

U-MOB | European  
University Network for  
Sustainable Mobility



# Projekt U-MOB LIFE

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**novotec**

FUNDACIÓN **equipo humano**



**UAB**  
Universitat Autònoma  
de Barcelona



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# Wprowadzenie (1)

- **Negatywne skutki nadmiernego korzystania z samochodu (w tym emisje CO2)**
- **Skutki emisji CO2 oraz innych zanieczyszczeń pochodzących z transportu miejskiego**



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## Wprowadzenie (2)

- **Potrzeba zmniejszenia negatywnych skutków mobilności i kształtowania zrównoważonych zachowań komunikacyjnych**
- **Uczelnie jako obiekty generujące duży ruch**
- **Odpowiedzialność uczelni w kwestii wpływania na zachowania komunikacyjne pracowników i studentów**



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# Projekt U-MOB LIFE (1)

Głównym celem projektu U-MOB jest stworzenie sieci uczelni:

- dla ułatwienia wymiany i transferu wiedzy i doświadczeń o najlepszych praktykach zrównoważonej mobilności uczelnianej
- działającej jako narzędzie umożliwiające redukcję emisji CO<sub>2</sub> wynikających z mobilności akademickiej
- służącej zmniejszeniu wpływu mobilności na zmiany klimatyczne, wspieraniu efektywności działań, konkurencyjności i integracji społecznej.



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# Projekt U-MOB LIFE (2)

- **Konsorcjum:**
  - ✓ **NOVOTEC (ES) – koordynator**
  - ✓ **Universitat Autònoma de Barcelona (ES)**
  - ✓ **Erasmus Universiteit Rotterdam (NL)**
  - ✓ **Università degli Studi di Bergamo (IT)**
  - ✓ **Politechnika Krakowska (PL)**
  - ✓ **Fundación Equipo Humano Foundation (ES)**
- **Czas trwania: Lipiec 2016 –Lipiec 2021**
- **Budżet: 1.329.427€**



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# Główne działania projektu U-MOB (1)

## ➤ Europejska Sieć Uczelni dla Zrównoważonej Mobilności

### 3 poziomy uczestnictwa; uczestnictwo bezpłatne:

- Poziom I – dostarczanie informacji o działaniach uczelni; możliwość promocji uczelni i udziału w wydarzeniach U-MOB;
- Poziom II – zgoda na realizację działań zarządzania mobilnością w przyszłości, bez określonego momentu ich realizacji; w stosunku do poziomu I – dodatkowo dostęp do wszystkich materiałów U-MOB;
- Poziom III – zgoda na realizację działań zarządzania mobilnością w trakcie U-MOB; w stosunku do poziomu II – wsparcie merytoryczne i techniczne w realizacji działań;



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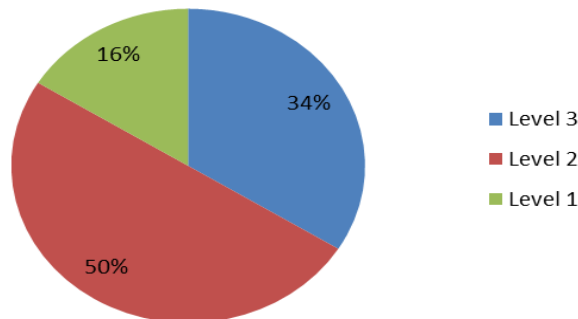
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# Główne działania projektu U-MOB (2)

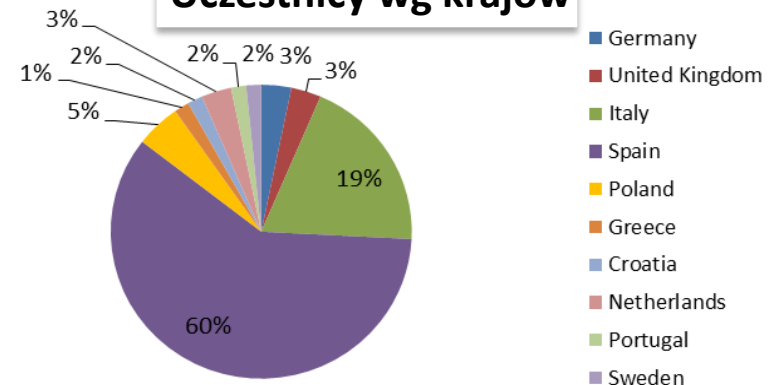
## ➤ Europejska Sieć Uczelni dla Zrównoważonej Mobilności

