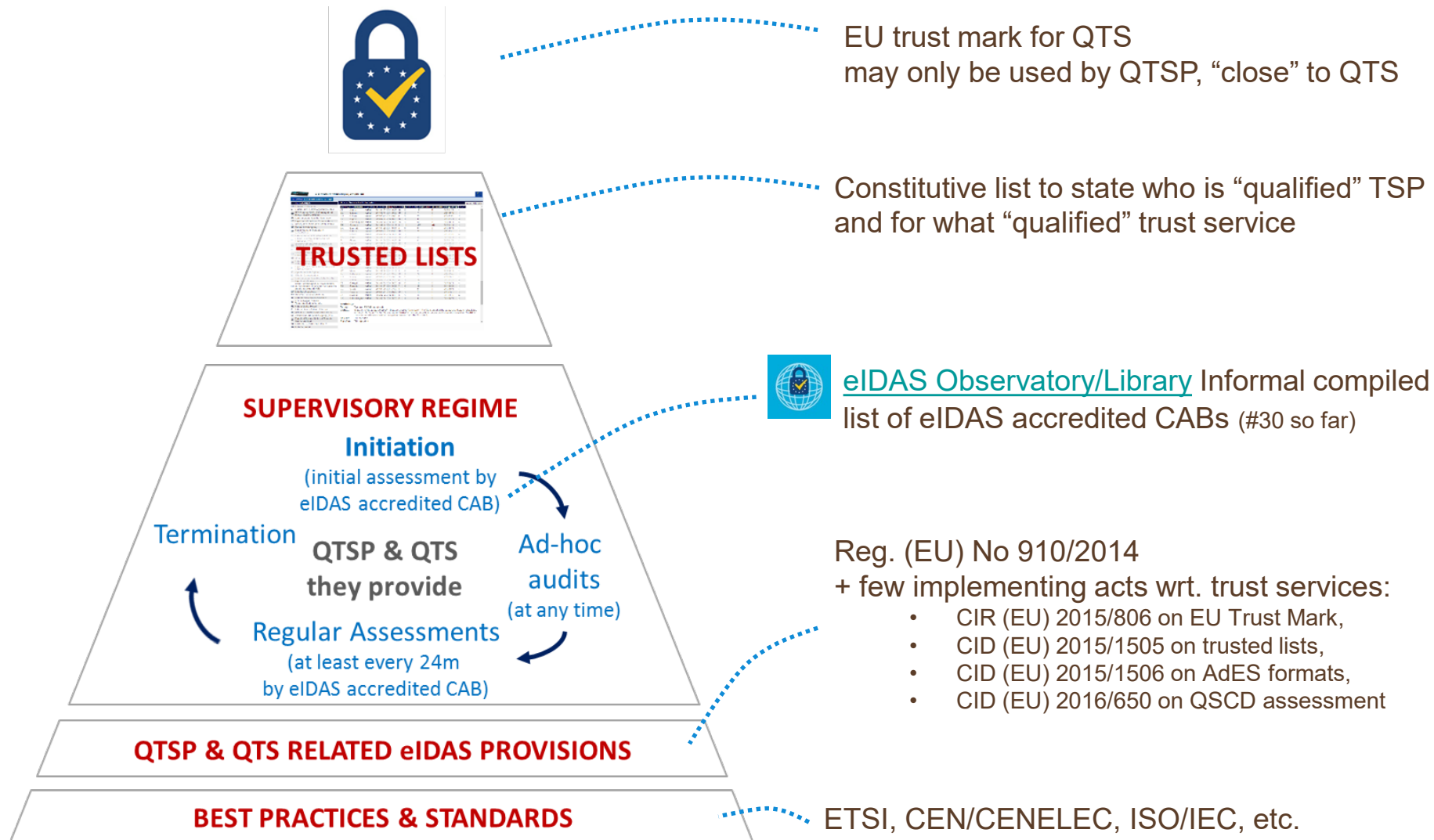


# Trusted Lists:

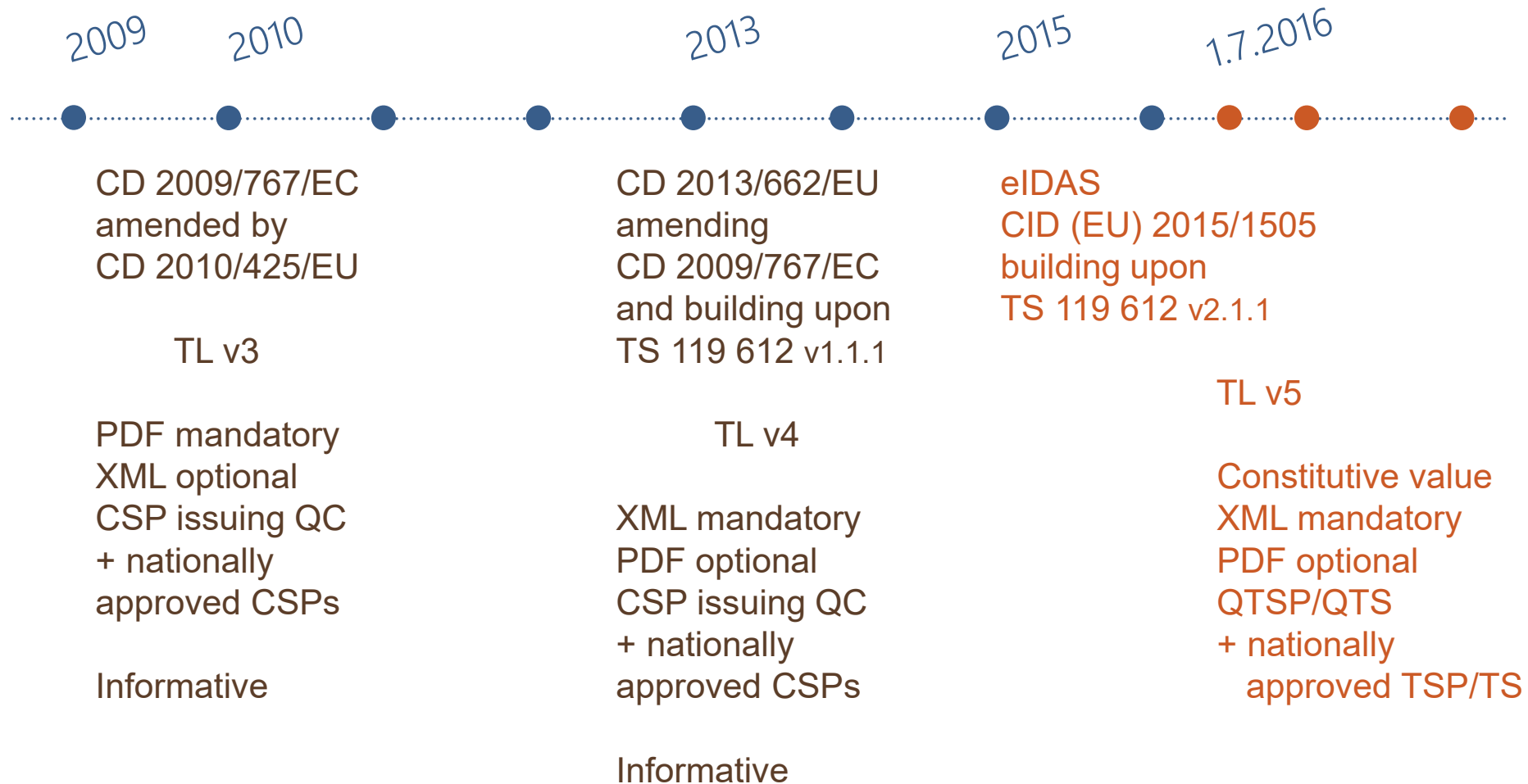
What's up? Current situation & initiatives

Next steps and challenges

# eIDAS Regulation – Pyramid of trust



# TL - Short overview of life time existence



# TL - What is it ?

- EU MS TLs have a constitutive effect for QTSP & QTS
- Procedures and format specified by CID (EU) 2015/1505 building upon (profiling) technical specifications of ETSI TS 119 612 v2.1.1
- Ensure continuity with TLs established under the Services Directive
- Ensure legal certainty with regards to QTS
- Foster cross-border recognition of QTS by facilitating e.g. validation of QESig & QESeal
- Allow citizens, businesses and public administrations to easily verify nature and status of a (qualified) trust service, now & at any time in the past



# TL - What is it ?

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- Mandatory
  - MS to establish, maintain and publish TL in a Form suitable for automated processing (signed/sealed XML)
  - Member States to include information on QTSP/QTS
