Re-usability of SESIP Certificates

Wouter Slegers at GP SESIP workshop in Austin 2022-05-14

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Who is this Wouter Slegers?

- ✔ Founder and CEO of TrustCB
- ✔ 20+ years of experience in the security evaluation domain
- ✔ 30+ “innovative” evaluations, 80+ certifications, 8+ schemes setup, …
- ✔ Primary author of SESIP with Dirk-Jan Out (SGS Brightsight)





What does TrustCB do?

Make and operate optimized certification schemes

(including governance, requirements, methodology, standards)

What does a CB “sell”?

TRUSTCB
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SESIP™

Certificate ID	SESIP-2100010-01
	TrustCB B.V. declares that
Product	W77Q16/32 version C
	of
Sponsor (and Developer)	Winbond Electronics Corporation *in* Taichung City, Taiwan
	complies to the requirements described in Standard and ST Reference
Standard	GlobalPlatform Technology, Security Evaluation Standard for IoT Platforms (SESIP), GP_FST_070, Public Release v1.1, June 2021 **Based on** Common Criteria for Information Technology Security Evaluation (CC) Parts 1-3, Version 3.1 Revision 5 (ISO/IEC 15408-1, ISO/IEC 15408-2, ISO/IEC 15408-3)
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	Summarised:
Assurance Package	SESIP2 *with* Physical Attacker Resistance
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	As evaluated by:
Evaluation Facility	SGS Brightsight located in Barcelona, Spain
	Under scheme:
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Validity	Date of issue: 2022-04-04 Date of expiry: 2024-03-02
Certification Mark	SESIP™2.0
Signatory	Wouter Slegers, CEO

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Trusted CB says “it is good” (for me)

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Why to buy certification: 3 Reasons

Underlying reasons to certify

Successful re-use requirements

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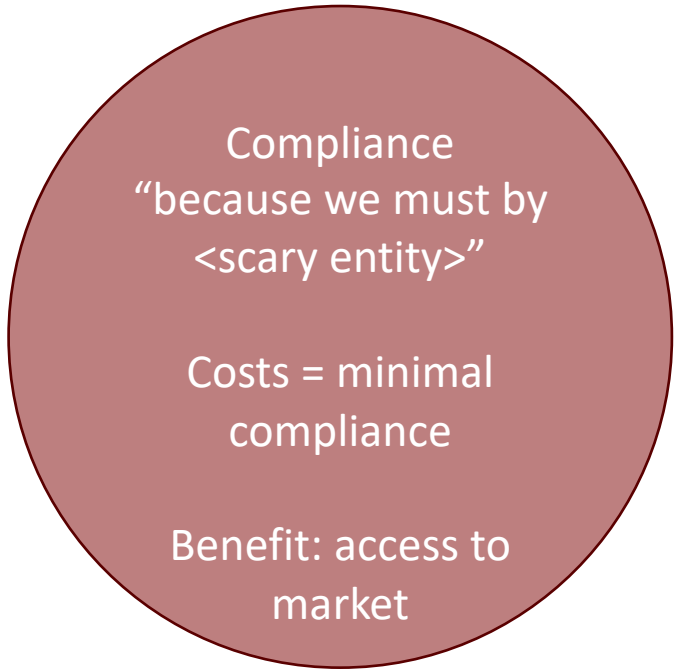
Reasons to certify and finances/motivation



