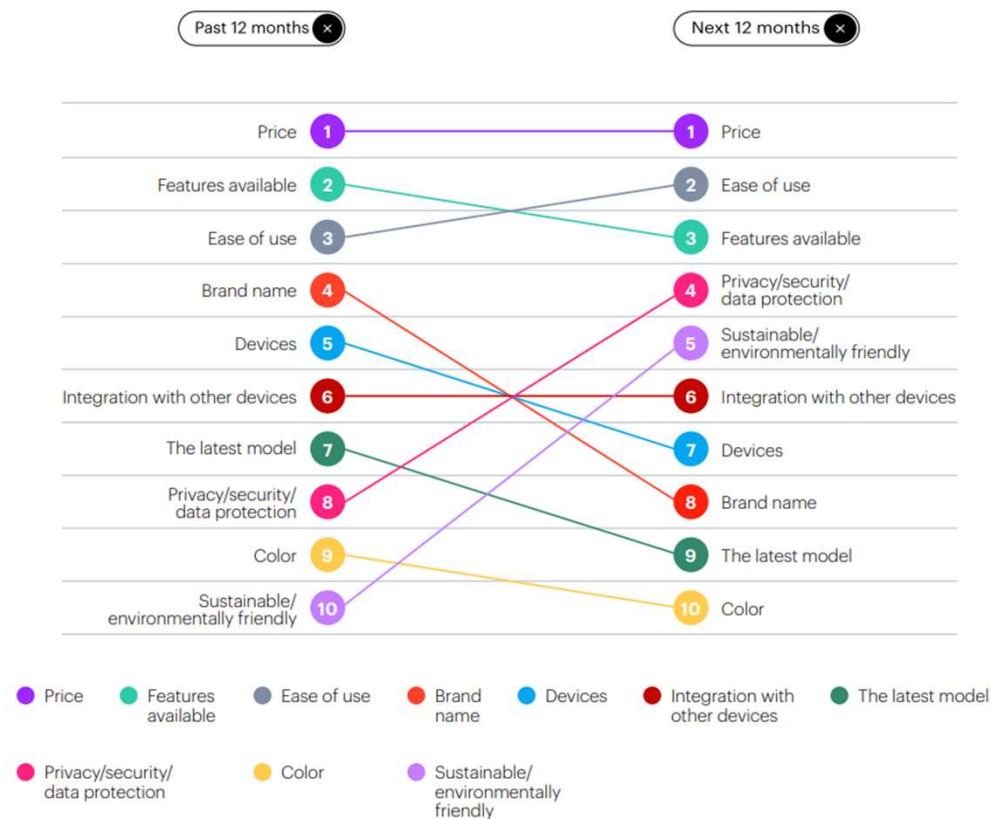# An overview of the GSMA certification program based on ETSI TS 103 732 and Importance of Security Labelling

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Introduction to GSMA MDSCert Working Party

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Consumers Care

- Security, Privacy, and Data Protection has become one of the top items consumers care about when purchasing a new smartphone

- Consumers have no way of knowing how long most devices get security updates for, how robust their biometrics is, and other very basic security capabilities

- This results in a lack of information as most consumers learn about various smartphone capabilities from Price and feature comparison websites

Reasons of importance for past and future purchases of electronics products (Global)

Past 12 months ⊗		Next 12 months ⊗
Price	1 — 1	Price
Features available	2	2	Ease of use
Ease of use	3	3	Features available
Brand name	4	4	Privacy/security/ data protection
Devices	5	5	Sustainable/ environmentally friendly
Integration with other devices	6 — 6	Integration with other devices
The latest model	7	7	Devices
Privacy/security/ data protection	8	8	Brand name
Color	9	9	The latest model
Sustainable/ environmentally friendly	10	10	Color

- Price
- Features available
- Ease of use
- Brand name
- Devices
- Integration with other devices
- The latest model
- Privacy/security/ data protection
- Color
- Sustainable/ environmentally friendly

Q: Which, if any, of the following products have you purchased in the 12 months? Please tick all that apply
Q: Thinking about consumer electronics in the future... Which of the following reasons are most important to you?

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Market Analysis / Validation

- There are only three existing sets of baselines for smartphone security:

    - **BSI – OEM Requirements for Smartphone Security**: Very high level/aspirational. Cannot be used for certification purposes.
    - **CC/NIAP Mobile Device Fundamentals Protection Profile**: US-centric with adoption focused on selling in to US Government
    - **ETSI TS 103 732 (Consumer Mobile Device Protection Profile)**: Recently launched focusing on consumer smartphones

- **Based on our market analysis there are currently no <u>industry run</u> consumer smartphone security certification programs today. The only ones that exist are focused on IoT devices**

Why ETSI?