62 członków sieci (III 2019)

**Uczestnicy wg poziomów uczestnictwa**



**Uczestnicy wg krajów**



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# Główne działania projektu U-MOB (3)

## ➤ Katalog najlepszych praktyk w zakresie mobilności uczelnianej

- **12 linii strategicznych**

(1) Współpraca z interesariuszami;

(2) Uniwersytecka struktura mobilności;

(3) Ruch pieszy;

(4) Ruch rowerowy;

(5) Transport publiczny;

(6) Bardziej wydajne korzystanie z samochodów;

(7) Mobilność intermodalna;

(8) Programy nauczania;

(9) Czas pracy;

(10) Gromadzenie danych;

(11) Świadomość i partycypacja;

(12) Networking.



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## Mobility management education at the Cracow University of Technology 2010

**University**  
Cracow University of Technology  
**Country**  
Poland

**Location**  
Urban centre  
**Size**  
10,000-20,000  
**Mobility Organizational Structure**  
None

### Summary

Cracow University of Technology provides students of the Transportation and Land Use Specialties at the Civil Engineering Faculty with courses on mobility management. Students have the possibility of writing bachelor and master thesis on mobility management issues and they can join the Student Transport Group which as a collective, deals with transport related problems.

The Department of Transportation Systems together with the Student Transport Group organises workshops allowing students to work on real problems, such as the transport service during World Youth Day 2016 in Krakow or the reconstruction of the main streets in the city. Representatives of transport authorities, transport operators and other entities always take a part in these workshops, providing professional support and, at the same time, benefitting from exposure to students' innovative ideas.

### Aims

- Learning more about current urban transport problems and solutions to solve them.
- Gain experience and practice on solving real transport problems with the assistance of the transport professionals.

### Stakeholders

- Students of the Transportation and Land Use Specialties at the Civil Engineering Faculty.
- Municipalities, Transport Authorities and other transport related entities.

### Background

Not available.

### Description

Mobility management education at the Cracow University of Technology is carried out in a few different ways:

1. From 2010 Cracow University of Technology offers courses on mobility management addressed to students of Transportation (Urban Transport specialty) and from 2015 to students of Land Use at the Civil Engineering Faculty. The course programme consists of the following:

- Current transport related problems.
- Genesis of mobility management.
- Characteristics and examples of 'soft' measures.
- Characteristics and examples of 'hard' measures.
- Integration of transport and land use planning.
- Mobility plans for generators of traffic, such as work places, schools, shopping malls, etc.

## Curricular system · VIII



## Mobility management education at the Cracow University of Technology 2010

### Indicators

- Number of students who took a part in mobility management classes.
- Number of workshops organised.
- Number of students who took a part in workshops.
- Number of students of the Transport Students' Group.

### Results

- Since 2010 around 150 students of 'Transportation' and as of 2015 around 70 students of 'Land Use' have taken part in the mobility management classes.
- Up to the end of the 2016 4 thematic workshops were organised. In total approx. 200 students participated in all the workshops.
- The number of students in the Student Transport Group increases every year. The group had 64 members in the academic year 2016/2017 (48 of them are very active in all group activities).

### Expense

Expenses related to the workshop organization:

- Room rental.
- Accommodation (only if workshop is organised outside the city).
- Catering.
- Cost of materials: paper, maps, pencils etc.

### Financing

- Since the mobility management course is a part of the University educational programme all expenses of the classes are covered by the Ministry of Education.
- Expenses related to the workshops are partially covered by the University funds and partially, depending on the workshop theme, by the municipalities or transport authorities interested in workshop results.