Essence: minimal compliance

Difficulty: alignment compliance requirements under pressue

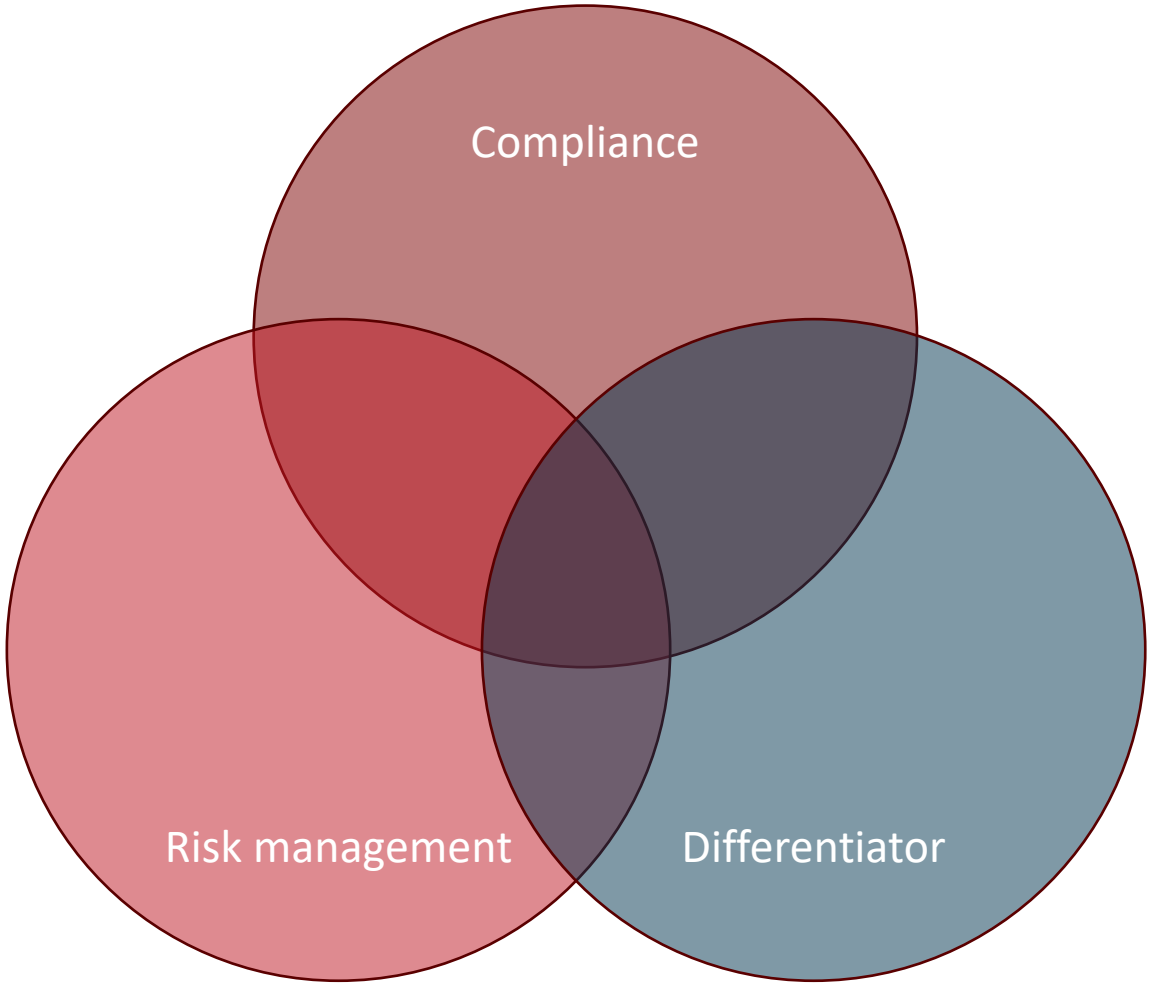
Essence: shown risk reduction

Difficulty: show risk reduction and make small steps valuable

Essence: brand has value

Difficulty: brand must have value to end-user

Reasons and value of certification can overlap



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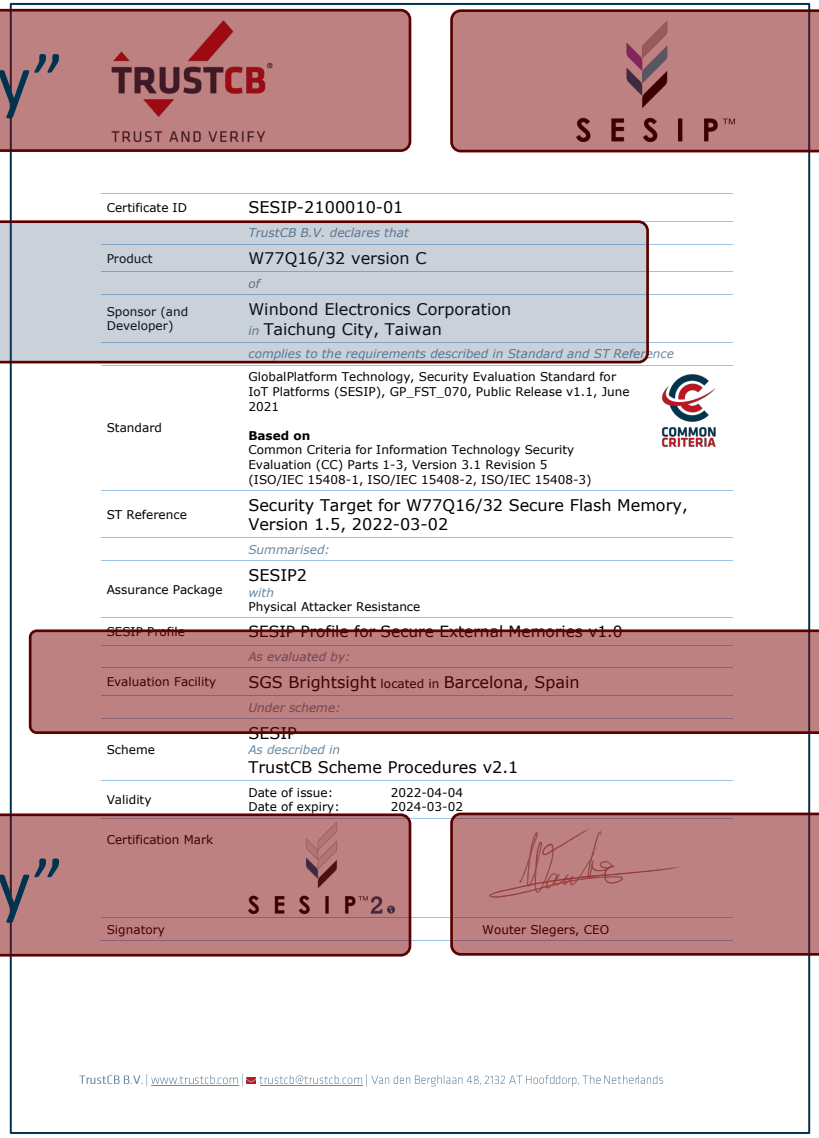
What is the value for you as customer?

Brand for ”quality security”

Brand for ”quality security”

Product



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What is the value for you as customer?

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Brand for ”quality security”

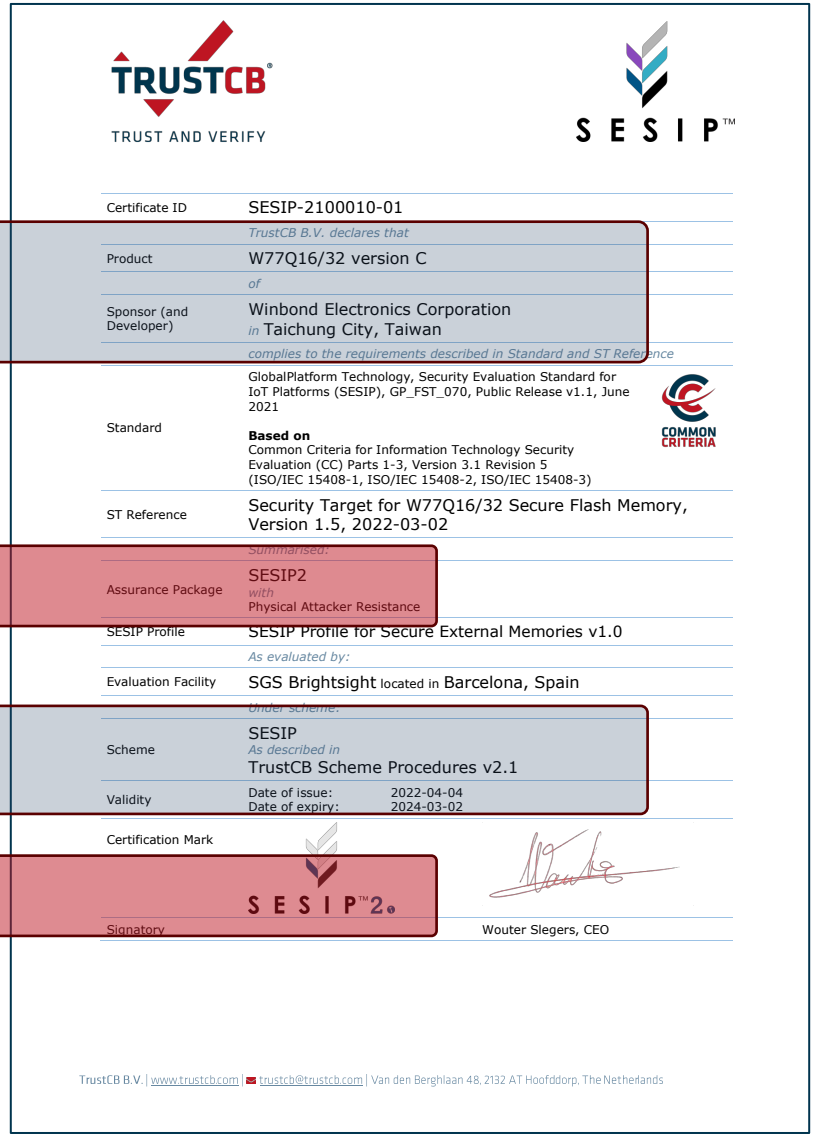
What is the value for your customer?

