



## **WG2 REFERENCES 3.1.0**

**[WG2\_REF]**

C-ROADS Platform

Working Group 2 Technical Aspects

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## Publication History

Version	Date	Description, updates and changes	Status
2.3.0	19/03/2025	Collated references of all C-Roads WG2 documents	R
3.0.0	02/09/2025	Added TF2-Documents	R
3.1.0	01/11/2025	Added [C-Roads SUD11]	R

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# 1. Introduction

As references to other standards and their versions are essential information in the V2X area, C-Roads is providing them in this separate document to make the information explicitly available (not 'hidden' in the different requirement documents) and easily accessible (e.g. for alignment with other organizations).

This document holds all normative and informative references of C-Roads requirement specifications of this release bundle.

All documents, which are part of this release, are normative / informative depending on the document type, e.g. requirement specifications are normative while a handbook is informative. All normative documents, which are not part of this release, are listed below.

## 2. Normative References

Symbol	Version	Reference
[WG2_REF]	-	C-Roads Working Group 2 References ( <b>this document</b> )
[C-Roads MP]	-	C-Roads, C-ITS Message Profiles
[Introduction to the C-Roads WG2 Deployment Documentation and Requirements]	-	C-Roads, Introduction to the C-Roads WG2 Deployment Documentation and Requirements
[C-ITS Security Requirements and Specifications]	-	C-Roads, C-ITS Security Requirements and Specifications
[C-ITS Security and Governance]	-	C-Roads, C-ITS Security and Governance
[C-Roads SUD]	-	C-Roads, C-ITS Service and Use Case Definitions (in general, set of all 10 documents SUD01 to SUD10)
[C-Roads SUD01]	-	C_Roads_WG2_TF2_Service and Use Case Definitions Intro Document
[C-Roads SUD02]	-	C_Roads_WG2_TF2_Service and Use Case Definitions IVS (In-Vehicle Signage)
[C-Roads SUD03]	-	C_Roads_WG2_TF2_Service and Use Case Definitions HLN (Hazardous Location Notification)
[C-Roads SUD04]	-	C_Roads_WG2_TF2_Service and Use Case Definitions RWW (Road Works Warning)
[C-Roads SUD05]	-	C_Roads_WG2_TF2_Service and Use Case Definitions SI (Signalised Intersections)
[C-Roads SUD06]	-	C_Roads_WG2_TF2_Service and Use Case Definitions AVG (Automated Vehicle Guidance)
[C-Roads SUD07]	-	C_Roads_WG2_TF2_Service and Use Case Definitions NG (Navigation Guidance)
[C-Roads SUD08]	-	C_Roads_WG2_TF2_Service and Use Case Definitions CP (Collective Perception)
[C-Roads SUD09]	-	C_Roads_WG2_TF2_Service and Use Case Definitions POI (Points of Interest)
[C-Roads SUD10]	-	C_Roads_WG2_TF2_Service and Use Case Definitions PVD (Probe Vehicle Data)
[C-Roads SUD11]	-	C_Roads_WG2_TF2_Service and Use Case Definitions ESVN (Emergency and Service Vehicle Notifications)

[C-Roads RSP]	-	C-Roads, C-ITS Roadside ITS G5 System Profile
[C-Roads MSP]	-	C-Roads, C-ITS Infrastructure Mobile ITS G5 System Profile
[C-Roads SPATEM/MAPEM handbook]	-	C-Roads, European Handbook for SPATEM and MAPEM creation
[C-ITS IP Based Interface Profile]	-	C-Roads, C-ITS IP Based Interface Profile
[C-Roads_TVC]	-	C-Roads, C-ITS Cross-Border Testing and Validation Concept
[C-Roads_TP]	-	C-Roads, C-ITS Test Plan
[C-ITS Privacy – Concluding Memo]	V1.0 (2021)	C-Roads, C-ITS Privacy – Concluding Memo
[C2C CC Vehicle C-ITS station profile]	1.6.7	CAR 2 CAR Communication Consortium, Vehicle C-ITS station profile
[C2C CC Automotive Requirements for the Infrastructure to Vehicle Information (IVI) Service]	1.6.5	CAR 2 CAR Communication Consortium, Automotive Requirements for the Infrastructure to Vehicle Information (IVI) Service
[ETSI TS 101 539-1]	V1.1.1	Intelligent Transport Systems (ITS); V2X Applications; Part 1: Road Hazard Signalling (RHS) application requirements specification
[ETSI TS 103 324]	V2.1.1 (2023-06)	Intelligent Transport System (ITS); Vehicular Communications; Basic Set of Applications; Collective Perception Service; Release 2
[ETSI TS 102 687]	V1.2.1 (2018-04)	Intelligent Transport Systems (ITS); Decentralized Congestion Control Mechanisms for Intelligent Transport Systems operating in the 5 GHz range; Access layer part
[ETSI TS 102 965]	v2.1.1 (2021-11)	Intelligent Transport Systems (ITS); Application Object Identifier (ITS-AID); Registration
[ETSI EN 302 571]	V2.1.1 (2017-02)	Intelligent Transport Systems (ITS); Radiocommunications equipment operating in the 5 855 MHz to 5 925 MHz frequency band; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU
[ETSI TS 102 940]	V1.3.1 (2018-04)	Intelligent Transport Systems (ITS); Security; ITS communications security architecture and security management; Release 2