### Lessons Learnt

- The best way of learning, raising awareness and increasing participation is not only through listening to teachers and watching their presentations but also working on real problems, e.g. conceptualise a mobility plan for a chosen traffic generator.
- The opportunity for students to find out how public participation works through inviting them to play the roles of different stakeholders in order to experience what is important for particular groups and how compromise can be reached.
- A successful education for transport professionals can be reached by providing a rich educational offer, consisting not only of obligatory courses, but also by offering interesting alternatives for free time activities, such as workshops or working in student groups, though these also require a great effort from the teachers.
- To see problem resolution through observing professionals is a great learning opportunity, that is why it is very important to provide students with the possibility to cooperate with experts on joint projects.
- Organising workshops over a few days outside the university, or even outside the city, has a very positive influence. After the whole day of working students can rest, play sports or talk with colleagues, which favours integration.

# Główne działania projektu U-MOB (5)

- Kurs szkoleniowy dla uczelnianych menedżerów mobilności
  - Standardy kwalifikacji zawodowych na stanowisko menedżera mobilności (wiedza, umiejętności, kompetencje społeczne)
  - Kurs szkoleniowy zawierający 12 modułów
  - Zakończenie kursu potwierdzone certyfikatem
  - Wewnętrzna i zewnętrzna walidacja kursu
  - Kurs dostępny na stronie projektu (EN, ES, IT, PL)



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# Główne działania projektu U-MOB (6)

## ➤ Materiały dla wzrostu świadomości transportowej

- Transport publiczny
- Ruch pieszy
- Ruch rowerowy
- Carpooling



"With the contribution of the LIFE financial instrument of the European Community"

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86% podróży samochodem na uczelnie stanowią przejazdy jednoosobowe

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# Główne działania projektu U-MOB (7)

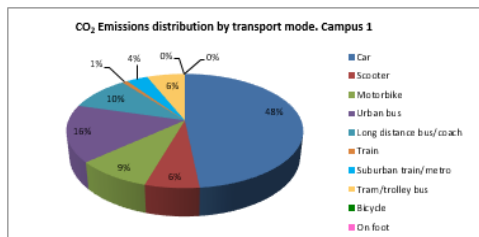
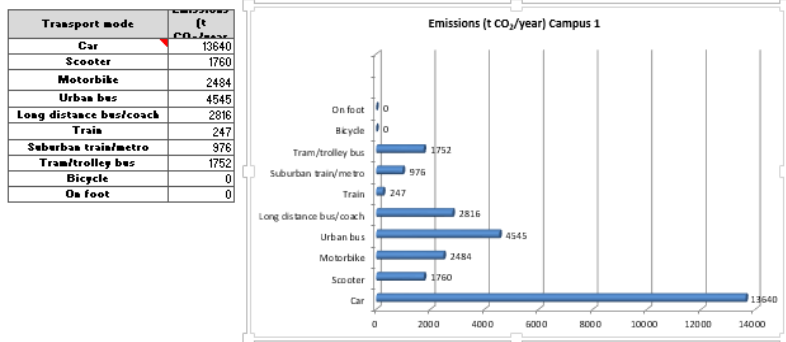
**Note 1:** Cells in green must be filled with specific university data  
**Note 2:** Cells in blue are default calculations. No data in required

**Note 3:** CO<sub>2</sub> Emission factor (GHI\* column): An estimated value has been proposed for each transport mode.

(See data sources and more details at 'CO<sub>2</sub> Emission factors for transport mode' table on the following excel dotsheet)  
 However, if any other specific emission factors want to be considered (i.e. based on your national guidelines), these can be included in this column)

## RESULTS CHARTS

The following charts show a summary of calculated results:



↳ If % of users (distribution given by your survey sample - See (1)) is multiplied by your university population, then the total user numbers can be calculated by each transport mode (column E)

### Average distance fjourneys

Calculate the average distance per journey (in Km) from home to university (in Km):

**1<sup>st</sup>:** Identify distribution (%) of each distance interval  
 Question: What is the average distance between your home (origin) and destined campus?\*

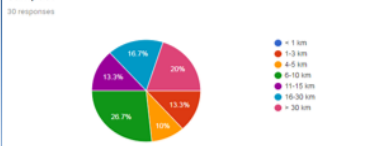
**2<sup>nd</sup>:** In order to calculate the average distance (km), a weighted average can be considered taking into account the % of each distance interval (see 1<sup>st</sup> step)

$$\text{average distance/journey (km)} = \frac{[(\text{distance interval 1 (km)} \times \% \text{ for interval 1}) + (\text{distance interval 2 (km)} \times \% \text{ for interval 2}) + \dots + (\text{distance interval n (km)} \times \% \text{ for interval n})]}{100}$$

For each distance range, take the average value. In case of a limit value: < 1km => take 0,5 Km; > 30 Km => take 50 Km

↳ For example...