- Voluntary
  - MS to establish, maintain and publish TL in human readable format (signed or sealed PDF/A)
  - MS to include info on other trust service providers (not qualified)

# TL - How is it organised ?

## Information on the TL Scheme & Operator

- **TLSO (Issuer – Operator of the TL)**
  - Name
  - Postal & Electronic Address (email, website)
- **Information on Scheme**
  - Territory
  - URI to information on supervision scheme
  - Type of the list, Scheme name, Legal notice
  - Date of issuance & expiry
  - Info on status values
  - Usage rules: **how to use/interpret the TL**

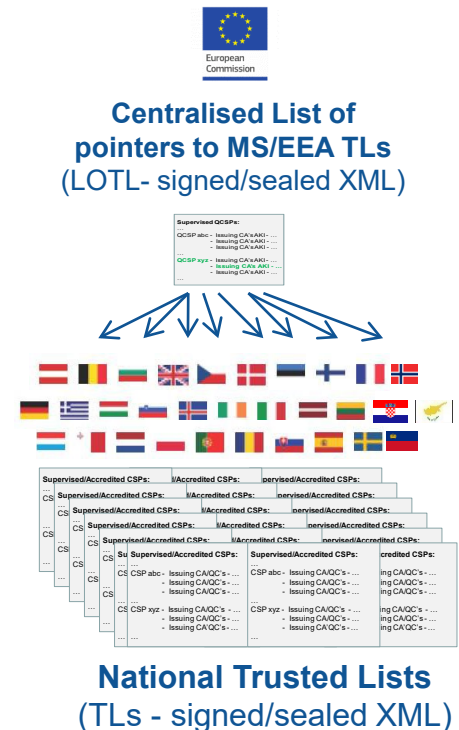
## Pointer to EC LOTL

## List of (Q)TSPs & their (Q)TS

- (Q)TSP (Name, Postal & Electronic Address)
- URI to info on (Q)TSP practices
  - CPS/CP, GTC, legal info, customer care, etc.
- (Q)TS service entries (per service entry)
  - “Digital identity” (trust anchor)
  - Current status (+ information extensions)
  - & full history wrt. status

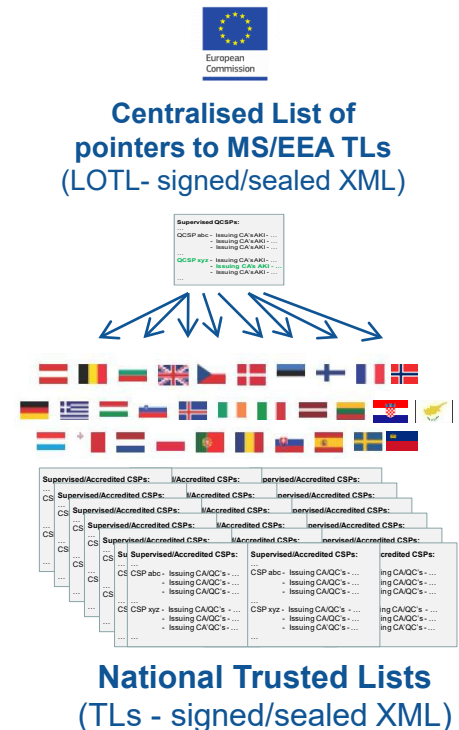
CID (EU) 2015/1505 built upon ETSI TS 119 612 v2.1.1

