

# INCLUSIVEbike

Title – Improving frail people personal mobility providing them with an e-bike tandem cycling experience, assuring social distancing and creating new jobs.

Ane Irazustabarrena- TECNALIA

## ■ INCLUSIVEBIKE

Improving frail people personal mobility providing them with an e-bike tandem cycling experience, assuring social distancing and creating new jobs.

**The COVID-19 pandemic is far more than a health crisis: it is affecting societies and economies at their core. Italy and Spain are the two EU countries that has been affected more by the pandemic. It will most likely increase poverty and inequalities at a global scale, making achievement of SDGs even more urgent. Supporting the mobility need of vulnerable groups is fundamental to allow frail group to recover from the crisis and ensure that no one is left behind in this effort. Inclusiv\_eBike aims to develop and demonstrate a new concept of rickshaw e-bikes capable to promote safety and comfort by extending inclusiveness to frail and vulnerable people that have seen their mobility and physical activity strongly reduced due to COVID risk associated to transport. Inclusiv\_eBike promote a new era of personalized transport capable to promote inclusion and assuring social distancing, transport sustainability and healthy aging.**

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### InclusiveBike

06-2020 12-2020

Lead  
Tecnalia

Cities  
Bilbao (SP),  
Bergamo (IT)

## Strategic Goal



*Carbon fiber chassis composition, hydraulic ABS breaking system, ADAS embedded functionalities, and pump wheelchair elevator* will allow to concentrate in one single **personal light InclusiveBike**, high weight capacity (**up to 300Kg**), optimized breaking and cyclability, together with accessibility and zero emission.

InclusiveBike envisions **a new electric vehicle for personalized transport** capable to give answer the demands for less energy consumption, affordable automated micro mobility that might break the barriers for people with mobility issues in urban areas.

The consortium has all the necessary design, engineering and manufacturing experience and know how to successfully develop the concept and validate the results in **Bilbao** and **Bergamo** testing cities and been promoted within EU and worldwide.