✓Fully defined baseline specification
✓Fully defined baseline test plan
✓Includes some privacy controls
✓ETSI is an ESO that has built really strong cache with EN 303 645 which our standard is derived from.
✓GSMA has a very close working relationship with ETSI.

Why GSMA?

✓GSMA engages members, governments and civil society
✓GSMA facilitates the industry's focus on areas such security
✓GSMA already has a proven track record with eSA and NESAS
✓GSMA has the key members that are needed to make this certification program a success

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Introducing GSMA MDSCert Working Party

- Working Party kicked off in June 2022 to start assessing the problem statement, competitive landscape in order to build a business justification and address initial and ongoing questions/comments/feedback
- As part of our analysis we have:
  - ✓ Analyzed existing GSMA certification programs such as eSA and NESAS to see if we can easily leverage their existing governance, process, and procedures
  - ✓ Investigated the market/regulatory needs for varying assurance levels and have a recommendation of what would provide enough flexibility and maps directly to existing and future regulations (i.e. EU CSA with Basic, Substantial, and High)
  - ✓ Defined personas such as consumers, policy makers, tech press, general press and other stakeholders who will be leveraging this certification program
  - ✓ Conducted a GAP analysis and through a Liaison Agreement with ETSI TC Cyber provided numerous rounds of feedback to on TS 103 732 which has resulted in version 2.x of the protection profile
  - ✓ Conducted a consumer focused study that was run across 11 markets with over 22,000 participants

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MDSCert Evaluation Methodology

Requirement specifications

- ETSI TS 103 732-1: Consumer Mobile Device Protection Profile

- ETSI TS 103 732-2: Biometric Authentication Protection Profile Module

- GSMA Annex: Additional requirements specified by MDSCert Working Group

Questionnaire

- Natural language translation of the requirement documents

Evaluation Levels

- Hierarchical assurance levels, each higher level builds on lower level

- Evidence and testing increase with each level

Security Assurance Level 1
- Fully completed Questionnaire with summarized responses how they satisfy the requirements

Security Assurance Level 2
- Supporting Evidence demonstrating that they meet Security Functional Requirements (SFRs) and Security Assurance Requirements (SARs)
- Access to the Mobile Device to be evaluated and all relevant documentation pertaining to its functionality, set-up, configuration, etc.

Security Assurance Level 3
- Vulnerability assessment and penetration testing

Assurance Level

Level 3: Lab Eval + Pen Test

Level 2: Lab Eval

Level 1: Verified Self Attest
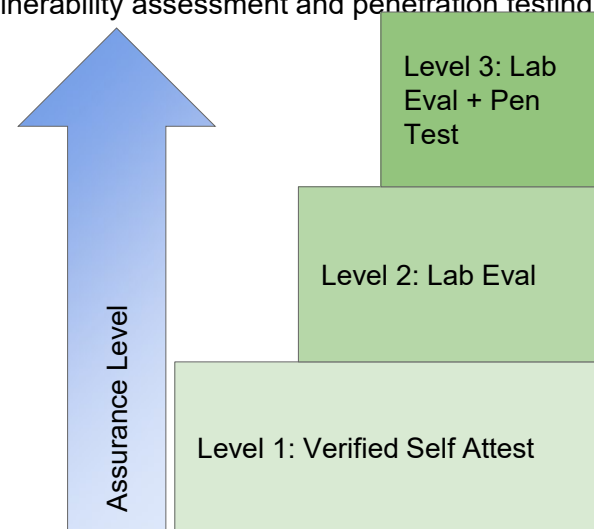
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But how is the certification information communicated to everyone?