TL - LU (Sn30)	
Availability	Available
Signature	Valid - This TL is signed and the signature is verified
Signed By	Alain Wahl
Signing Date	2017-05-31 12:26:06
Format	XAdES_BASELINE_B
Digest Algorithm	SHA256
Encryption Algorithm	RSA
TL Information	
TSL Tag	<a href="http://uri.etsi.org/19612/TSLTag">http://uri.etsi.org/19612/TSLTag</a>
Version Identifier	5
Territory	LU
TSL Issuer	Luxembourg
Sequence Number	30
TSL Type	<a href="http://uri.etsi.org/TrstSvc/TrustedList/TSLType/EUgeneric">http://uri.etsi.org/TrstSvc/TrustedList/TSLType/EUgeneric</a>
Operator Name	ILNAS
Postal Address	1, Avenue du Swing / Belvaux - L-4367 / LU
Electronic Address	<a href="mailto:con fiance-numerique@ilnas.etat.lu">mailto:con fiance-numerique@ilnas.etat.lu</a>
Scheme Name	LU-Trust list including information related to the qualified trust service providers which are supervised by the ...
Information URI	<a href="https://portail-qualite.public.lu/fr/con fiance-numerique/prestataires-services-con fiance/liste-con fiance/scheme-inf...">https://portail-qualite.public.lu/fr/con fiance-numerique/prestataires-services-con fiance/liste-con fiance/scheme-inf...</a>
Status	<a href="http://uri.etsi.org/TrstSvc/TrustedList/StatusDefn/EUappropriate">http://uri.etsi.org/TrstSvc/TrustedList/StatusDefn/EUappropriate</a>
Determination Approach	
Community Rule	<a href="http://uri.etsi.org/TrstSvc/TrustedList/schemerules/EUcommon">http://uri.etsi.org/TrstSvc/TrustedList/schemerules/EUcommon</a>
Legal Notice	The applicable legal framework for the present trusted list is Regulation (EU) No 910/2014 of the European Parliame...
Issue Date	2017-05-31 03:00:00
Next Update	2017-11-30 01:00:00
Distribution Points	<a href="https://portail-qualite.public.lu/fr/publications/con fiance-numerique/liste-con fiance-nationale/tsl-xml/TSL-XM...">https://portail-qualite.public.lu/fr/publications/con fiance-numerique/liste-con fiance-nationale/tsl-xml/TSL-XM...</a>
TSL Identifier	TrustServiceStatusList-1
Historical Period	65535
Pointers to Other TSL	
EU (XML)	<a href="https://ec.europa.eu/information_society/policy/esignature/trusted-list/tl-mp.xml">https://ec.europa.eu/information_society/policy/esignature/trusted-list/tl-mp.xml</a>
Trust Service Provider	
LuxTrust S.A. : <a href="https://www.luxtrust.lu/en/repository">https://www.luxtrust.lu/en/repository</a>	
Name	LuxTrust S.A.
Trade Name	VATLU-20976985
Postal Address	IVY Building - 13-15 Parc d'Activités / Capellen - L-8308 / LU
Electronic Address	<a href="mailto:info@luxtrust.lu">mailto:info@luxtrust.lu</a>
Information URI	<a href="https://www.luxtrust.lu/en/repository">https://www.luxtrust.lu/en/repository</a>
Trust Service	
LuxTrust Qualified Certification Authority	2017-02-23 CA/QC withdrawn
LuxTrust Time Stamping Authority	2017-02-23 TSA/TSS-QC deprecatedatnationallevel
LuxTrust Global Qualified Certification Authority	2016-07-01 CA/QC granted
LuxTrust Global Time Stamping Authority	2016-07-01 TSA/TSS-QC recognisedatnationallevel
LuxTrust Global Qualified Certification Authority 2	2016-07-01 CA/QC granted
LuxTrust Global Qualified Certification Authority 3	2016-07-01 CA/QC granted
LuxTrust Global Time Stamping Authority	2017-02-17 TSA/QTST withdrawn
LuxTrust Qualified Time Stamping	2017-02-17 TSA/QTST granted
SeMarket Certification Authority S.A. : <a href="http://www.portail-qualite.public.lu/fr/con fiance-numerique/prestataires-services-con fiance/liste-co...">http://www.portail-qualite.public.lu/fr/con fiance-numerique/prestataires-services-con fiance/liste-co...</a>	



# TL – EC LOTL & trust model

- QC ? on SSCD/QSCD ?
  - First usual source of info is certificate content
    - Claimed as “qualified” (for eSig, for eSeal, for website) → **QcCompliance & QcType**
    - Claimed as “on SSCD (QSCD)” → **QcSSCD**
  - Confirmed/Disproved in national TL
  - Check (qualified) status of issuing service
  - Check additional qualifier statement for certificate when applicable, e.g.:
    - Qualified or not,
    - on (Q)SSCD or not,
    - QC type (for eSig, for eSeal, for web site authentication)
  - Full history of status and qualifier
    - Time info is essential



# State of play (source EU MS TLs via TLBrowser)



## Trusted List Browser

Tool to browse the national Trusted Lists and the European List of Trusted Lists (LOTL).

