



Certification of ETCS trackside

**ETCS and GSM-R Certification Challenges Workshop
Warsaw, 30th of July 2013**



Assessment requirements for a Track-side Subsystem

Table 6.3:

- Use of interoperability constituents
- Use of train detection systems
- Integration of interoperability constituents in the subsystem
- Integration with infrastructure
- Integration with track- side signalling
- Reliability, Availability, Maintainability, Safety (RAMS)
- **Integration with Control-Command and Signalling On-board Subsystems and rolling stock: tests under operational conditions**
- **Integration with Control-Command and Signalling On-board Subsystems and with rolling stock**



Integration with CCS onboard and RS (1)

<p>Integration with Control-Command and Signalling On-board Subsystems and rolling stock: tests under operational conditions</p>	<p>Test the behaviour of the subsystem under such different operational conditions as reasonably feasible (e.g. train speed, number of trains on the line, weather conditions). The test must be able to verify:</p> <ol style="list-style-type: none"> 1. the performance of train detection systems – Basic parameters 4.2.10, 4.2.11, 	<p>Reports of test runs.</p> <p>Note: Indicate in the certificate which conditions have been tested, which standards have been applied and the criteria for considering the tests terminated.</p>
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Aspect	What to assess	supporting evidence
	<ol style="list-style-type: none"> 2. that the Control-Command and Signalling Track-side subsystem is compatible with track-side environment – Basic parameter 4.2.16 <p>These tests will also increase confidence in the absence of systematic failures.</p> <p>The scope of these tests excludes tests already done in previous steps: tests performed at the level of interoperability constituents and tests performed on the subsystem in a simulated environment shall be taken into account.</p>	



Integration with CCS onboard and RS (2)

Integration with Control-Command and Signalling On-board Subsystems and with rolling stock	Check the GSM-R coverage – Basic Parameter 4.2.4	On-site measurements
	Check the compliance of the train detection systems with the requirements of this TSI – Basic Parameter 4.2.10	On-site measurements
	Check that the train detection systems comply with the requirements of this TSI – Basic parameters 4.2.10 and 4.2.11	Check evidence from existing installations (for systems already in use); perform tests according to standards for new types
	Check that all functions required by the application are implemented in accordance with specifications referenced in this TSI – basic parameters 4.2.3, 4.2.4 and 4.2.5	Reports of tests of the operational scenarios specified in Section 6.1.2 with different certified Control-Command and Signalling On-board Subsystems. The report shall indicate which operational scenarios have been tested, which on-board equipment has been used and whether tests have been performed in laboratories, test lines or real implementation.



Testing operational scenarios

Check that all functions required by the application are implemented in accordance with specifications referenced in this TSI – basic parameters 4.2.3, 4.2.4 and 4.2.5

Reports of tests of the operational scenarios specified in Section 6.1.2 with different certified Control-Command and Signalling On-board Subsystems. The report shall indicate which operational scenarios have been tested, which on-board equipment has been used and whether tests have been performed in laboratories, test lines or real implementation.

There is no need to perform this test on a real line
There is no need to use on-boards certified in Poland.