[ETSI TS 102 941]	v1.4.1 (2021-01)	Intelligent Transport Systems (ITS); Security; Trust and Privacy Management
[ETSI TS 103 097]	v1.4.1 (2020-10)	Intelligent Transport Systems (ITS); Security; Security header and certificate formats; Release 2
[ETSI TS 103 175]	V1.1.1 (2015-06)	Intelligent Transport Systems (ITS); Cross Layer DCC Management Entity for operation in the ITS G5A and ITS G5B medium
[ETSI TS 103 916]	V2.1.1 (2024-01)	Intelligent Transport Systems (ITS); Parking Availability Service; Release 2
[ETSI TS 103 600]	V1.2.1	ETSI TS 103 600: ITS Testing - Interoperability test specifications for security
[ETSI EN 302 636-4-1]	V1.4.1 (2020-01)	Intelligent Transport Systems (ITS); Vehicular Communication; Geonetworking; Part 4 Geographical addressing and forwarding for point-to-point and point-to-multipoint communications; Sub-part 1: Media-Independent Functionality
[ETSI EN 302 636-5-1]	V2.2.1 (2019-05)	Intelligent Transport Systems (ITS); Vehicular Communications; GeoNetworking; Part 5: Transport Protocols; Sub-part 1: Basic Transport Protocol
[ETSI EN 302 663]	V1.3.1 (2020-01)	Intelligent Transport Systems (ITS); Access layer specification for Intelligent Transport Systems operating in the 5 GHz frequency band
[ETSI EN 302 890-2]	V2.1.1 (2020-10)	Intelligent Transport Systems (ITS); Facilities Layer function; Part 2: Position and Time management (PoTi); Release 2
[ETSI EN 302 931]	V1.1.1 (2011-07)	Vehicular Communications; Geographical Area Definition
[ETSI TS 103 900]	V2.2.1 (2025-02)	Intelligent Transport Systems (ITS); Facilities Layer; Cooperative Awareness Service; Release 2
[ETSI EN 302 665]	V1.1.1 (2010-09)	Intelligent Transport Systems (ITS); Communications Architecture
[ETSI TS 102 792]	V1.2.1 (2015-06)	Intelligent Transport Systems (ITS); Mitigation techniques to avoid interference between European CEN Dedicated Short Range Communication (CEN DSRC) equipment and Intelligent Transport Systems (ITS) operating in the 5 GHz frequency rang
[ETSI TS 102 894-2]	V2.3.1 (2024-08)	Intelligent Transport Systems (ITS); Users and applications requirements; Part 2: Applications and facilities layer common data dictionary
[ETSI TS 103 248]	V2.3.1 (2024-03)	Intelligent Transport Systems (ITS); GeoNetworking; Port Numbers for the Basic Transport Protocol (BTP)

[ETSI TS 102 636-4-2]	V1.4.1 (2021-02)	Intelligent Transport Systems (ITS); Vehicular Communications; GeoNetworking; Part 4: Geographical addressing and forwarding for point-to-point and point-to-multipoint communications; Sub-part 2: Media-dependent functionalities for ITS-G5
[ETSI TS 103 301]	V2.1.1 (2021-03)	Intelligent Transport Systems (ITS); Vehicular Communications; Basic Set of Applications; Facilities layer protocols and communication requirements for infrastructure services
[ETSI EN 302 890-1]	V1.2.1 (2019-07)	Intelligent Transport Systems (ITS); Facilities layer function; Part 1: Services Announcement (SA) specification
[ETSI TS 103 831]	V2.2.1 (2024-04)	Intelligent Transport Systems (ITS); Vehicular Communications; Basic Set of Applications; Decentralized Environmental Notification Service; Release 2
[IEEE Std. 802.11]	2020	IEEE Standard for Information technology — Telecommunications and information exchange between systems, local and metropolitan area networks — Specific requirements, Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications
[ISO 14816]	2005	Road transport and traffic telematics; Automatic vehicle and equipment identification; Numbering and data structure
[ISO 14823-1]	2024	Graphic Data Dictionary (GDD) version 1, as specified by the GDD structure in Annex E
[ISO/TS 19091]	2019	Intelligent transport systems – Cooperative ITS – Using V2I and I2V communications for applications related to signalized intersections
[ISO/TS 19321]	2024-07	Intelligent transport systems - Cooperative ITS - Dictionary of in-vehicle information (IVI) data structures
[ISO 3166-1]	2020	Codes for the representation of names of countries and their subdivisions – Part 1: Country codes
[ISO 639-1]	2023	Codes for the representation of names of languages - Part 1: Alpha-2 code
[ISO 8855]	2011	Road vehicles – Vehicle dynamics and road-holding ability – Vocabulary
[ISO/IEC 27001]	2022	Information technology -- Security techniques -- Information security management systems -- Requirements
[SAE J2945/1]	2020-04	On-Board System Requirements for V2V Safety Communications
[SAE J2735]	-	Dedicated Short Range Communications (DSRC) Message Set Dictionary