Menu ▾

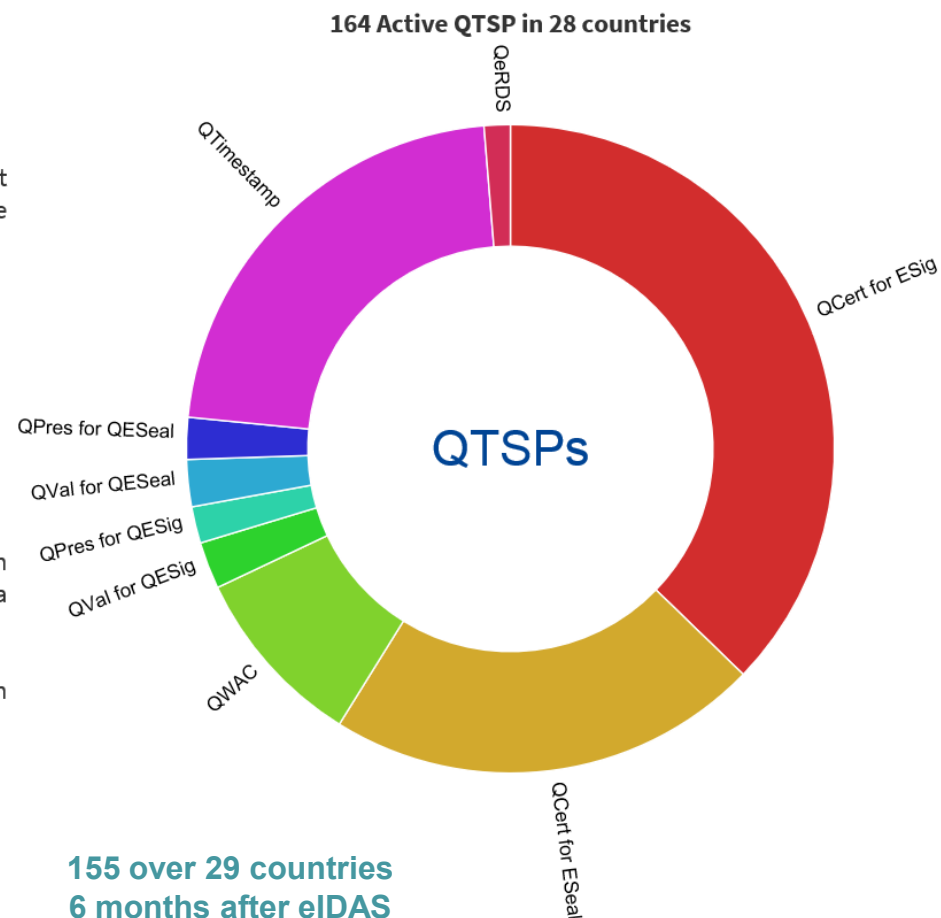
### Number of active qualified trust service providers (QTSPs) per type.

Breakdown per type of qualified trust services. There are 9 types of qualified trust services, as defined in the Regulation n°910/2014 (the “eIDAS” Regulation). These types are:

- Qualified certificate for electronic signatures
- Qualified certificate for electronic seals
- Qualified certificate for web site authentication
- Qualified validation of qualified electronic signatures
- Qualified validation of qualified electronic seals
- Qualified preservation of qualified electronic signatures
- Qualified preservation of qualified electronic seals
- Qualified electronic time stamps
- Qualified electronic registered delivery

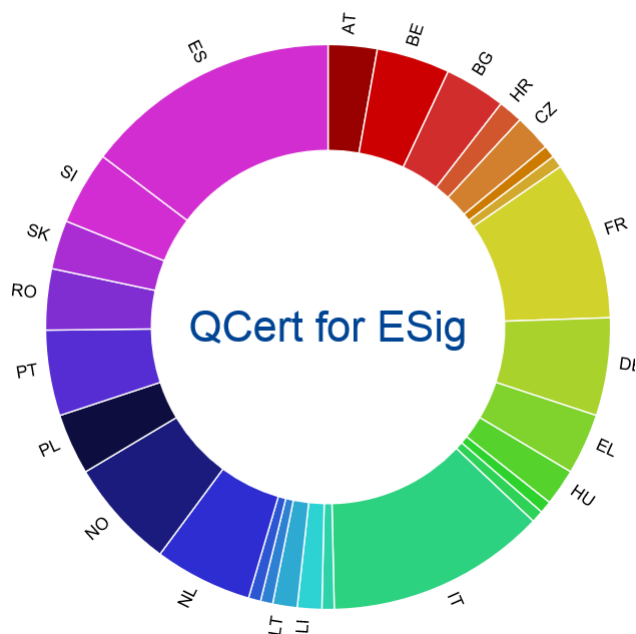
Please refer to [ETSI TS 119 612 v2.1.1](#) for further details on the information contained in a trusted list, in particular Section 5.5.1 “Service type identifier” for a description of the different (qualified) types.

**i** Click on a pie slice to see details of type by country. Click again anywhere on chart to come back to global overview.



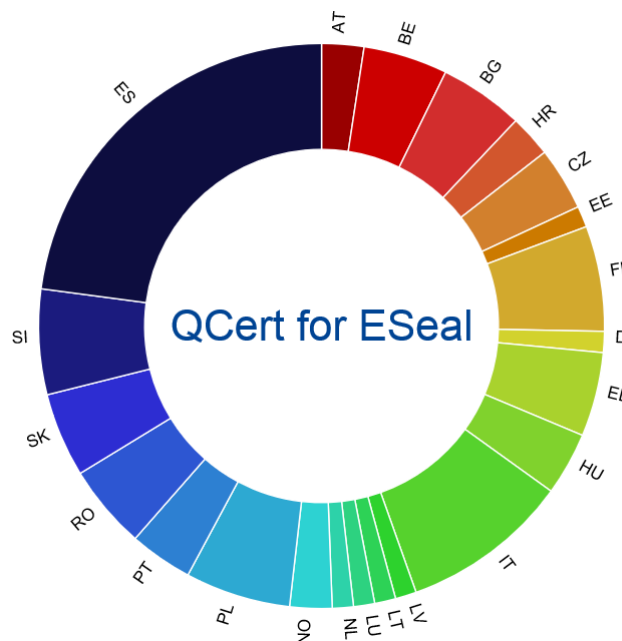
# State of play (source EU MS TLs via TLBrowser)

