass with limited number of minor NC		12 months	< 3 years
B	Pass with limited number of major NC	< 6 months	12 months	< 2 years
C	Interim Pass	< 6 months	6 months	< 1 year
D	Fail			

*Starting from the 3<sup>rd</sup> audit, C grade will lead to a fail*

# Audits 4/4 Timeline

Owner

Recipients

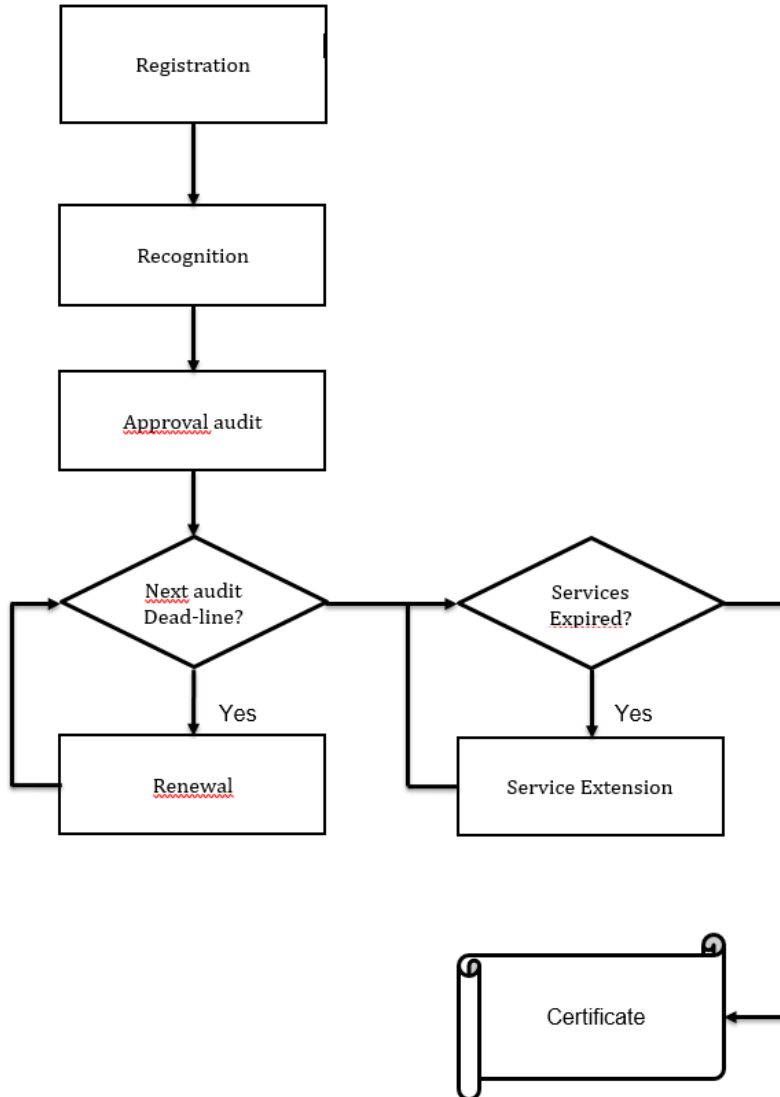
Deadline

	<b>Registration</b>	
Auditee	to Smart Consulting	
↓		
	<b>Audit Agreement</b>	
Auditee + Auditor	Auditee + Auditor	
↓		
	<b>Audit Preparation</b>	
Auditee	to Auditor	2 weeks before the Audit (*)
↓		
	<b>Audit</b>	
Auditor		
↓		
	<b>Action Plan</b>	
Auditee	to Auditor	2 weeks after the Audit (*)
↓		
	<b>Final Audit Report</b>	
Auditor	to Smart Consulting and Auditee	4 weeks after Audit End
↓		
	<b>Audit Report Assessment</b>	
Smart Consulting	to Auditee and Auditor	5 weeks after Final Audit Report
↓		
	<b>Action Plan Completion</b>	
Auditee	to Auditor	17 weeks after Audit End (*)
↓		
	<b>Action Plan Completion Report</b>	
Auditor	to Smart Consulting and Auditee	19 weeks after Audit End
↓		
	<b>Action Plan Completion Report Assessment</b>	
Smart Consulting	to Auditee and Auditor	2 weeks after Action Plan Completion Report

(\*) Typical values. They shall be defined inside the bilateral Audit Agreement binding on the Auditor and the Auditee



# Process 1/3



# Process 2/3

## New Comer Vs. Already Certified

### New Comer

- To register immediately for CQM recognition together with Mastercard GVCP registration in order to gain time.
- CQM labels require the related GVCP certification.

### Already Certified

- ✓ The audit date shall be initiated by the auditee directly with the auditor taken into account
  - The last audit acknowledgement issued by Smart Consulting
  - The certificate birthday (max 60 days before)
  - The auditor availability in the region
- ✓ Pay the CQM yearly extension fees 60 days before the certificate expiration date.
- ✓ Notify changes in real time:
  - new primary contact
  - new location
  - new workshops

# Process 3/3

## Annual certificate is granted after

- ✓ All due corrective actions completed
- ✓ All due audit(s) report(s) received
- ✓ Next audit(s) plan agreed by Smart Consulting
- ✓ Annual fees payment notified

Note: All the sites of the Group that are  
GVCP certified shall also be CQM certified

# Pricing

	Auditor	Smart Consulting
Price	approx 1500€ per day + Travel & Expenses	1000€ annual fees + 560€ per activity
Payment term (new candidates)	to be defined	60 days after CQM offer date
Payment term (already certified)	to be defined	60 days before certificate birthday
Negotiable?	Yes	No

# Mastercard Outsourcing Letter

The CQM scheme  
is owned by  
Mastercard

The CQM operations  
are performed by  
Smart Consulting



MasterCard Europe SPRL  
Chaussée de Terwuren, 198A  
B-1410 Waterloo  
Belgium  
tel 32 2 352 51 11  
fax 32 2 352 58 07  
www.mastercard.com

Waterloo, August, 17 2009

**Note to the attention of : Card Vendors, Subcontractors to Card Vendors and  
Personalization Bureaus**

Dear Vendor,

MasterCard Worldwide has decided to outsource Card Quality Management (CQM) operations to the company Smart Consulting SARL. Starting at the date of this letter Smart Consulting becomes the primary contact for CQM.