Product

Strength of attacker

Validity limits

Strength of attacker



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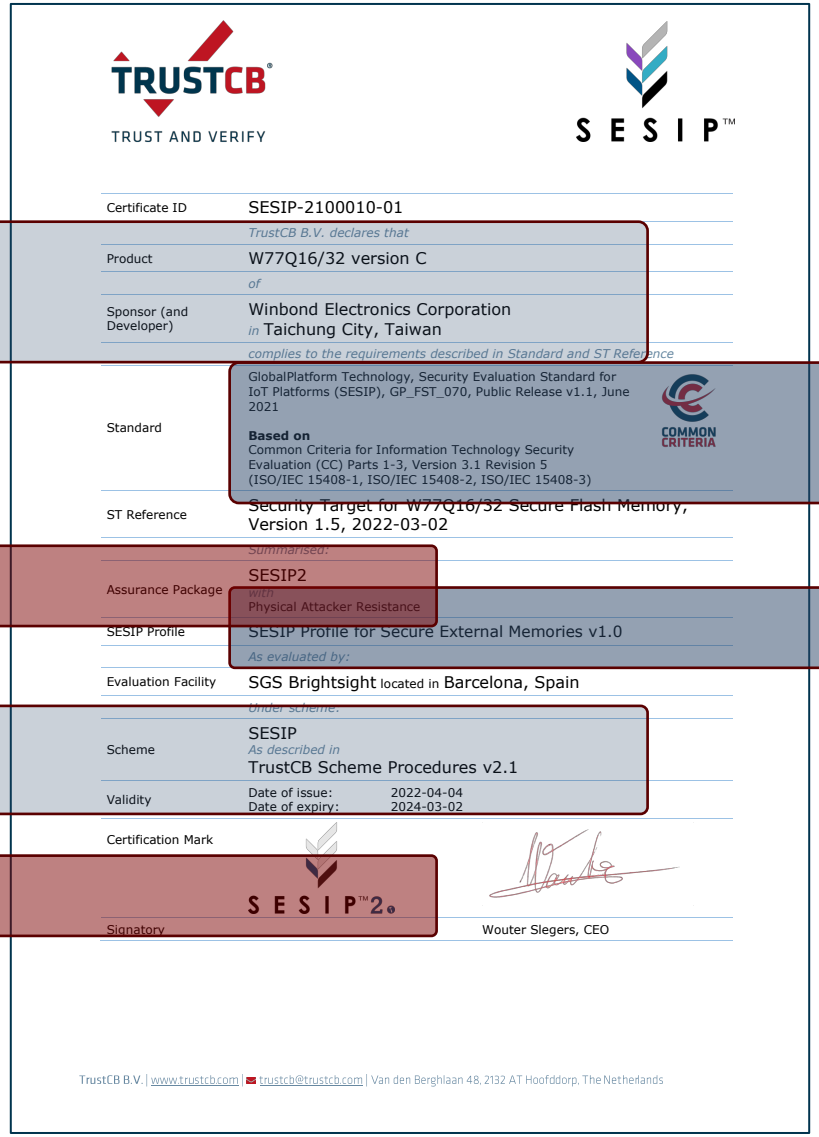
What is the real value for you and your customer?

Product

Strength of attacker

Validity limits

Strength of attacker



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Re-use possibilities

Domain specific security

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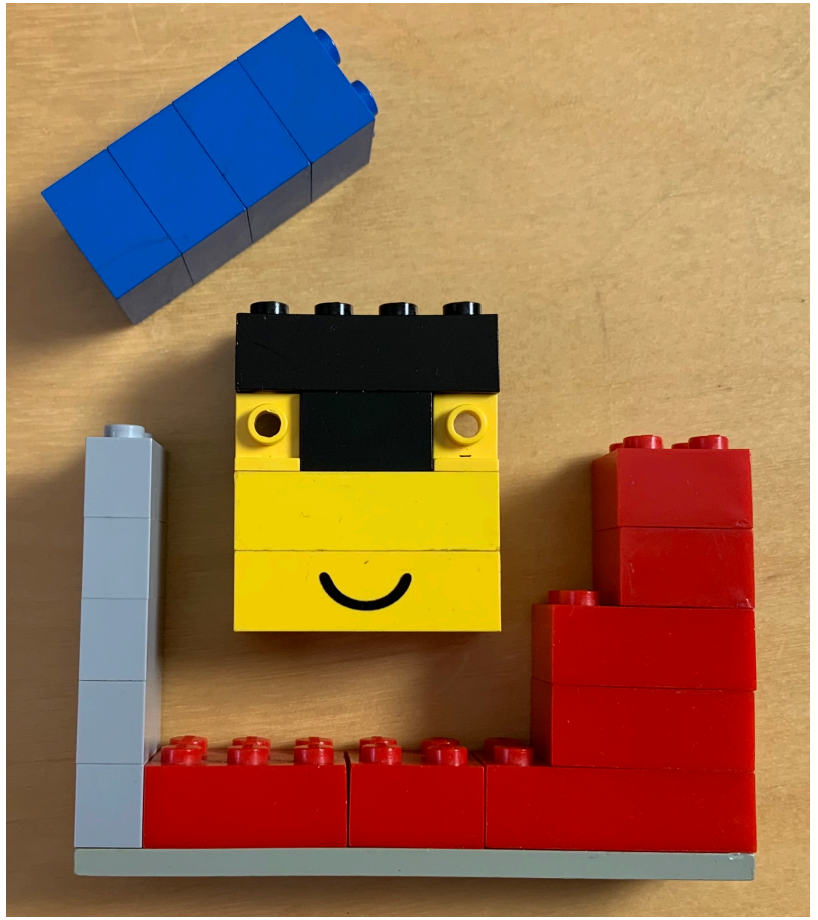
SESIP -> SESIP



