DIN SPEC 91357:2017-12 (E)

Reference Architecture Model Open Urban Platform (OUP); Text in English

Inhalt

Seite

Foreword 4

0 Introduction 6
0.1 General observation and context 6
0.2 Why a Reference Architecture? 7

1 Scope 8

2 Terms and definitions 8

3 Concept of Open Urban Platforms 11
3.1 General information 11
3.2 Characterization of Open Urban Platforms 11
3.3 Existing concepts and initiatives 13

4 Ecosystem of an Open Urban Platform 14
4.1 General information 14
4.2 Business models 14
4.3 Governance 16
4.4 Roles and Responsibilities 18

5 System Architecture and Capabilities 18
5.1 General Information 18
5.2 OUP as a System of Systems 19
5.3 Capabilities of an OUP 22
5.3.1 Capabilities explained 22
5.3.2 EIP SCC capability categories 23
5.3.3 EIP SCC capability map 24
5.3.4 Enhancements of EIP SCC Urban Platform Capability Map 24

6 Digital Use Cases 26
6.1 General information 26
6.2 Single OUP 27
6.2.1 Description 27
6.2.2 User Scenario 27
6.2.3 Implementation 28
6.3 System of Systems (OUP interacts with other management systems) 28
6.3.1 Description 28
6.3.2 User Scenario 29
6.3.3 Implementation 29
6.4 Federated OUPs – Same City 30
6.4.1 Description 30
6.4.2 User Scenario 30
6.4.3 Implementation 31
6.5 Federated OUPs — Across Cities 31
6.5.1 Description 31
6.5.2 User Scenario 31
6.5.3 Implementation 32

7 Data and Service Marketplace 32
7.1 General information 32
7.2 Open Interfaces to Access Urban Data 33
7.2.1 Raw Data Interfaces 35

7.2.2 Data Processing Interfaces 36
7.2.3 Data Integration Interfaces 36
7.2.4 Management Interfaces 36
7.2.5 Extended Interoperability 36
7.2.6 Conclusions 37
7.3 Data Architecture 37
7.3.1 Guidelines 37
7.3.2 Data model 38
7.3.3 Data value chain 39
7.3.4 Data Privacy 40
7.4 Smart Data and Service Provisioning 41
Annex A (normative) Capabilities per category 43
Bibliography 55

Figures

Figure 1 — Schematic picture of an open urban platform 12
Figure 2 — Digital Data & Services Marketplace 17
Figure 3 — Framework for the Reference System Architecture of an OUP 20
Figure 4 — EIP SCC Urban Platform Capability Map 24
Figure 5 — Illustration of a standalone OUP 28
Figure 6 — Illustration of OUP as System of Systems for green parking guidance 29
Bild 7 — Federated OUPs within the same City to support multi-modal routing 31
Figure 8 — Federated OUPs across multiple Cities (Berlin and Hamburg) 32
Figure 9 — Open Urban Platform layers 35
Figure A.1 — EIP SCC Urban Platform Capability Map with capabilities per category 54