Overview & application examples in Ukraine and Colombia
Berlin, 25.09.2018, Transport & Climate Change Week

modalyzer – a smartphone-based mobility diary
Typical questions of traffic planners

„How do people use public and private transport options?

How do they combine different modes of transport?

Do new mobility services substitute/cannibalize public transport?

How does usage alter over time [day, week, year, decades]?

Which role does urban cycling play and how to support this mean of transport in future?
### Our clients
- Ministries & councils
- Operators & companies
- Science & research
- Urban & transport planning

### Challenges
- Growing City
- Raising traffic flows
- Reduction of emissions
- Strengthen of the public transport system
- Demand for alternative transportation (mobility and logistics)
- Identification of complex pathway patterns (mobility patterns)
- Increasing multi-and intermodal mobility

### Goals
- New or update of an existing mobility concept for the city or an area
- Improvement of public transport
- Need for specific measurements e.g. reduction of dangerous or crowded zones
- Implementation of a new system e.g. bikesharing, carsharing, charging infrastructure
- Better connection of transport modes to develop a mobility network
modalyzer is a smartphone app with automatic mode recognition

- **Tracking**
  - Automatic recognition globally
  - Automatic recognition in selected markets
  - Manual editing globally

- **Confirming/Editing**

- **Statistics**
Data-processing: From input to knowledge
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Our product

- Tracking app implementation
  - Android & iOS
  - Participatory approach
  - Large n dataset
  - Available in English, German, Spanish & Ukrainian
- Proven track record
  - > 14,000 users
  - > 75,000 user days
  - > 3,500,000 km

What sets us apart

- Full service package from field experts
- "High level of automation" and rapid delivery of results
- The possibility of long-term surveys with completely new insights into the (multimodal) mobility behaviour
- Automatic mode recognition for up to 9 transportation modes (15 in total)
- Focus on inter- & multimodal mobility detection
- Data privacy
- Mobility knowledge
Some data impressions, globally applicable
International references: Proven track-record

**Colombia**
- City: Ibagué
- Duration: 6 weeks (2017)
- Users: > 400
- Data: 23,500 km
- Goal: data-driven recommendations for the creation of local *Mobility Masterplan*

**Ukraine**
- Cities: Zhytomyr, Vinnytsia, Chernivtsi, Poltava
- Duration: 5 months (2017)
- Users: > 1,100
- Data: 235,000 km
- Goal: modal split study in four Ukrainian cities; supporting the implementation of an *Integrated Urban Masterplan*

**Canada**
- Region: Greater Toronto
- Duration: 2 months (2017)
- Users: ongoing, > 900 (only Android)
- Data: 270,000 km
- Goal: Supplementing the existing household travel survey
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<th>Preparation</th>
<th>Collection</th>
<th>Analysis</th>
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<td>• Adaptation to the local situation:</td>
<td>• 45-day collection phase</td>
<td>• Data-analysis and comparison with Masterplan</td>
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<td>• Integration of Open Street Data, Transport modes</td>
<td>• Steering: students, push up news, videoclips and manuals, Q&amp;A</td>
<td>• Creation of Dashboard and Report</td>
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<td>• Recruitment:</td>
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<td>• Poster, flyers, incentives, students</td>
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Motorcycle tracks in Ibague
12 Hot spots of bicycle usage
High risk zones for pedestrians

Where high walking density and high car speed correlate
Impact monitoring for measures taken

By no. of trips (share in %)
- Walk: 32.6%
- Individual motorized transport: 40.6%
- Public transport: 28.3%
- Bicycle: 7.1%

By no. of tracks (share in %)
- Walk: 17%
- Individual motorized transport: 50.5%
- Public transport: 8.2%
- Bicycle: 4.3%

By travelled distances (share in %)
- Walk: 8.4%
- Individual motorized transport: 62.4%
- Public transport: 20.8%
Use case: Ukraine

Preparation
- Translation
- Adaptation to the local situation:
  - Integration of Open Street Data, Marshrutka, Trolleybus

Collection
- 5 months collection phase
- Manifold recruitment options

Analysis
- Data-analysis
- Creation of Dashboard and Report
Recruitment in all four cities

- Mailing 307 persons, flyer distribution starts
- 359 mails
- Validation reminder t1
- 617 mails
- Reminder to all participants t2 start
- 313 mails to Ukrainian users + reminder final validation and last days (1,126)
Temporal distribution of all transport modes in Zhytomyr
Public transport: average speed in Vinnytsia
Spatial perspective on morning and evening rush hour in Chernivtsi

Number of trips inside and outside the city center

Legend

- Morning Rush hour
  - 117
  - 141
  - 202

- Evening Rush hour
  - 377
  - 45

- 446
- 374
Do we partner with local authorities?
YES! Substantial when it comes to recruitment, incentives and focussing the analysis

How does the back-end work?
Database servers in Europe; in-house development; automatic mode recognition based on algorithm

Main benefits in comparison to traditional research
Less manpower needed, cheaper, very deep insights on mobility characteristics (exact route, travel speed etc.)

Main advantage for policy makers/transport authorities
Full service package from field experts; we can give customized recommendations based on big data sets.

Advantages
Fast, cheap for the customer, free of charge for the app user, no restriction on user numbers and most important: very detailed data

Challenges
Representativity and smartphone ownership, path-dependency

Lessons learned
Incentives matter a lot, local partners important for recruitment, best impact on policy planning if questions arise before the analysis
We are happy to help!

Enrico Howe
+49(0)30 23 88 84-211
enrico.howe@innoz.de

Marc Schelewsky
+49(0)30 23 88 84-xxx
marc.schelewsky@innoz.de

Innovationszentrum für Mobilität und gesellschaftlichen Wandel (InnoZ) GmbH
EUREF-Campus 16
10829 Berlin, Germany

www.modalyzer.com
www.innoz.de

Geschäftsführung:
Dr. Matthias Borrmann, Martin Masch
Gerichtsstand:
AG Berlin Charlottenburg