Knowledge Pool

Martyna Bogacz

2021-01-15

Contents

Preface

list of chapters

Chapter 1

Introduction

This work gathers and defines essential concepts related to automation and digitalisation of transport system together with the description of their impact, both negative and positive on **individual**, **systemic** and **economy level**. This knowledge pool is driven by the fact that automation and digitalisation are progressing quickly, although not uniformly across all areas within transport context. Therefore, to understand spectrum of possibilities that they bring, it is necessary to explain key concepts, demonstrate their level of maturity and current market penetration, and finally assess their impact on different levels. Given this approach, the page of each topic contains the following elements:**definition** of the phenomenon, **key stakeholders** who are the main parties responsible for and affected by the given technological development. Then, we include two subsections on **current state of art in research and practice**. The former one summarizes the most recent research in a given topic while the latter explains the current stage of implementation of given technology in the real world. Further, section named **Relevant initatives in Austria** covers the leading initaitives within given topic and potential for Austrain actors. Moreover, we provide the summary table of the impacts of the concept on selected **sustainable development goals** (SDGs). Beyond, to provide an objective measure of technology maturity within each topic we include so-called **technology readiness scale** (Willismson & Beasley, 2011) and **societal readiness scale**, as described below:

Chapter 2

Physical road infrastructure

Chapter 3

Highway infrastructure management

Chapter 4

Traffic management

Chapter 5

Road pricing

Chapter 6

Digital road infrastructure and connectivity

Chapter 7

Passenger information system

Chapter 8

Multimodal integrated system

Chapter 9

Connected and autonomous driving

Chapter 10

On-board technology for connected and automated vehicles

Chapter 11

Freight and commercial transport

Chapter 12

Collective mobility vehicles

Chapter 13

Big data

Chapter 14

Shared mobility

Chapter 15

Alternative power sources