Re-use in SESIP

Must be recognized CB

Must be GP SESIP licensed

Use SFRs

Needs to be valid

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PSA Certified

- Co-developed with SESIP
- Two paths: original CSPN-inspired and SESIP
- SESIP Profiles are available
  < https://www.psacertified.org/development-resources/certification-resources/>
- One evaluation, two certificates
- Requires use TrustCB as CB

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Re-use for PSA Certified

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Must be TrustCB

Must be SESIP

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Needs to claim PSA Certified Profile

Needs to be valid

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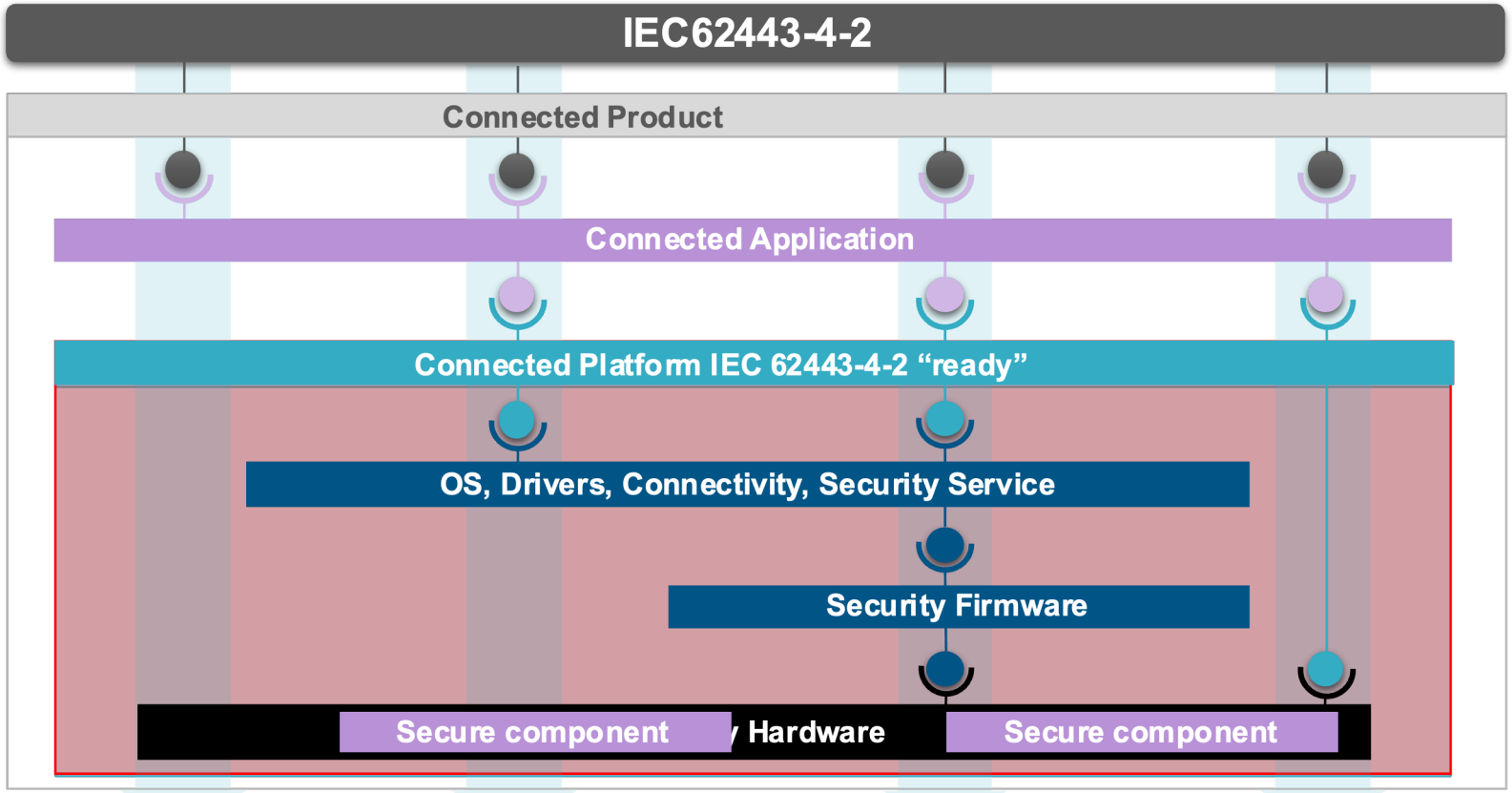
ISA/IEC 62443

- ISA Secure accreditation:
  - Scheme is long operational and methodology available
  - SESIP recognition possible via CB (both ISA and SESIP accredited)
- IEC accreditation:
  - No schemes, methodology under construction
  - SESIP recognition unknown
- No accreditation:
  - Private schemes operational, no mutual recognition
  - SESIP recognition depends on CB reputation
- Mappings almost completed

Composition model



Re-use for 62443 (ISA Secure)

