

# Project idea: Electric tandem recumbent bicycle

## Call area: No. 5 Sustainable and smart mobility

### Contact

**Company/Institute:**

University Aalen

**Contact person (Name & Function):**

Prof. Dr. Markus Kley

Professor for mechanical engineering

**E-Mail:**

markus.kley@hs-aalen.de

**Telephone Number:**

+49 7361 576-2377

### Project Description

Engineering of a lightweight electric bio-hybrid vehicle

- Frame design
- Suspension
- Steering



### Project Objectives

- Release a public adopted bio-hybrid vehicle
- Suitable for everyday use by adding a rain cover (vehicle body)
- Research for appropriate lightweight materials (high strength steel and aluminium alloys and alternative reinforced materials)

# Project idea: Electric tandem recumbent bicycle

## Call area: No. 5 Sustainable and smart mobility

### Our know-how...

- Vehicle and bicycle design
- Designing full suspension chassis
- Power train and components
- Test bench expertise of components and vehicles
- Vibration testing and shaker testing
- Bio-hybrid drive systems
- Logging of hybrid data in field tests (human and electric motor data)
- Dynamic driving data
- Stress and strain recording

### We are looking for...

- Recumbent bicycle manufacturer
- Metal frame manufacturing expertise
- Reinforced plastics frame manufacturing expertise
- Mould designer
- Supplier of alternative reinforced materials
- Supplier of lightweight metal alloys