Fees will be invoiced directly by Smart Consulting.

Should you have any question, please contact:

Smart Consulting

E-mail: [cqm@smart-consulting.com](mailto:cqm@smart-consulting.com)  
direct tel. intl + 33 607 955 441  
2 rue Vignol  
13600 La Ciotat  
France

MasterCard

E-mail: [cqm@mastercard.com](mailto:cqm@mastercard.com)

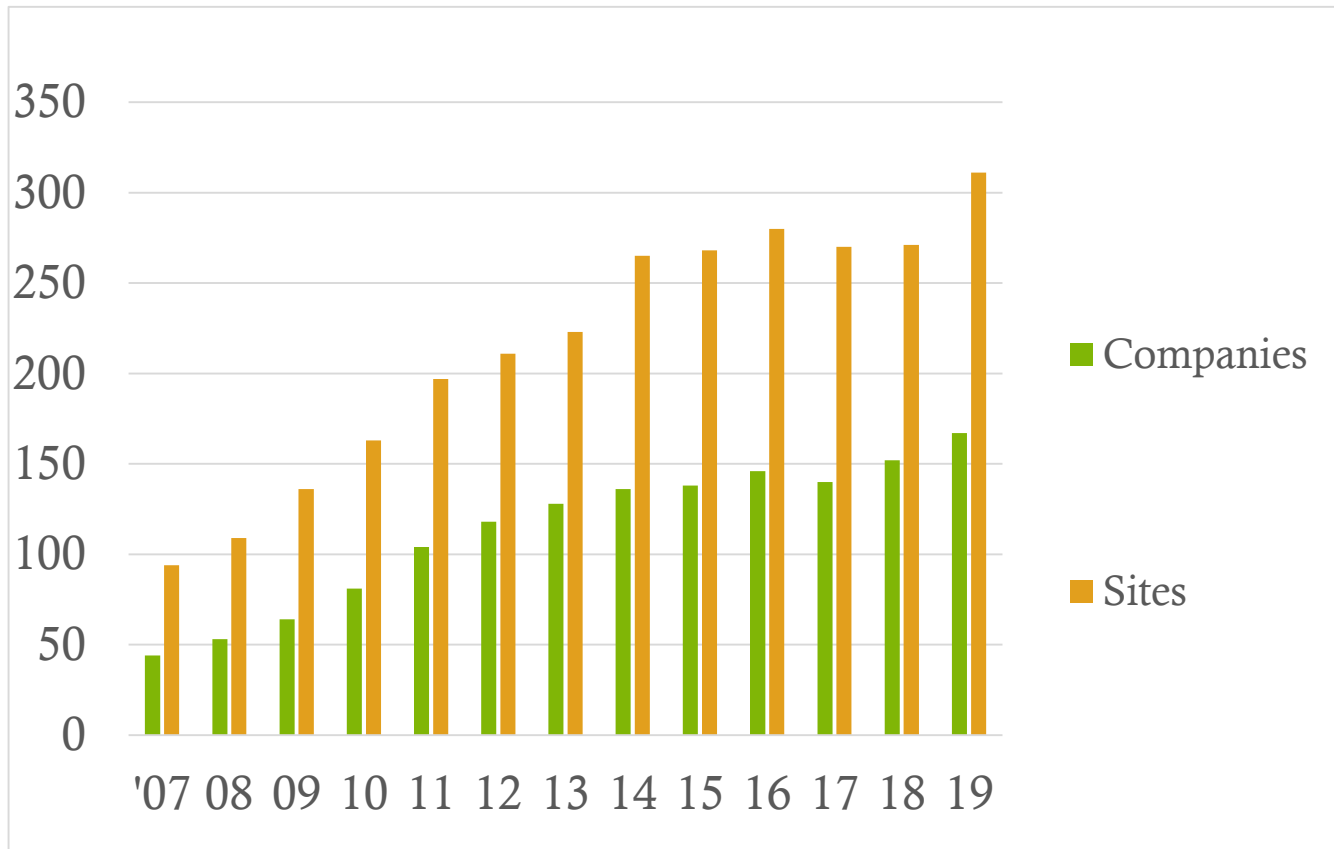
Best Regards,

**Christian Delporte,  
Head of Chip Engineering**

**MasterCard Worldwide  
Innovative Platforms  
198a Chaussée de Terwuren  
1410 Waterloo BELGIUM**

MasterCard Europe SPRL is a subsidiary of MasterCard Incorporated  
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N.E. 0-448 038-445  
Deutsche Bank AG, Brussels 825-2804300-68

# CQM Certification Trend



# Conclusion

## 1. Mastercard mandates CQM:

- ✓ for all Mastercard EMV chip based products
- ✓ for all countries worldwide
- ✓ for every GVCP certified site belonging to the same group of companies.

## 2. CQM certified companies list is public

CQM certified companies are tagged inside the Mastercard GVCP Vendors list

## 3. Increasing number of bank tenders are mandating CQM



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