Must be TrustCB

Must be SESIP

Needs to claim (parts) of 62443-4-2 mapping

Needs to be valid

Strength of attacker matches SLx

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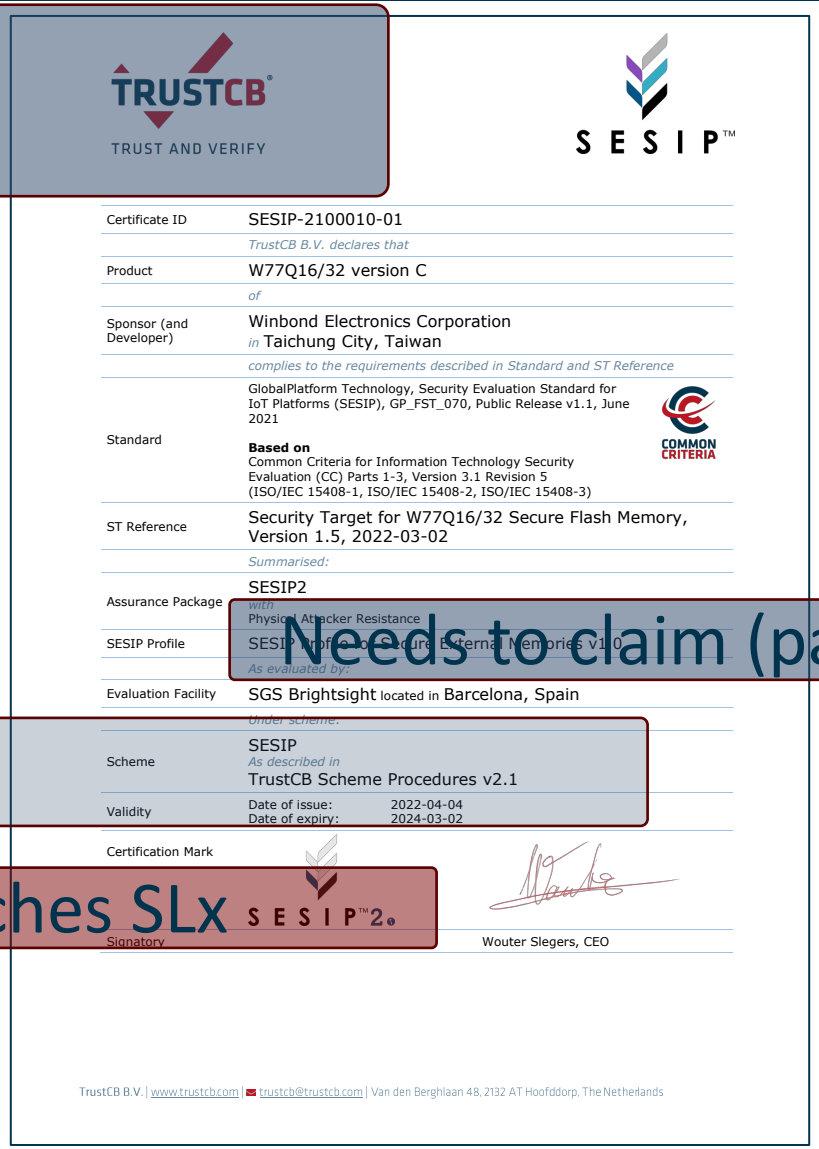
Re-use for 62443 (IEC or unstructured)

Trusted by 62443 CB

Needs to be valid

Strength of attacker matches SLx

Needs to claim (parts) of 62443-4-2 mapping



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Security Level 62443 mapping

Strength of attacker matches SLx

Re-use for EN 303 645 / NIST 8259A / …

Must be trusted

Needs to be valid

Needs to claim (parts) of mapping

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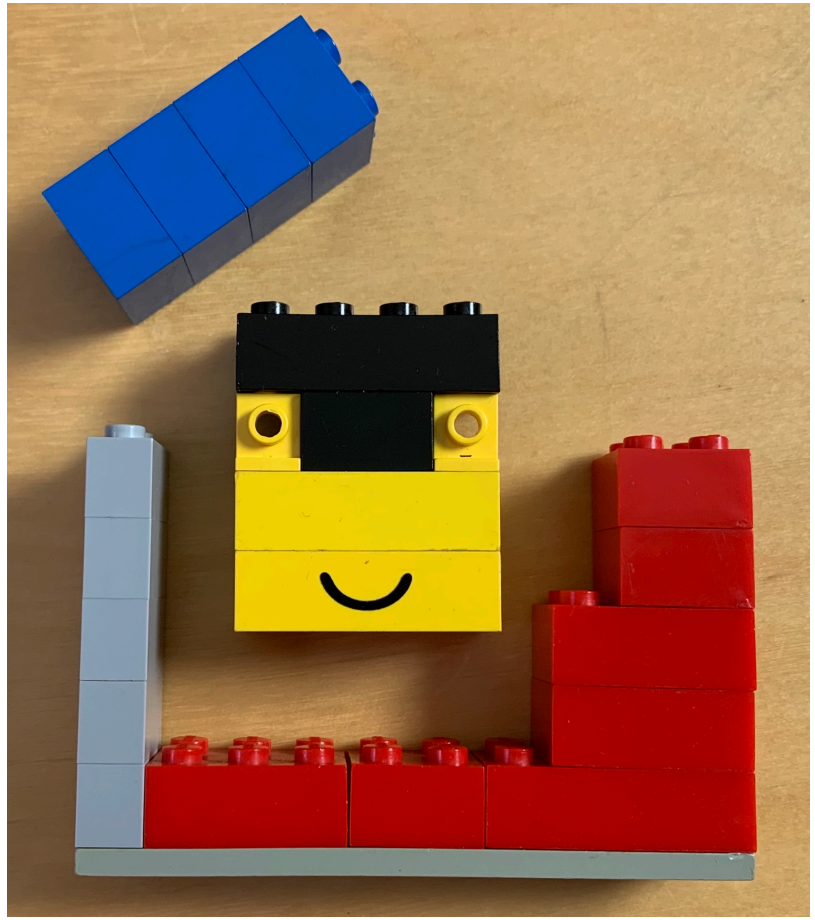
CC -> SESIP



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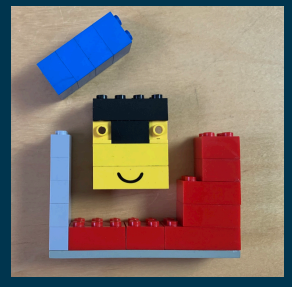
TrustCB SESIP Scheme Interpretation 1:
Re-use of CC certification results
Version 1.0

<not yet public>



- SESIP3 + re-use of CC EAL4+AVA_VAN.5 Secure Element
- SESIP Profiles will be made
- Scheme owner requires use TrustCB as CB