What is the average distance between your home (origin) and destined campus?\*



INTERVAL	Distance value	%
interval 1	<1 km	0
interval 2	1-3 km	13.3
interval 3	4-5 km	10
interval 4	6-10 km	26.7
interval 5	11-15 km	13.3
interval 6	16-30km	16.7
interval 7	>30 km	20

<b>Average distance</b>	$\frac{[(0.5 \times 0) + (2 \times 13.3) + (4.5 \times 10) + (8 \times 26.7) + (13 \times 13.3) + (23 \times 16.7) + (50 \times 20)]}{100}$
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### Average return journeys

Calculate the average number of return journeys (per day) to the university

**1<sup>st</sup>:** Identify distribution (%) of each number of return journeys per day

↳ Where can you find this data? On your mobility survey at section MOBILITY HABITS → Question: "No. Of return journeys you make to university per day"

**2<sup>nd</sup>:** In order to calculate the average return journeys (No.), a weighted average can be considered taking into account the % of each number of return journeys (see previous step)

$$\text{average number of return journeys} = \frac{[(\text{No return journeys 1} \times \% \text{ for this No.}) + (\text{No return journeys 2} \times \% \text{ for this No.}) + \dots + (\text{No return journeys n} \times \% \text{ for this No.})]}{100}$$

↳ For example...

No. of return journeys you make to university per day:



No return journeys	%
No return journeys 1	33.3
No return journeys 2	50
No return journeys 3	16.7

<b>Average return journeys/day</b>	$\frac{[(1 \times 33.3) + (2 \times 50) + (3 \times 16.7)]}{100}$
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↳ To determine Average Km made by users (cell F) , 'Average distance fjourney (3)' must be multiplied by twice the 'Average return journeys' (4)

$$\text{Total Average distance (Km/day)} = (\text{Average journey distance between home to university}) \times (2 \times \text{Average No. return journeys per day})$$

**Note:** You multiply twice the average number of journeys a day, as they are return journeys

### Average car occupancy



# Główne działania projektu U-MOB (8)

## ➤ Wsparcie techniczne uczelni

- Wsparcie oferowane uczelniom, które podpisały III poziom uczestnictwa sieci
- Wsparcie na etapie diagnozy stanu istniejącego, formułowania działań oraz oceny ich efektywności
- Różny poziom zaawansowania uczelni → uczelnie z dużym doświadczeniem w zarządzaniu mobilnością i takie, które dopiero zaczynają



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# Główne działania projektu U-MOB (9)

## ➤ Konferencje projektu U-MOB

- Barcelona, marzec 2017
- Kraków, 14-15 marca 2019 (Politechnika Krakowska)



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# Główne działania projektu U-MOB (10)

## ➤ Warsztaty projektu U-MOB

- Zrealizowane → warsztaty na temat realizacji uczelnianych planów mobilności (Warszawa, 29 listopada 2018 r.)
- Planowane → warsztaty na temat współpracy uczelni z interesariuszami, warsztaty o uczelnianych planach mobilności



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# Podsumowanie

- Konieczność zapewnienia uczelniom możliwości uczenia się od siebie nawzajem oraz wsparcia w realizacji działań → projekt U-MOB oferuje to wsparcie.
- Zmiany w zakresie mobilności uczelnianej mogą przyczynić się do realizacji celów polityki klimatycznej, ale wysiłki muszą być podejmowane przez dużą liczbę uczelni → największym wyzwaniem projektu U-MOB jest zachęcenie uczelni do podejmowania tego typu inicjatyw.



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# Dziękuję za uwagę!

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