[VSC-A Final Report]	-	VSC-A Final Report, [Online]. Available: <a href="http://www.nhtsa.gov/DOT/NHTSA/NVS/Crash%20Avoidance/Technical%20Publications/2011/811492B.pdf">http://www.nhtsa.gov/DOT/NHTSA/NVS/Crash%20Avoidance/Technical%20Publications/2011/811492B.pdf</a> .
[C-ITS Platform Final report]	2016-01	C-ITS Platform Final report
[Study on the Deployment of C-ITS in Europe: Final Report]	(2016-2)	DG MOVE (by Ricardo E&E), Study on the Deployment of C-ITS in Europe: Final Report (2016-2)
[EU C-ITS CP]	3.0 (March 2024)	Certificate Policy for Deployment and Operation of European Cooperative Intelligent Transport Systems (C-ITS). EU C-ITS Certificate Policy <a href="https://cpoc.jrc.ec.europa.eu/data/documents/E01941_C-ITS_Certificate_Policy_Release_3_0_FINAL.pdf">https://cpoc.jrc.ec.europa.eu/data/documents/E01941_C-ITS_Certificate_Policy_Release_3_0_FINAL.pdf</a>
[EU C-ITS SP]	3.0 (September 2024)	Security Policy for Deployment and Operation of European Cooperative Intelligent Transport Systems (C-ITS). EU C-ITS Security Policy <a href="https://cpoc.jrc.ec.europa.eu/data/documents/e01941_C-ITS_Security_Policy_v3.0_20230916.pdf">https://cpoc.jrc.ec.europa.eu/data/documents/e01941_C-ITS_Security_Policy_v3.0_20230916.pdf</a>
[CPOC protocol]	3.0 (January 2024)	C-ITS Point of Contact (CPOC) Protocol in the EU C-ITS Security Credential Management System (EU CCMS) <a href="https://cpoc.jrc.ec.europa.eu/data/documents/e01941_CPOC_Protocol_v3.0_20240206.pdf">https://cpoc.jrc.ec.europa.eu/data/documents/e01941_CPOC_Protocol_v3.0_20240206.pdf</a>
[IoT Interop BP]		ETSI; IOT Best Practices; Interoperability Best practices; edition 2 ( <a href="http://www.etsi.org">www.etsi.org</a> , <a href="http://www.plugtests.org">www.plugtests.org</a> )
[C-Roads Compliance Assessment]		C-ITS Platform Phase II; Working Group Compliance Assessment; Final Report; 12 July 2017.
[ISO/IEC 19464]	v1.0 2014	Information technology — Advanced Message Queuing Protocol (AMQP) specification
[RFC 8446]	V1.3	Transport Layer Security Protocol
[RFC 6066]		Transport Layer Security Extensions
[RFC 5280]		Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile
[RFC 2616]		Hypertext Transfer Protocol — HTTP/1.1
[RFC 2818]		HTTP over TLS (HTTPS)

### 3. Informative references

Symbol	Version	Reference
[OCA DiMAP Leitfaden]	-	Open Traffic Systems City Association e.V., DiMAP AP1: Leitfaden zur harmonisierten MAP-Erstellung für den Regelbetrieb kooperativer Verkehrssystem
[C2C-CC White Paper on Positioning and Timing]	-	CAR 2 CAR Communication Consortium, C2C-CC White Paper on Positioning and Timing
[ETSI TR 102 638]	V2.1.1 (2024-04)	Intelligent Transport Systems (ITS); Vehicular Communications; Basic Set of Applications; Definitions
[C-Roads_G Comm Pattern]	-	Communication patterns (V2V, I2V, V2I) by Sandro Berndt-Tolzmann – C-Roads Germany