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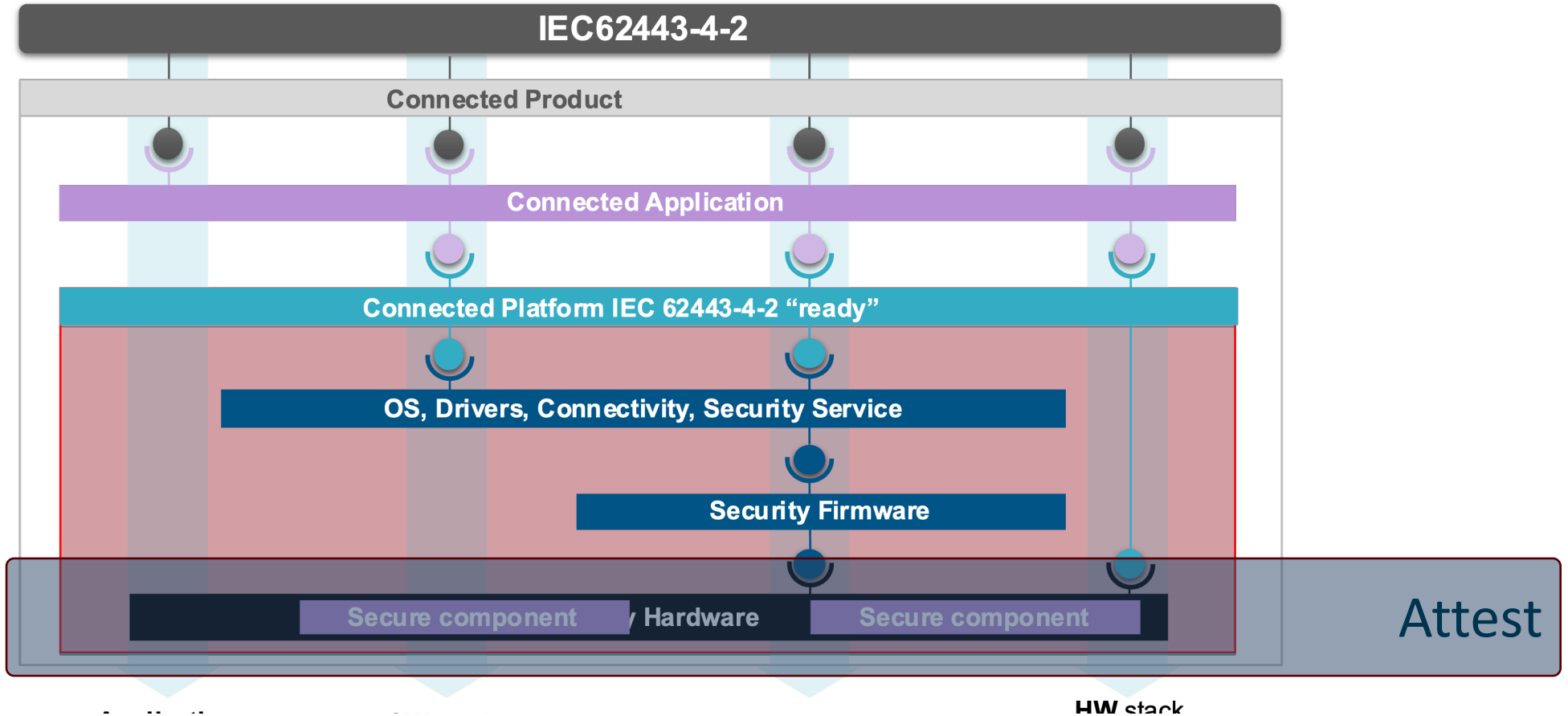
Very near future: attested composition



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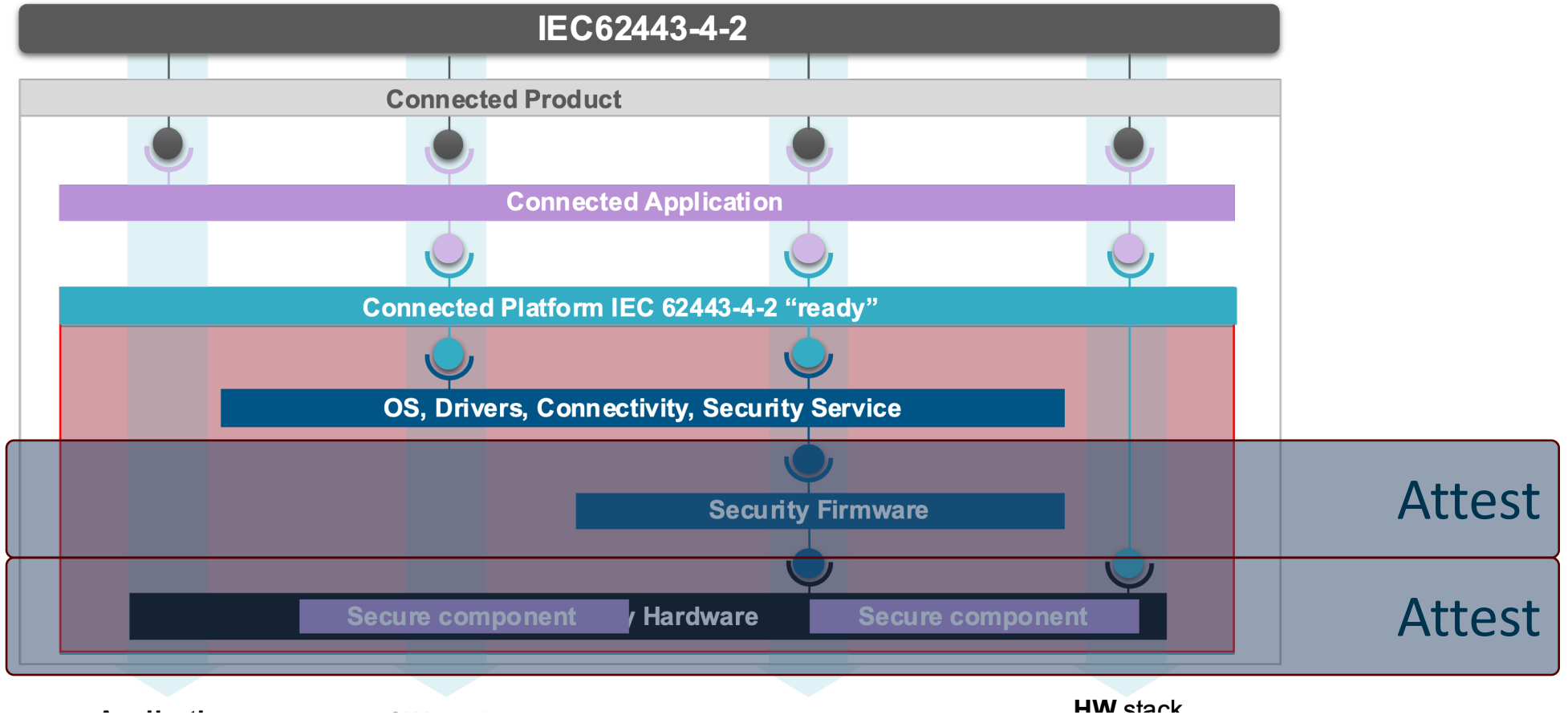