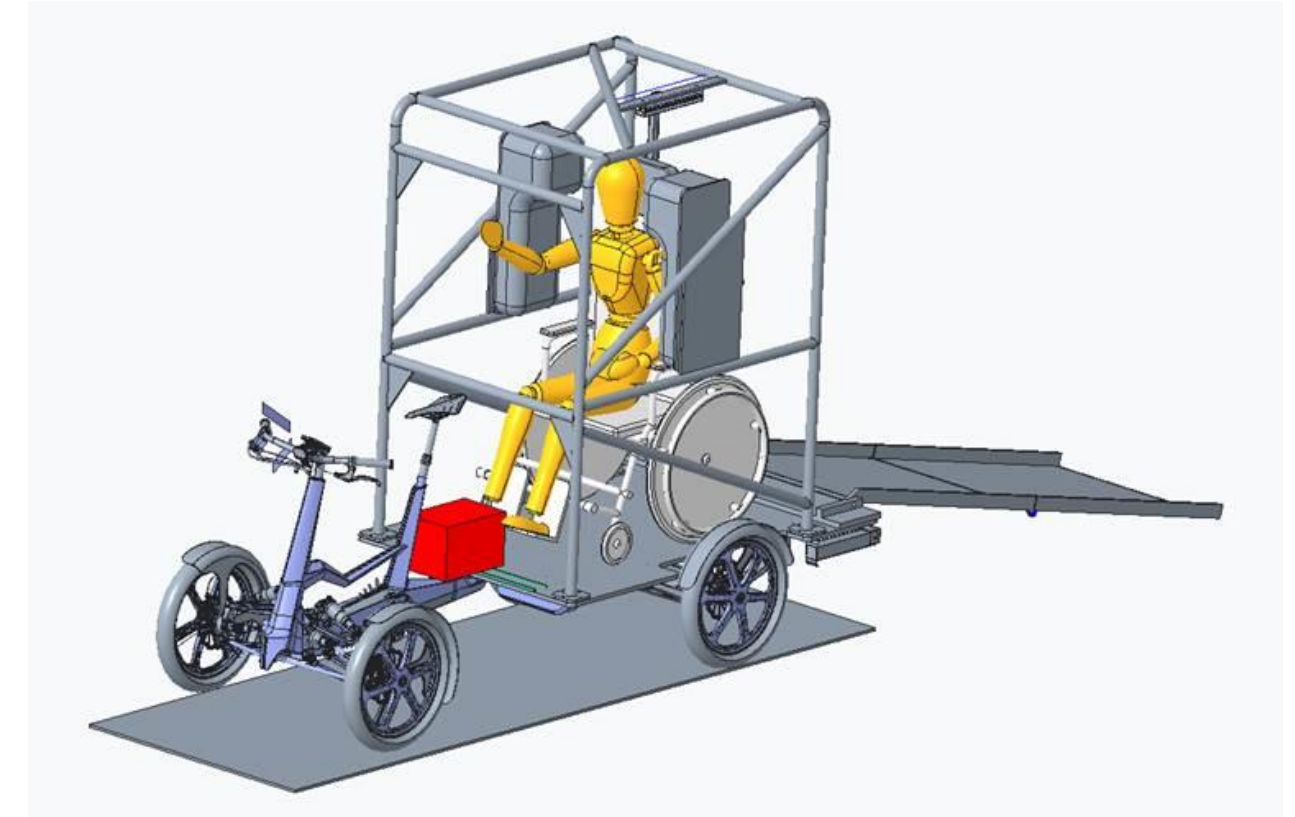


Funded by the  
European Union

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### Challenge



InclusiveBike is focused on the following specific targets:

- Reduction of air pollution due to mobility
- Reduction of modal share of private cars
- Innovative mobility solution implemented by a city

In order to do so, this project aims to develop **a new cargo eBike 4-wheeler that is safe, quiet, clean and energy efficient**, as well as attractive to the public so that the barriers for adopting it are minimized.

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**Project Partners** [Cities | Business| Universities | Research  
Institutes]

List project partners





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A new concept of rickshaw e-bikes capable to promote safety and comfort by extending inclusiveness to frail and vulnerable people



Carbon fiber chassis composition, hydraulic ABS breaking system, ADAS embedded functionalities, and pump wheelchair elevator



<http://inclusivebike.com/>



- Reduction of air pollution due to mobility
- Reduction of modal share of private cars
- Innovative mobility solution in urban areas for people with mobility issues

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- Project update highlights
- **Why this Project?**

**Context** → Disability and Mobility. How the MAAS revolution forgot this population

**Bike and Disability** → why bike is thought just for leisure for this type of people

**The experience abroad** → Rickshaw in India and other countries and the more recent advent of e\_cargo bikes in EU.  
Competitor outline

**COVID and mobility restrictions** → pilot cities



InclusivEbike  
\* Required

Datos personales

Edad  
Your answer

Area / barrio de residencia  
Your answer

Condiciones de trabajo \*

☐ Ocupado / a  
☐ Buscando su primer trabajo  
☐ Desempleado / a  
☐ Jubilado / a  
☐ Cuidado del hogar  
☐ Estudiante  
☐ Otra

Ingresos anuales 2019

Questionnaire for customer needs.  
Shared in Spain & Italy

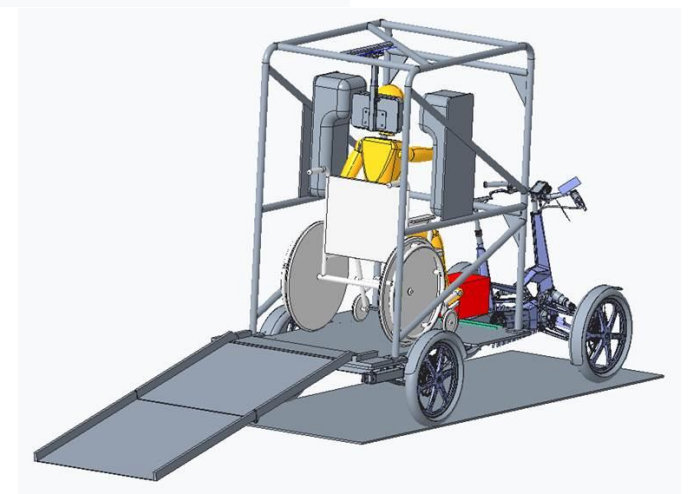
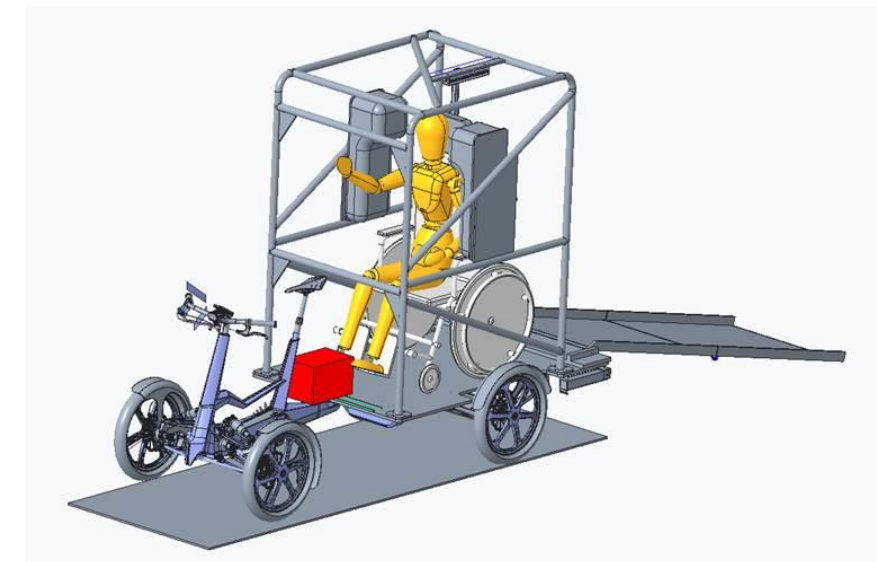
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### ■ Project highlights