**143 QTSP issuing  
QC for eSig  
in 27 countries**



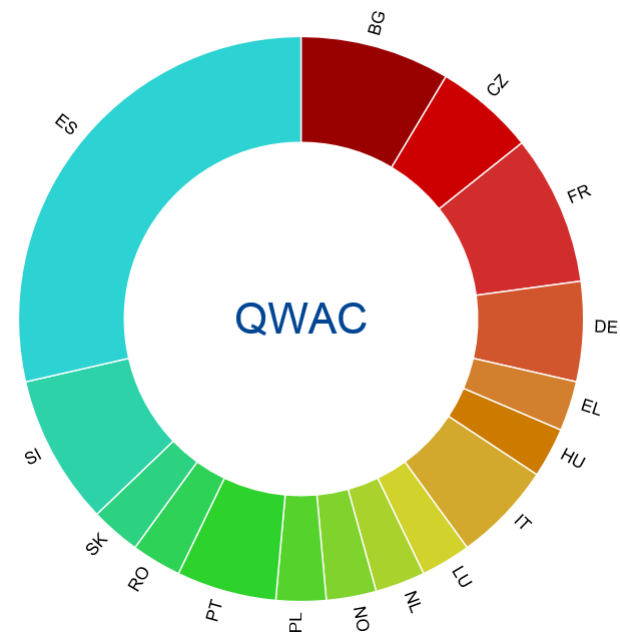
**151 over 29 countries  
6 months after eIDAS**

**83 QTSP issuing  
QC for eSeal  
in 22 countries**



**2 over 2 countries  
6 months after eIDAS**

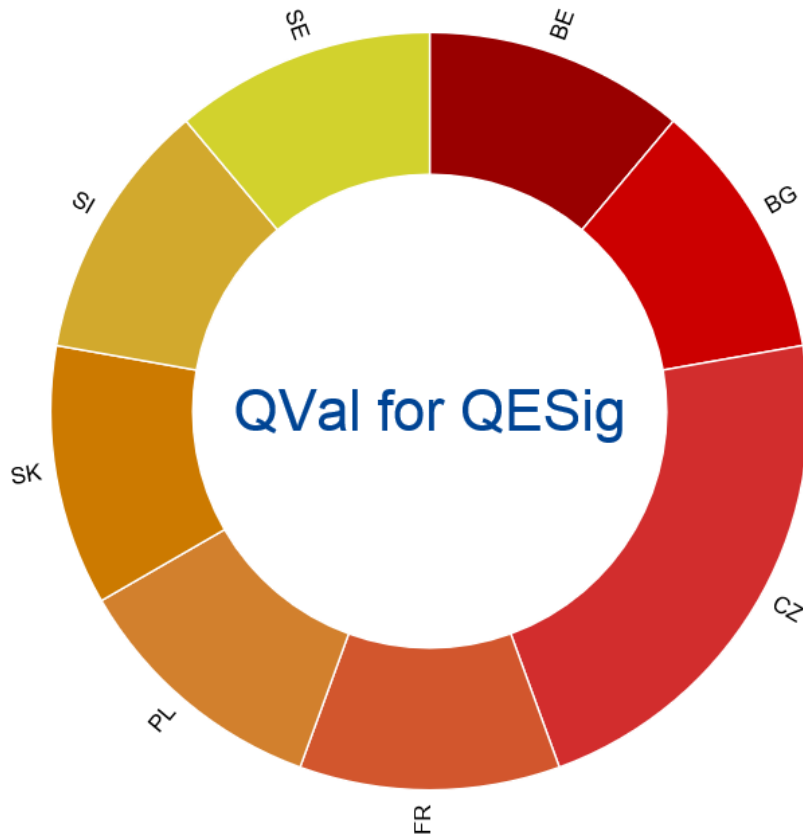
**35 QTSP issuing  
QWAC  
in 16 countries**



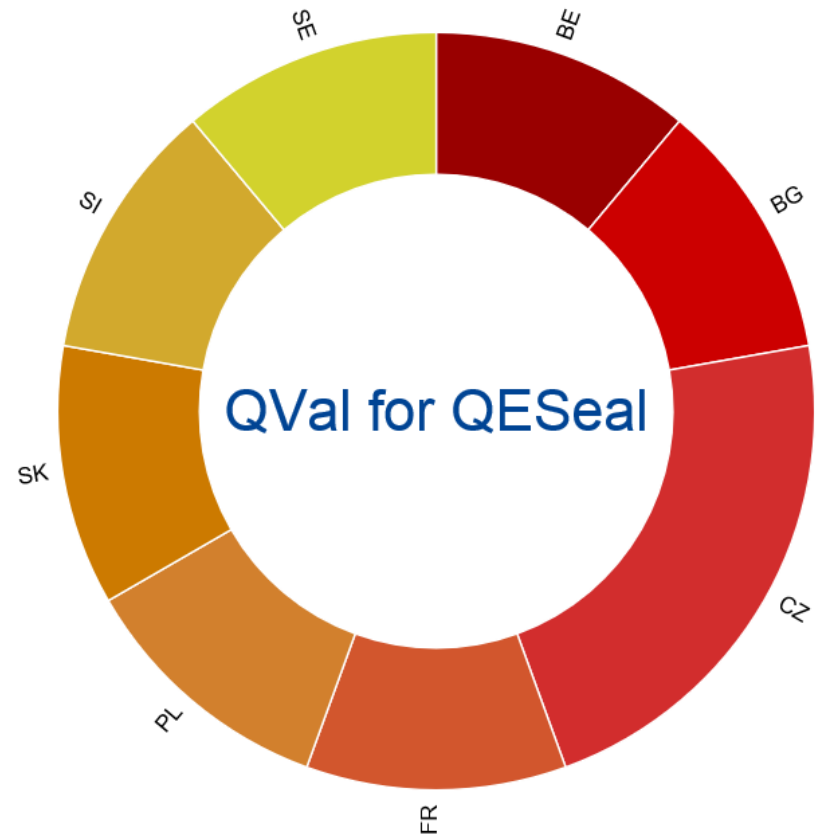
**0 over 0 country  
6 months after eIDAS**

