



kapsch >>>
challenging limits

ERA Training – June 2017, Budapest GSM-R Certification process – Examples

Agenda

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European Regulations and Directives

Control-Command and Signaling Technical Specification for Interoperability (CCS TSI)

- For certifying a GSM-R network related to the CCS TSI an **applicant** needs to contract a **Notified Body (NoBo)** for performing a “EC certificate of verification”
- Based on this EC Certificate the applicant issues the EC declaration of verification of the subsystem
- An applicant could be a contracting entity or the manufacturer (or his authorized representative)
- For the certificate from the NoBos different Modules can be used according to the decision 2010/713/EC with different focus
 - manufacturing process
 - Quality process
 - verification of the subsystem

Choose of applicant, NoBos and Module to be used are very important at the beginning of the certification process, recommendation would be to define it already at contract stage



European Regulations and Directives

New CCS TSI - change from decision to regulation

- New CCS TSI (2016/919/EC) is a regulation (European law) and needs to be followed by new, extensions or upgrades of GSM-R networks
- For projects started before, a **derogation** can be launched till **June 2017** latest, to stay on the old CCS TSI, otherwise the network needs to be updated to be compliant to the latest CCS TSI => additional costs
- Member state have to decide on which CCS TSI they want to stay and need to send a derogation letter to the European Commission
- ERA will get more power in future to supervise the member states about their implementation of the TSI based on the 4th Railway Package

