DIN EN ISO 19148:2021-07 (E)

Geographic information - Linear referencing (ISO 19148:2021); English version EN ISO 19148:2021

Contents

Page

Foreword ..... **v**

Introduction ..... **vii**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

4 Abbreviated terms and UML notation **5**
4.1 Abbreviated terms 5
4.2 UML notation 5

5 Conformance **5**
5.1 Conformance overview 5
5.2 Conformance classes 6
5.2.1 General 6
5.2.2 Data type conformance 6
5.2.3 Operation conformance 6

6 Linear referencing **7**
6.1 Background 7
6.1.1 Linear referencing concepts 7
6.1.2 Linear referencing packages 17
6.2 Package: Linear Referencing System 18
6.2.1 Semantics 18
6.2.2 PositionExpression 19
6.2.3 LinearElement 20
6.2.4 LinearElementType 21
6.2.5 ILinearElement 21
6.2.6 IFeature 22
6.2.7 ISpatial 23
6.2.8 LinearReferencingMethod 24
6.2.9 DistanceAlongDirection 25
6.2.10 LRMType 25
6.2.11 DistanceExpression 26
6.2.12 Referent 27
6.2.13 ReferentType 28
6.2.14 ValueExpression 29
6.3 Package: Linear Referencing Towards Referent 30
6.3.1 Semantics 30
6.3.2 LRMWithTowardsReferent 30
6.3.3 DistanceExpression 31
6.4 Package: Linear Referencing Offset 31
6.4.1 Semantics 31
6.4.2 LRMWithOffset 33
6.4.3 LateralOffsetDirection 34
6.4.4 VerticalOffsetDirection 34
6.4.5 LateralOffsetDistanceExpression 34
6.4.6 LateralOffsetExpression 35
6.4.7 LateralOffsetReferent 36
6.4.8 VerticalOffsetExpression 37

6.4.9 VerticalOffsetReferent 38
6.4.10 ICrossSectionalConvention 38
6.4.11 ICrossSectionalConventionPart 39
6.5 Package: Linear Referencing Offset Vector 40
6.5.1 Semantics 40
6.5.2 VectorOffsetDistanceExpression 40
6.5.3 VectorOffsetExpression 41
6.6 Package: Linearly Located Event 42
6.6.1 Semantics 42
6.6.2 Linearly located event 43
6.6.3 Event 44
6.6.4 AttributeEvent 45
6.6.5 FeatureEvent 46
6.6.6 EventLocation 47
6.6.7 AtLocation 47
6.6.8 FromToLocation 47
6.6.9 EventTime 48
6.6.10 EventInstant 49
6.6.11 EventPeriod 49
6.7 Package: Linear Segmentation 49
6.7.1 Semantics 49
6.7.2 SegmentableFeature 50
6.7.3 LinearSegmentSet 51
6.7.4 LinearSegment 52
Annex A (normative) **Abstract test suite** **54**
Annex B (informative) **Generalized Model for Linear Referencing** **58**
Annex C (informative) **Commonly used linear referencing methods and models** **61**
Annex D (informative) **Application Schema example** **84**
Annex E (informative) **Event and segmentation examples** **87**
Annex F (informative) **Backwards compatibility with ISO 19148:2012** **96**
Bibliography **98**