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The Importance of Security Labelling

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Smartphones Comparisons

Ratings Scorecard

Test Results

CAMERA: REAR IMAGE QUALITY ⓘ	CAMERA: REAR 1080P VIDEO QUALITY ⓘ
CAMERA: SELFIE IMAGE QUALITY ⓘ	BATTERY AND CHARGING ⓘ
DISPLAY ⓘ	DURABILITY ⓘ
PERFORMANCE ⓘ	SOUND ⓘ
EASE OF USE ⓘ	CALLING ⓘ
BATTERY LIFE (HRS.) ⓘ	WATER RESISTANCE TEST ⓘ
AVAILABLE FROM AT&T ⓘ	AVAILABLE FROM T-MOBILE ⓘ
AVAILABLE FROM VERIZON ⓘ	AVAILABLE UNLOCKED ⓘ
DISPLAY DIAGONAL SIZE (IN.) ⓘ	DISPLAY RESOLUTION ⓘ
OPERATING SYSTEM (AS TESTED) ⓘ	

🔒 Which? test results —

Show only products that score at least 4 out of 5 in our tests for:

- 🔒 Call clarity (181) ⓘ
- 🔒 Battery (101) ⓘ
- 🔒 Camera (99) ⓘ
- 🔒 Ease of use (176) ⓘ
- 🔒 Display (158) ⓘ
- 🔒 Speed (96) ⓘ
- 🔒 Audio quality (external speakers) (117) ⓘ
- 🔒 Durability (193) ⓘ

| QUALITY JUDGMENT		100%
basic functions	^	30%
voice quality		
mesh sensitivity		
WiFi connection		
computing power		
location		