***New CCS TSI in force
since – July 2016***

Pressure increases on the railways to perform the certification



Status - Certifications achieved

by Kapsch CarrierCom or Network Operator

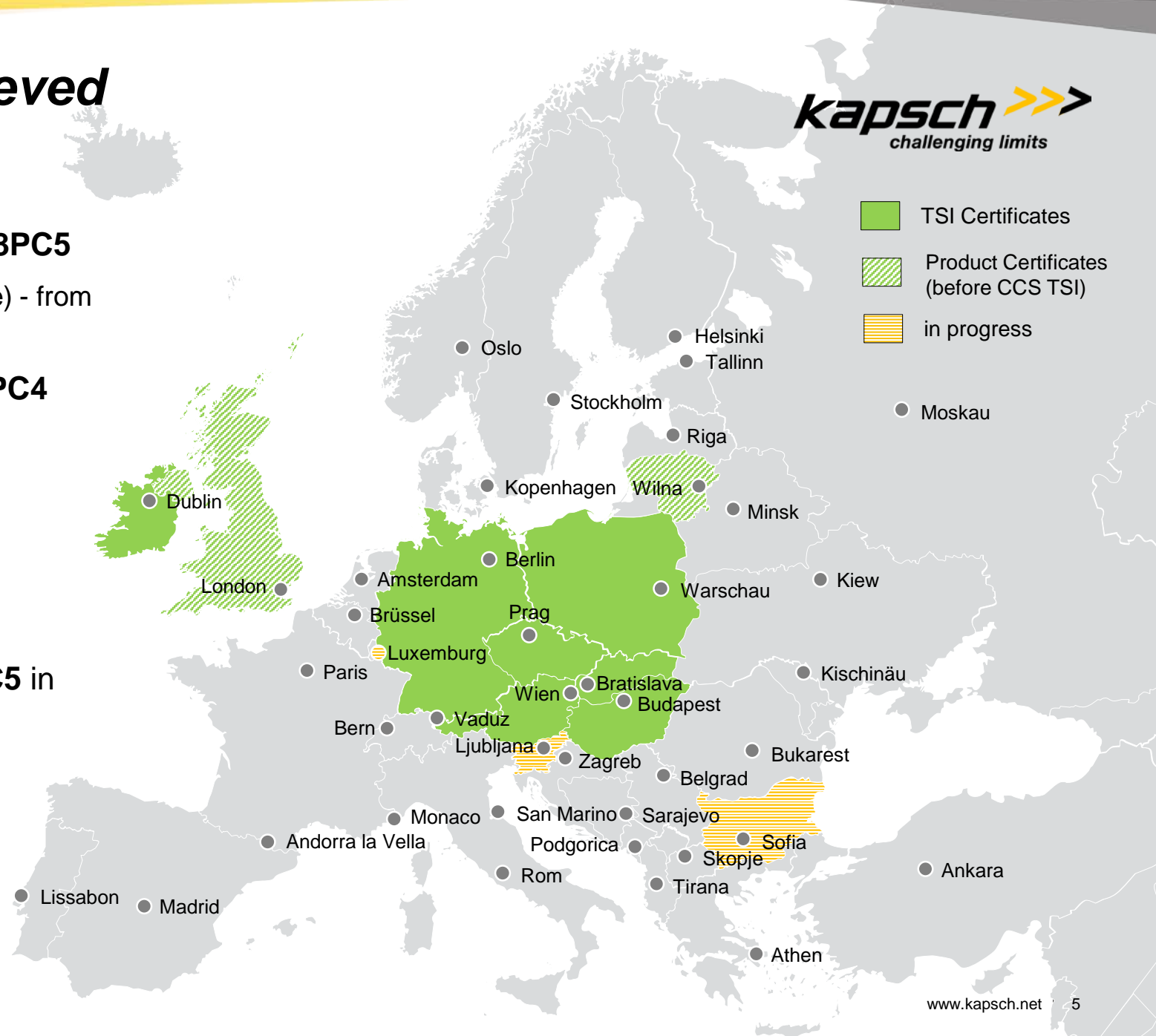


Network

- RDN.core **Kairos NSS22** / RDN.access **BSS18PC5**
- **Hungary (11/16)** ISV for Pilot Network (2 lines+core) - from NoBo RINA/KTI
- RDN.core **ATCA NSS20**/ RDN.access **BSS18PC4**
 - **Poland** (08/13) from NoBo IK,
 - **Czech** (10/13) from NoBo VUZ,
 - **Ireland** (03/15) from NoBo TÜV,
 - **Austria** (by ÖBB 04/15) from NoBo SCHIG,
 - **Slovakia** (06-07/15) from NoBo VUZ
- RDN.core R99 **NSS17**/ RDN.access **BSS18PC5** in **Germany** (by DB 07/16) from NoBo EBC

Cab Radio

- RDN.cab radio **Rel. 4.0** from RINA
- RDN.EDOR **Rel. 1.0** from RINA



Certification – Project Setup Scenarios

- Certification process is defined in European guidelines (ERA)
- 2 possible scenarios

Scenario 1:

NoBo contracted by applicant (e.g. Supplier – e.g. in Ireland, Poland, Germany, Luxembourg, ...)

Obligation is on applicants (supplier) side
effort can be better estimated at contract signature from both parties, agreed milestones can be reached

Costs are lower for all parties

Scenario 2:

NoBos contracted by the Infrastructure Manager / Ministry often not only for the certification only, but also for acceptance of contractual items (e.g. in Hungary, Slovenia)

Additional risks on effort and milestones due to mix of acceptance and certification

Costs are higher for all parties

Facilitate when possible scenario 1



Example Project Set-up Scenario 1

Certification Project in Ireland

- Simple Project set-up
- Kapsch was contracted to deliver a CCS TSI Certificate for the GSM-R network in Ireland
- Kapsch request offer from different NoBos for this activity.
- Kapsch contracted NoBo TÜV Rheinland for doing the certification.
- Following activities have been performed by the NoBo with support of Irish Rail and Kapsch
 - Quality Audit
 - Document Review (Network Design, Testplans, Testreports, ...)
 - Test witnessing for some tests

Certification went well in time - certification was reached in time (within 15 months)



Example Project Set-up Scenario 2 (1/2)

Certification Project in Hungary

- General Approach
 - 2 different projects – GSM-R and ETCS - 2 different NoBo consortia responsible for the certification activities
 - network is divided in phases and phases are either related to the core or composed of Lines
 - additional Pilot network defined where an ISV was already reached (ISV - Intermediate Statement of Verification – same as a certificate but limited to the scope of the ISV)

Certification activities since
3 years ...



Example Project Set-up Scenario 2 (2/2)

Certification Project in Hungary

GSM-R Project

- Complex Project Set-up
- Additionally to the NoBos consortium (2 NoBos: KTI – local NoBo, RINA – international NoBo) an independent Engineer (T-Systems) was contracted to review each step/document
- Documents/Plans have to be approved by NISZ ... Independent Engineer ... and both NoBos ...
 - => external parties are waiting of the approval of the others
 - => Review cycles (time, effort) much higher compared to scenario 1
- NoBo was furthermore contracted also to check additional contractual requirements as “Acceptance Body”

Certification activities since
3 years ...



Standardized Test Specifications

Requested by manufacturer and should be official declared by ERA as binding

- To align more and more the certification process by a NoBo to a standard process, an activity was launched within the EU funded CEF 1st call
- Industry together with the customers supported by NoBos have defined test specifications for the newest CCS TSI for
 - Part 1: Cab Radio Voice
 - Part 2: EDOR
 - Part 3: SIM Card
 - Part 4: Network
- Test specifications are currently under final review and will be referenced in the next application guide from ERA

Manageable for certification processes, repetitive and “framed” (same series of tests limited to TSI compliancy)

Better estimation of expected costs and time schedule for all involved parties – railways, supplier/ manufacturer and NoBo

Vice versa to

Very heavy (cost and duration) for project acceptance, specific and potentially “unframed”

Summary / Lessons Learned

- **New CCS TSI is a regulation (European Law) and no more a decision (to be converted to national law first)**
- **Project Set-up important related to time and effort to be spent to reach a certificate**
- **Do not underestimate the effort and time to support the NoBos for getting a certificate**
- **Use standardized and binding Test specification to verify the components**

Thank you

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