# State of play (source EU MS TLs via TLBrowser)

9 QVAL for QESig  
in 8 countries



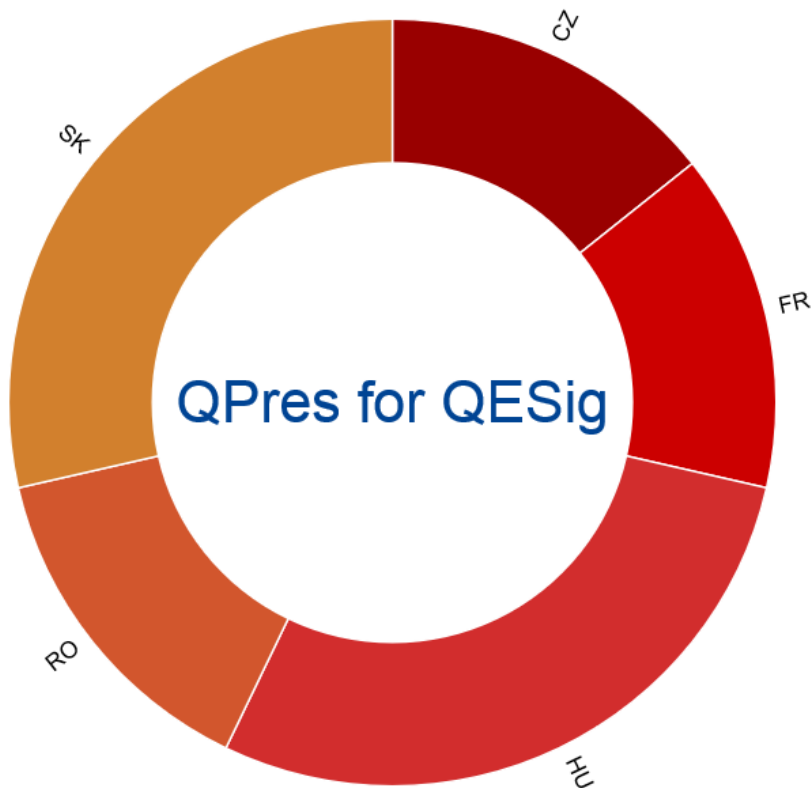
9 QVAL for QESig  
in 8 countries



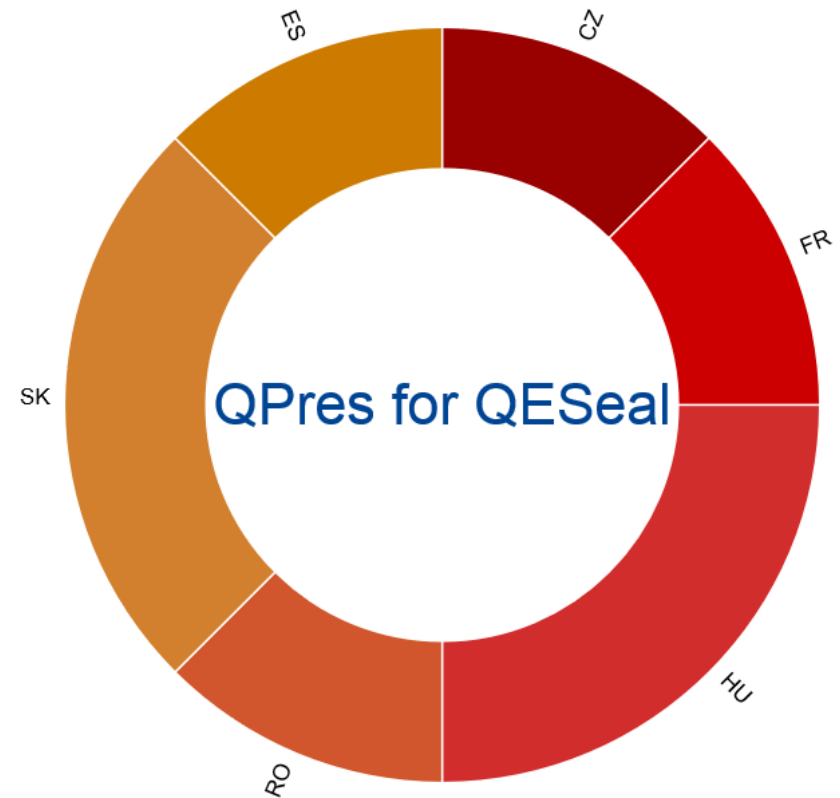
2 over 2 countries  
6 months after eIDAS