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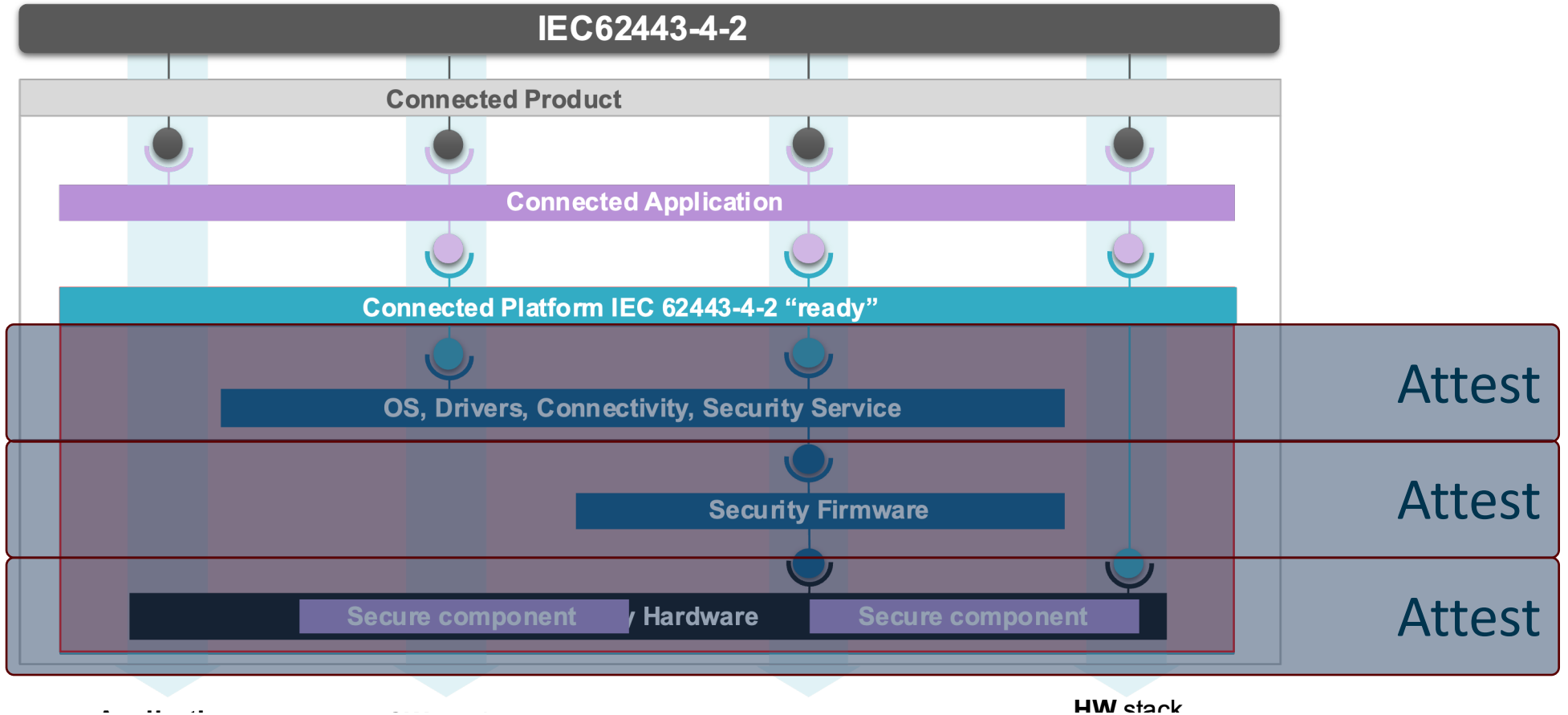
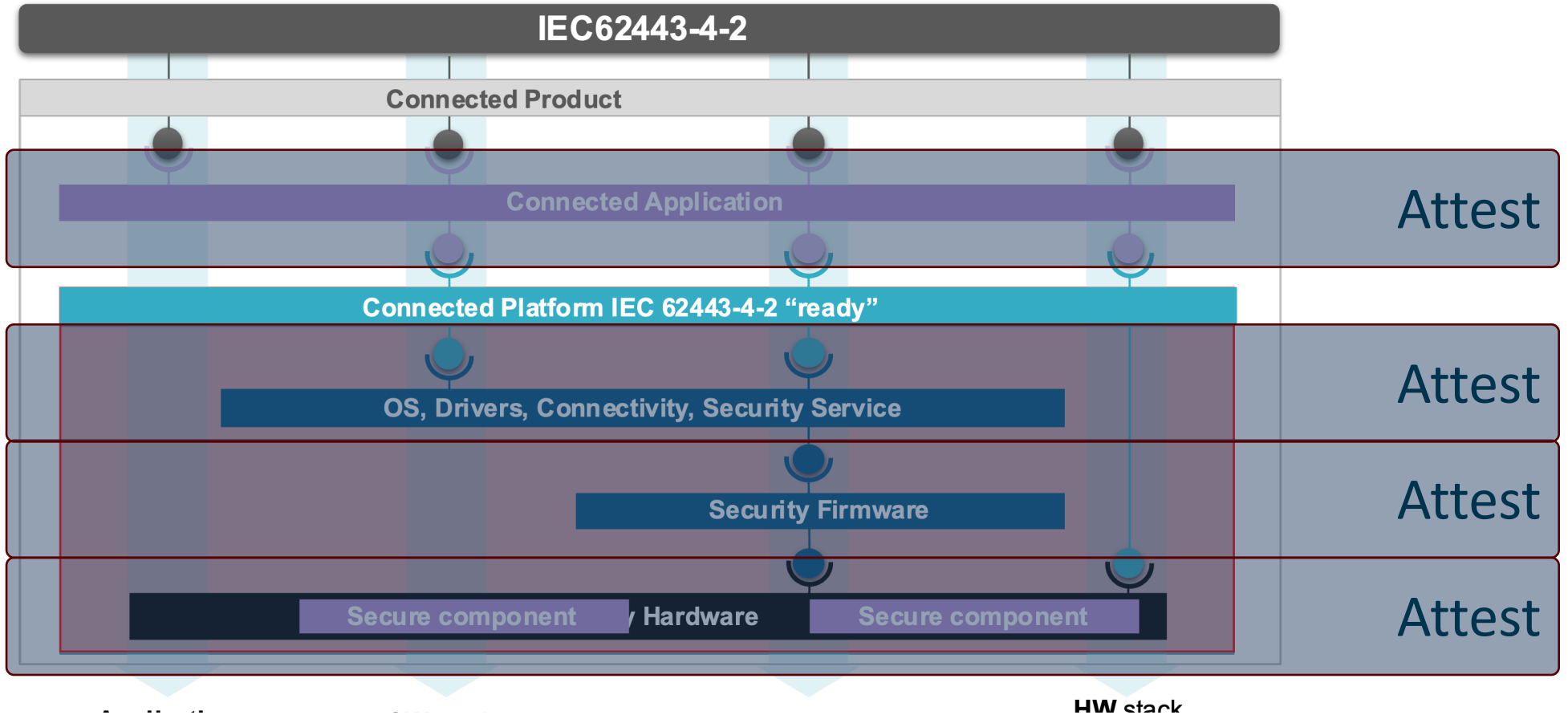
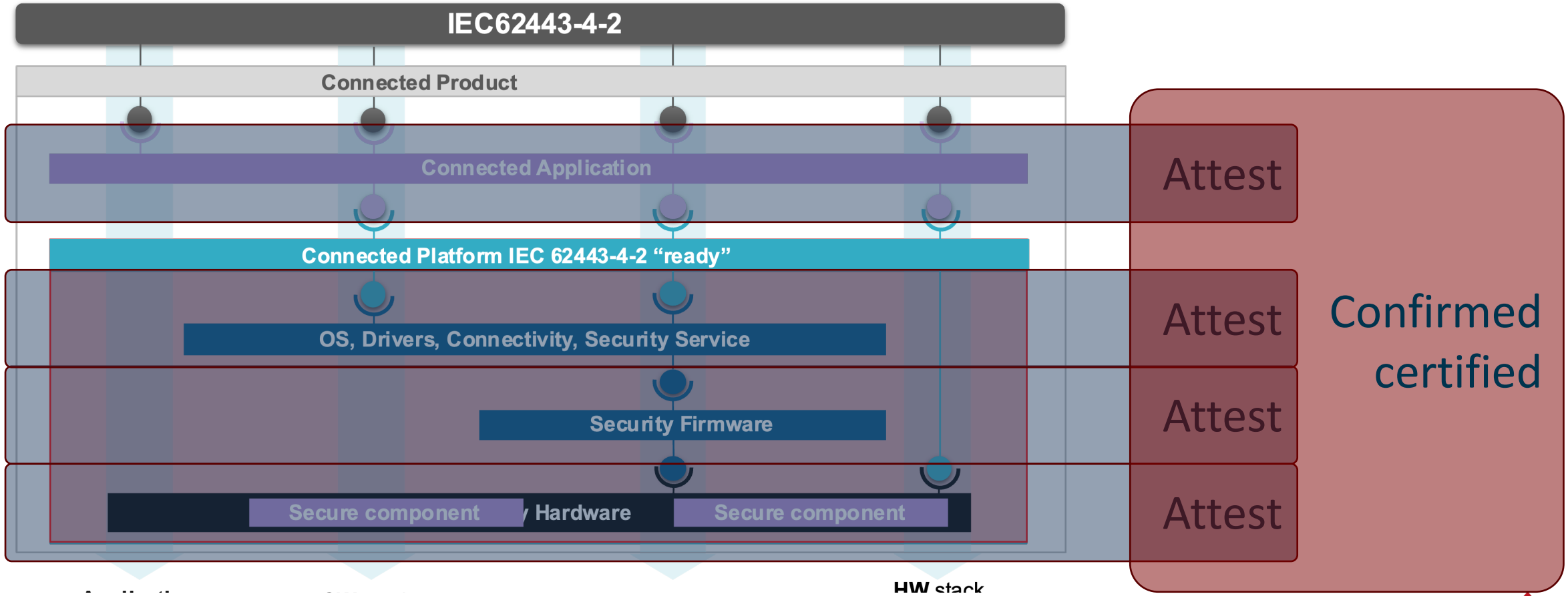


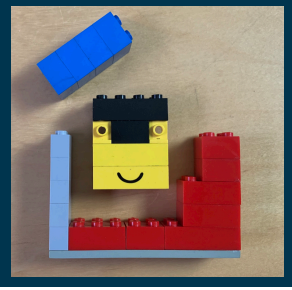
Very near future: attested composition



Very near future: attested composition



Conclusion



- SESIP is a solid methodology for IoT
- Use to show compliance with external requirements use
  - SESIP based: SESIP Profiles (ISA/IEC 62443, PSA Certified, …)
  - Others: mappings (ETSI EN 303 645, NIST 8259, …)
- Composition makes stepwise compliance possible
- Attestation makes SBOM and certificate checks on demand possible.

- Check that the certificate is accepted
  - Requirements fulfilled
  - CB/Scheme recognised

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Successful re-use requirements

Compliance
“because we must by <scary entity>”

<scary entity> must recognise certificate

Risk management
“because it reduces our overal risk/cost”

Certificate shows “state of art”
/
re-use cost reduction

Differentiator
“because it looks good & we sell more”

Certificate brand must be recognised as “better”

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Questions?

Including “old man talks about SESIP origins before it goes into CEN / CENELEC” questions

www.trustcb.com

wouter@trustcb.com