#### ■ Collecting requirements from end-users and preparing vehicle design

- Structural design assessment (FEM)
- CAD models
- Safety assesment





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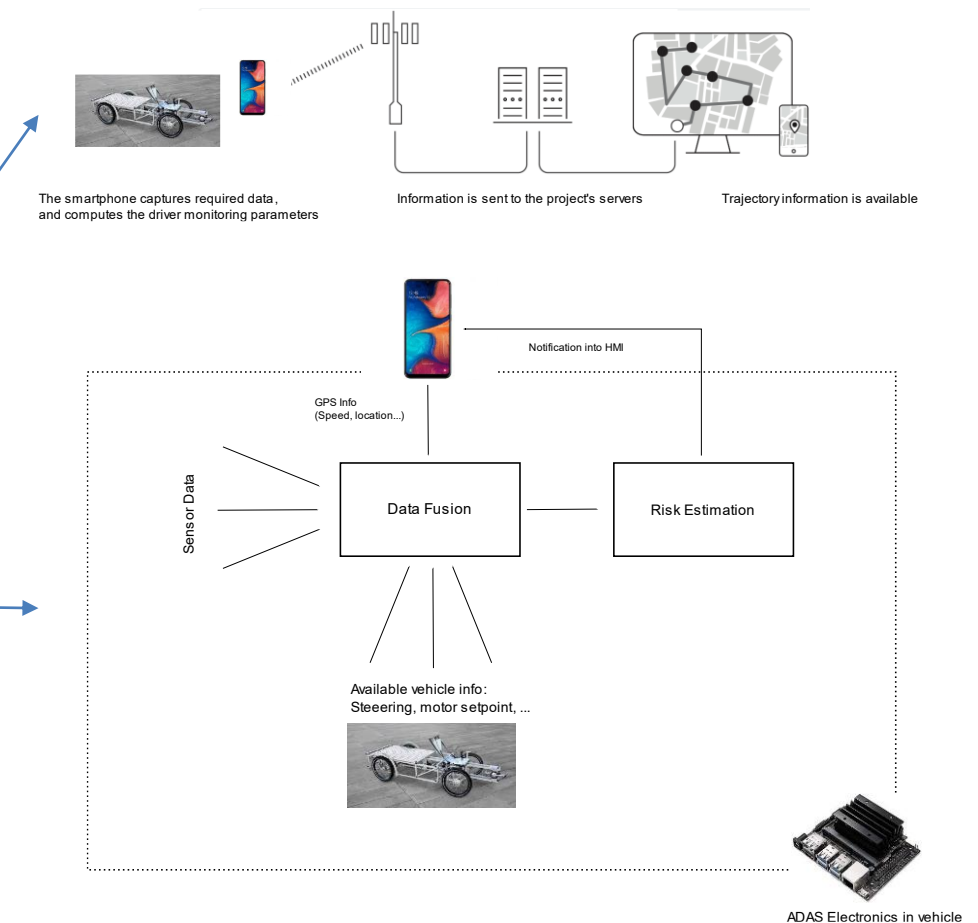
## ■ Project highlights

### ■ Advanced functionality: ADAS SYSTEM

ADAS (Advanced Driver-Assistance System)

- composed of two modules:

- A **driver monitoring system**, which measures the driver's ability to provide comfort and safe driving practices.
- A **safety module** which provides a basic collision warning system (pre-crash system), based on a set of low-cost sensors.



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- DEMO in BILBAO and BERGAMO and showroom of the prototype for the end users for integrating and testing the ADAS system.



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### Lessons learnt and future applications



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URBANISM NEXT EUROPE  
**2021**



# Thank you!

Do you have any question?

Ask **Ane Irazustabarrena**, [ane.irazustabarrena@tecnalia.com](mailto:ane.irazustabarrena@tecnalia.com)



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