# State of play (source EU MS TLs via TLBrowser)

7 QPRES for QESig  
in 5 countries



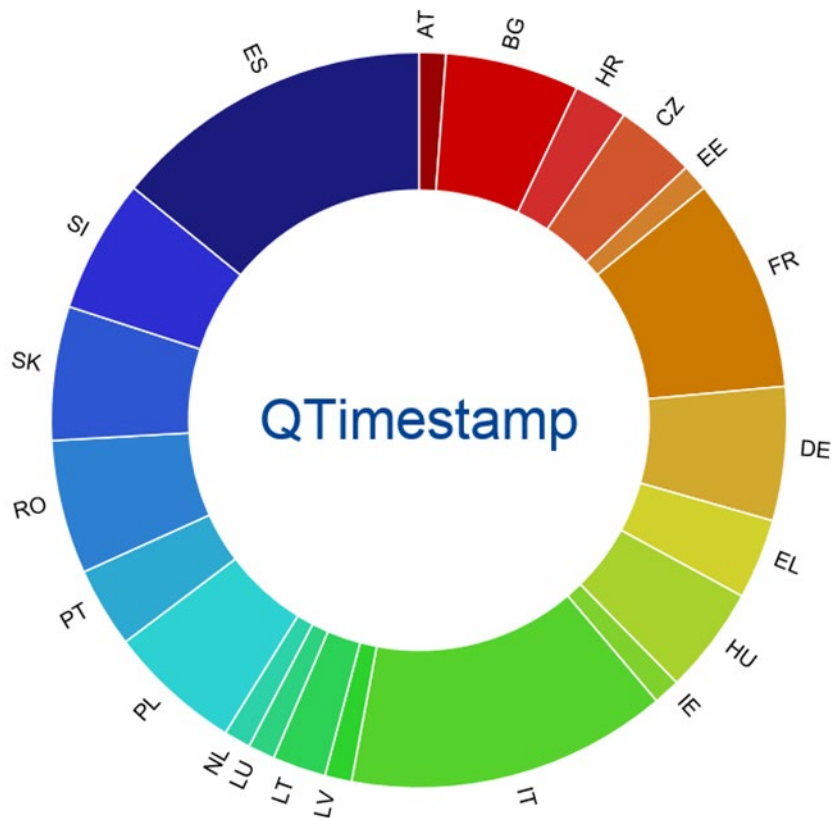
8 QPRES for QESig  
in 6 countries



0 over 0 countries  
6 months after eIDAS

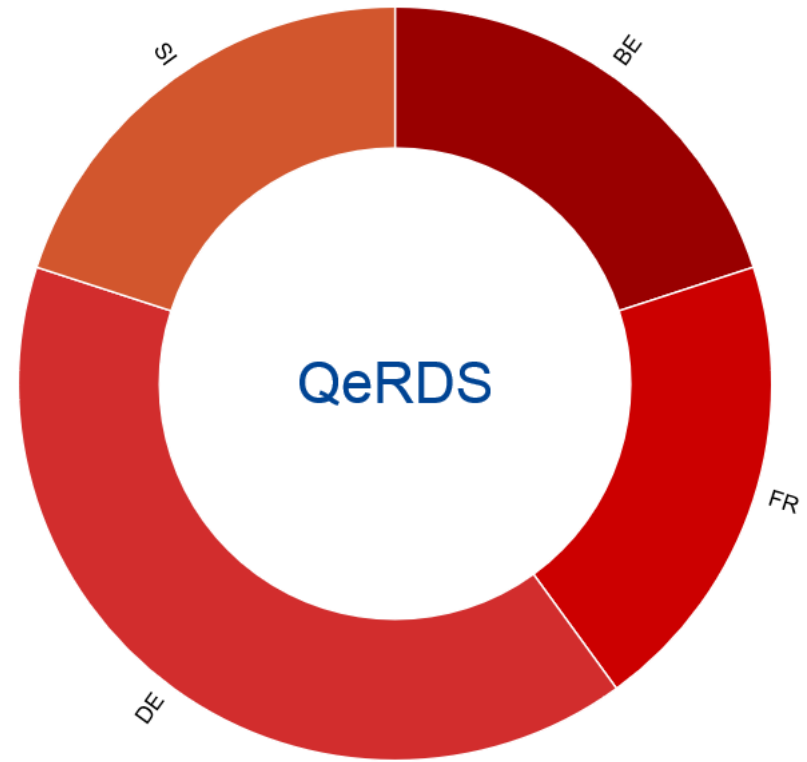
# State of play (source EU MS TLs via TLBrowser)

**85 QTimestampSP  
in 21 countries**



**22 over 7 countries  
6 months after eIDAS**

**5 QeRDSP  
in 4 countries**



**2 over 1 country  
6 months after eIDAS**

# Trust mark → TL Browser

- Examples of EC “service” to ease connection between EU Trust Mark for QTS and the national trusted list (for consumption/validation & queries by relying parties):



<https://webgate.ec.europa.eu/tl-browser/#/trustmark/LU/VATLU-20976985>

alias managed by EC  
(e.g. via CEF) routing  
consumers to TL  
Browsing facilities for  
corresponding TL

## Trusted List Browser

Tool to browse the national Trusted Lists and the European List of Trusted Lists (LOTL).

Menu ▾

European Commission → CEF Digital → eSignature → Trusted List Browser → Luxembourg → Trust service provider

### Trust services

- Qualified certificate for electronic signature ▾
- Qualified certificate for electronic seal ▾
- Qualified certificate for website authentication ▾
- Qualified time stamp ▾
- Time stamp service ▾

### Detailed information

Name  
Ent LuxTrust S.A.

Trade name  
En Fr  
VATLU-20976985

Postal address  
En Fr De  
IVY Building - 13-15 Parc d'Activités  
L-8308 - LU

Electronic address  
En Fr De En Fr De  
mailto:info@luxtrust.lu

Information URI  
En Fr De  
<https://www.luxtrust.lu/en/repository>

# EC supporting tools (CEF Digital eSignature)

CEF DIGITAL

## TLSO COMMUNITY

### TLSO Resources

#### Trusted List Manager

Trusted List Manager is hosted as a web application at the European Commission [here](#). Trusted List Manager is also available as a download for local deployment [here](#).

