

ISO/TS 21934-2:2024-10 (E)

Road vehicles - Prospective safety performance assessment of pre-crash technology by virtual simulation - Part 2: Guidelines and requirements for application

Contents		Page
Foreword.....		v
Introduction.....		vi
1 Scope.....		1
2 Normative references.....		1
3 Terms and definitions.....		1
4 Symbols and abbreviated terms.....		6
4.1 Symbols.....		6
4.2 Abbreviations.....		7
5 Overview: A general description of the process for prospective safety performance assessment of pre-crash technology by virtual simulation.....		8
5.1 General approach and structure.....		8
5.2 Input data.....		8
6 Evaluation objective.....		13
6.1 Process for identification of the evaluation objective.....		13
6.2 Definition of a precise research question.....		14
6.3 Identification of relevant scenario categories.....		14
6.4 Metrics in prospective safety performance assessment by simulation.....		14
6.4.1 Introduction to metrics.....		14
6.4.2 Selective compilation of metrics to determine safety critical events.....		16
6.4.3 Selective compilation of collision related metrics.....		18
6.5 Selection of metric.....		20
7 Baseline.....		21
7.1 Baseline approaches.....		21
7.1.1 General.....		21
7.1.2 Approach A.....		23
7.1.3 Approach B.....		23
7.1.4 Approach C.....		23
7.1.5 Requirements.....		24
7.1.6 Example research questions.....		25
7.2 Example for minimum required information for establishing a baseline.....		25
8 Virtual simulation.....		26
8.1 Framework.....		26
8.2 Models.....		27
8.2.1 Scope of section.....		27
8.2.2 Simulation control block.....		27
8.2.3 Vehicle surroundings block.....		28
8.2.4 Sensor/perception input generation.....		33
8.2.5 Vehicle under test block.....		34
8.2.6 Collision block.....		42
8.3 Example for minimum required information for treatment simulation.....		42
9 Assessment of safety performance.....		44
9.1 Calculation of safety performance.....		44
9.2 Example for minimum required information for safety performance assessment.....		44
10 Documentation.....		44
11 Validation and verification.....		48

Annex A (informative) Example for documentation of input data	55
Annex B (informative) Comparison of simulation tools	59
Annex C (informative) Examples for documentation of a study	61
Bibliography	81