camera	^	20%
Photo in normal lighting		
Low lighting photo		
zoom photo		
shutter lag		
Video		
Selfie with front camera		
screen		15%
battery pack	^	15%
Duration		
loading time		
Battery easily replaceable by the user		
handling	^	15%
Instructions for use and commissioning		
menu and service		
Biometric Unlock		
stability	^	5%
drop test		
scratch test		
rain test		
immersion test		
folding test		

It's impossible to review security cameras in the age of breaches and ransomware

By Michael L Hicks published March 19, 2023

Unless you're a true security expert, you can't know what's going on behind the scenes of your favorite home security brand.
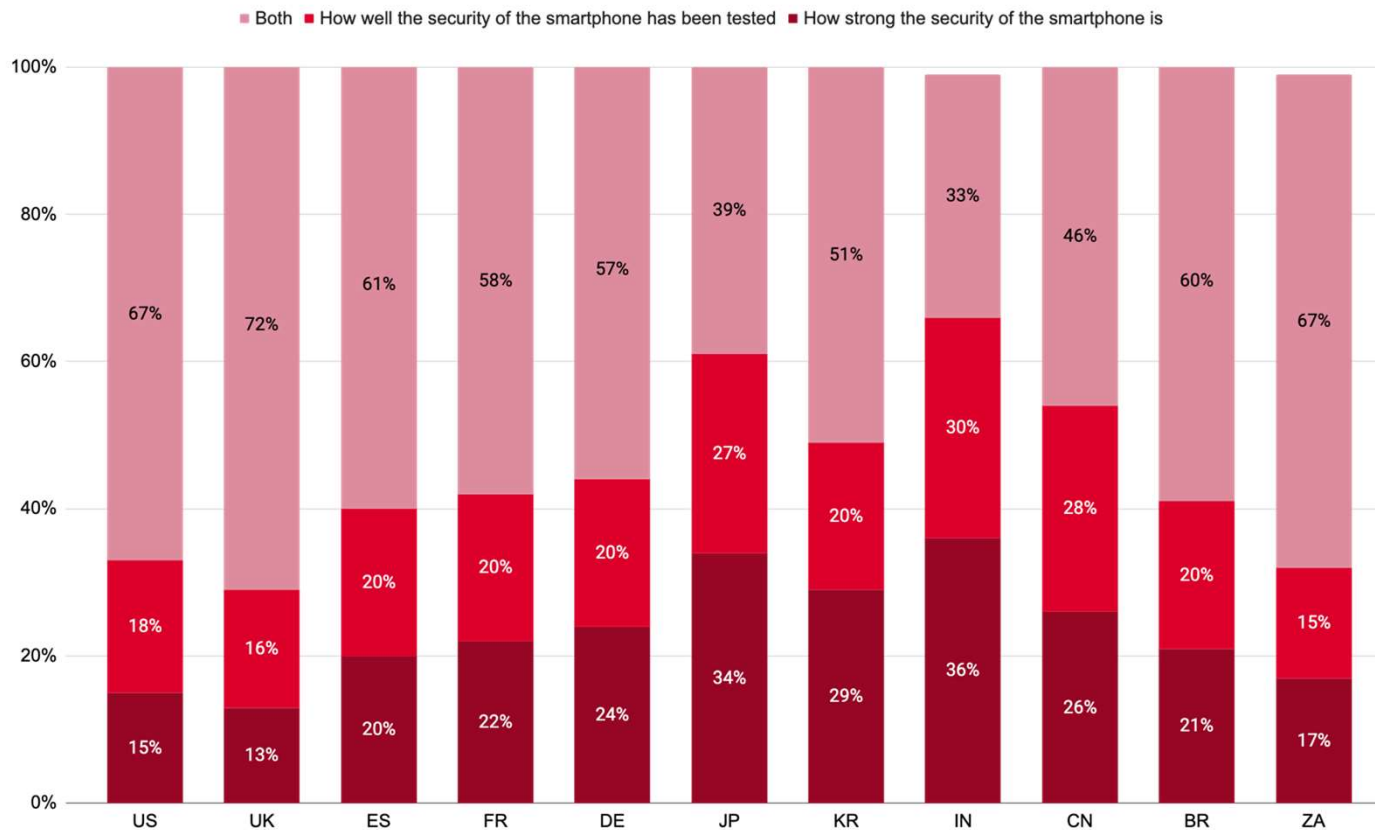
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What should a label look like?
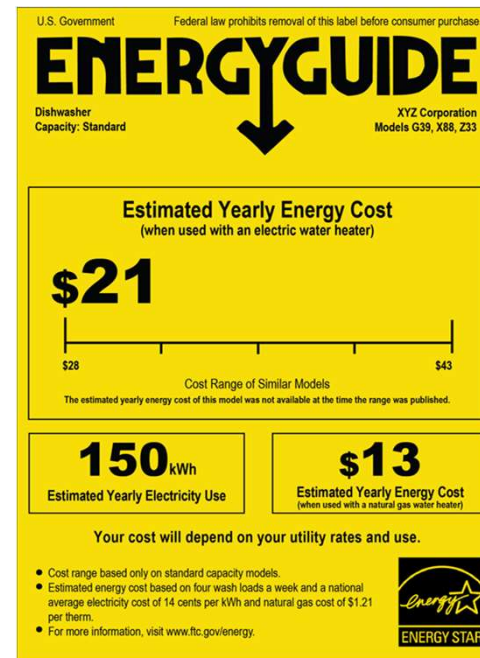
At least half or more smartphone users in all markets excluding JP, IN, and CN think both how well the smartphone security was tested and how strong the security of the smartphone is would be important to see on a label.