#### Trusted List Browser

Read-only viewing tool to browse the different Trusted Lists and the LOTL (List of Trusted Lists)

#### Notification

Information to be provided by Member States to the Commission in the sense of article 4(1) of C(II)D 2015/1505/EU of the eIDAS regulation

#### TLSO service desk

Support to maintain and publish a Trusted List, and how to use the tools provided by the European Commission

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#### External links

##### **ETSI conformance checker**

Conformity assessment tool to evaluate a Trusted List against the ETSI standard TS 119 612. Read the [Service Offering Description \(pdf\)](#)

##### **ETSI Trusted List standard**

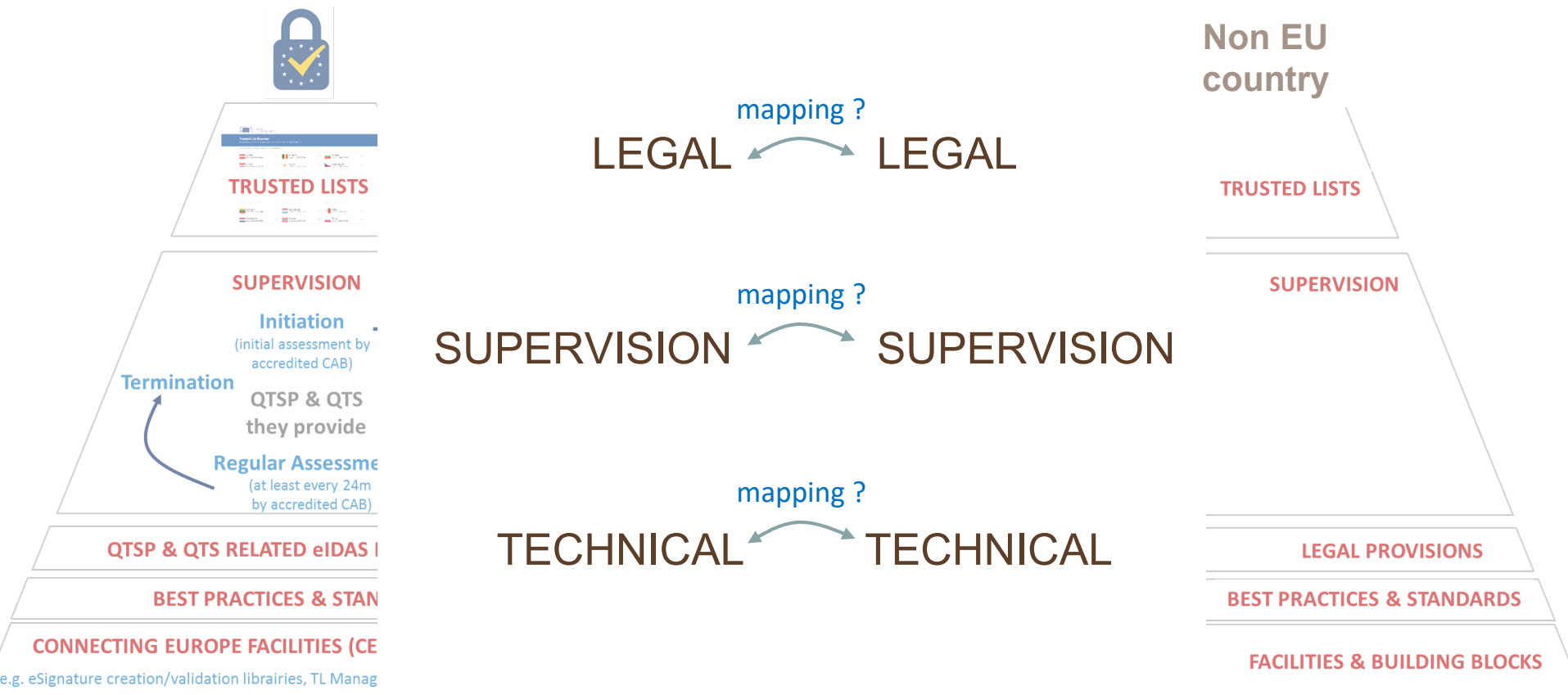
The current Trusted List standard is ETSI TS 119 612 v2.1.1 (As stated in C(II)D 2015/1505/EU)

# Standardisation activities (under development)

- **TS 119 615**
  - On the use of information within a TL by relying parties,
  - How to process a TL in order to obtain information about a QTSP and QTS(s) it provides
  - Building blocks
    - For validating a qualified signature/seal (cfr upcoming TS 119 172-4)
    - To link trusted list information to evidences produced by some types of trust services: validation service, preservation service, electronic registered delivery services
  - Complements TS 119 612
  - Timescale: Target publication beginning 2019
- **NWI on TS 119 602 / TS 119 612**
  - Generic TSL versus EU eIDAS profile TL
- **TS 119 403-3** (e.g. better mapping between CAR & TL content)
- **TS 119 172-4** (QESig/QESeal signature validation policy)

# Beyond EU - Mutual recognition of QTS

## Three pillars for establishing recognition



... to be driven by Art.14 of eIDAS Regulation  
when formal recognition with EU is expected

# Beyond EU - Mutual recognition of QTS

- Amongst other (technical oriented) initiatives
  - ENISA study on “Global acceptance of eIDAS audits”
  - ETSI STF 560
    - Study report on Global Acceptance of EU Trust Services
      - Analysis of international, regional and sector specific communities adopting Public Key Infrastructure technology
    - International co-hosted workshops:
      - Target regions; Japan, North America, South America, Africa
  - International Mutual Recognition Technical Working Group (IMRT-WG) lead by the Keio University (Japan) addressing the technical aspects of international mutual recognition of trust services

...

TL are implemented (or under implementation) around the world (e.g. CH, UA, several African countries, Latin America, Middle East and Asian countries)

# Next steps, challenges, conclusions

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- Pave the road to excellence
- Awareness & education
- Promotion beyond EU

# Questions - contact



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Email: [olivier.delos@sealed.be](mailto:olivier.delos@sealed.be)

Web: [www.sealed.be](http://www.sealed.be)