

PROJECT

## Torqway Hybrid

### Safe personal transportation that makes you healthier.

**Funding:** European (Horizon 2020)

**Duration:** Oct 2017 - Sep 2019

**Status:** Complete

**Total project cost:** €2,270,790

**EU contribution:** €1,589,553



**Call for proposal:** H2020-SMEINST-2-2016-2017

[CORDIS RCN : 211975](#)

#### Objectives:

The “last mile” between hubs and homes, as well as short distance transport needs for persons with walking limitations, are urban mobility challenges that we address at Torqway Company Ltd with a new way to move. Our manual-powered four-wheel platform vehicle introduces “Nordic Driving”, driven by arm movement on levers with an innovative gear system (under patent in 9 countries) which converts every movement into forward motion up to twice the speed of normal walking.

Based on this core technology, Torqway Hybrid offers additional electric motor assistance like an e-bike for senior users and persons with reduced lower body mobility. Medical studies on Torqway confirm that the arm movements while standing induce isometric muscle contractions shown to improve upper and lower body strength, coordination and weight control.

This innovative outdoor vehicle consistent with the Transport and Smart Cities framework and the Electric Mobility Europe initiative can be used in several ways: as an active mobility and transportation device, as an outdoor gym joining several exercises in one and as a tool for light physical rehabilitation. Aside from individual purchasers, sales target sport and physiotherapy centres, tourism and leisure mobility.

As confirmed by our Phase 1 Feasibility Study, Torqway Hybrid end users are 55+ y.o. early adopters of both sexes with purchasing power in EU member states with established bicycle use and infrastructure, starting with Germany, Netherlands, Nordic countries, Poland and USA. Markets are segmented into growth sectors that reflect increasing expenditure by an aging, health-conscious population:

- Fitness equipment (global market worth 10.38 bn USD)
- Personal mobility (worth 6.65 bn USD)
- Home physical rehabilitation (worth 2.86 bn USD)
- Physiotherapy (worth 14.3 bn USD).

(As a reference, the global E-bikes market is worth 15.90 bn USD and growing at double-digit rates).

#### Parent Programmes:

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport](#)

**Institute type:** Public institution

**Institute name:** European Commission

**Funding type:** Public (EU)

#### Lead Organisation:

**Torqway Spolka Z Ograniczona Odpowiedzialnoscia**

**Address:**

ROSLINNA 19  
87100 TORUN

Poland

**EU Contribution:** €1,589,553

### **Technologies:**

Mobility as a Service (MaaS)

Electromobility-as-a-Service platform for electric quadricycles

**Development phase:** Demonstration/prototyping/Pilot Production

**STRIA Roadmaps:** Vehicle design and manufacturing, Low-emission alternative energy for transport

**Transport mode:** Road transport

**Transport sectors:** Passenger transport

**Transport policies:** Societal/Economic issues

**Geo-spatial type:** Other