Legend: Both ● How well the security of the smartphone has been tested ● How strong the security of the smartphone is

	US	UK	ES	FR	DE	JP	KR	IN	CN	BR	ZA
Both	67%	72%	61%	58%	57%	39%	51%	33%	46%	60%	67%
How well tested	18%	16%	20%	20%	20%	27%	20%	30%	28%	20%	15%
How strong	15%	13%	20%	22%	24%	34%	29%	36%	26%	21%	17%

Question text:
Which information is important to see on a label?

Asked of all respondents (see speaker notes for sample sizes).

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In 5 out of 11 markets, at least half or more smartphone users would prefer both a detailed and summarized view on a security label.

Legend: Both | A detailed view | A sumamrized view
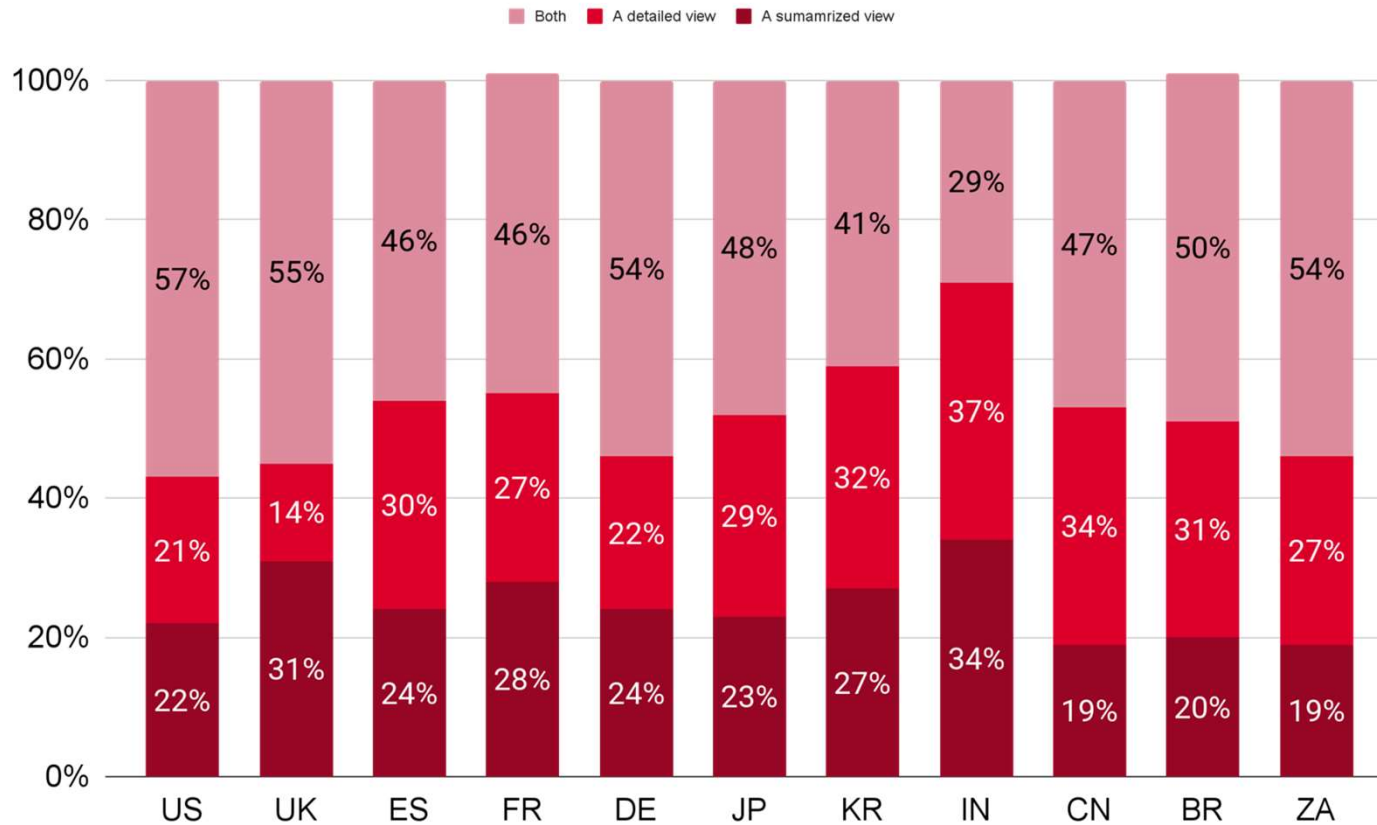
Question text:
Knowing that the security of the smartphone is always changing, what would your preference be in terms of displaying the device security rating?

Asked of all respondents (see speaker notes for sample sizes).

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The 0-100 Scale is the most preferred design option for smartphone users across markets.

Question text:
Which of these security labels do you prefer the most?

Country				
US	52%	13%	16%	19%
UK	59%	12%	15%	14%
ES	57%	15%	15%	13%
FR	60%	14%	18%	8%
DE	47%	13%	21%	18%
JP	45%	15%	23%	17%
KR	59%	10%	18%	13%
IN	37%	20%	24%	19%
CN	32%	17%	24%	27%
BR	49%	18%	15%	18%
ZA	42%	17%	23%	18%

Asked of all respondents (see speaker notes for sample sizes).
Cell shading indicates strength of responses relative to min/max values, and does not reflect statistical significance.

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Cybersecurity Labeling Concepts & Considerations

1. **Stamp/Marking -** The logo + QR code that may be in static printed form on the side of product packaging

2. **Digital Summarized Label -** A condensed label that provides a cumulative rating using a single score, star rating, or various color coding

3. **Digital Detailed Label -** A more detailed label that includes multiple security properties

What type of label is appropriate for what scenario? Example scenarios:

1. Customer goes into a store where there is no digital signage

2. Customer goes into a store that has digital signage (i.e. e-ink displays describing each product)

3. Customer shops at an online retailer

4. Tech Press wants to review a product in detail

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Conclusion

✓ Need for an independent mobile device security certification scheme is recognised -
   No one is solving this today!

✓ MDSCert will deliver information and demonstrable value for mobile device users -
   This will help drive overall improvements through transparency

✓ Opportunity to develop and provide a one stop location and single source of truth -
   Very much a market need for consumers, policy makers, tech press, etc…

✓ MDSCert Scheme is designed to be optimized for agility and cost -
   Based on OEM feedback and volume of smartphones/tablets that launch every year

✓ Security labelling provides certification results in easy-to-digest form -
   This enables national bodies, market research and consumers to use certifications in making decisions

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Questions & Thank You

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