InGRID
Supporting expertise in inclusive growth

www.inclusivegrowth.eu

Deliverable 1.5

UPGRADED AND
EXTENDE IPOLIS WEB INTERFACE

András Gábos

February 2020

Abstract

This report constitutes Deliverable 1.5, for Work Package 1 of the InGRID-2 project.The aim of this paper is to provide a short overview on the work on the extension and the upgraded of the IPOLIS (Integrated Poverty and Living Conditions Indicator System) visualisation tool in the second InGRD-project. In its present status, IPOLIS contains data on children, young people and older people. As an undergoing work, we are extending it to include disabled people and migrants (including people with migration background, too). The inclusion of the Roma and institutionalised people are plans in the longer run. In the paper we provide a short overview of IPOLIS, followed by a presentation of the existing visualisation tool. Further, we describe the challenges related to the visualisation tool in upgrading and extending IPOLIS.

Contents

1. Aim and scope

The aim of this paper is to provide a short overview on the work on the extension and the upgraded of the IPOLIS (Integrated Poverty and Living Conditions Indicator System) visualisation tool in the second InGRID-project. In an earlier deliverable of the InGRID-2 project (D8.1., Gábos & Kopasz, 2018), we provided a revision of the original conceptual framework of IPOLIS worked out under the first phase of the project (Gábos & Kopasz, 2014) in order to include further vulnerable groups. In its present status, IPOLIS contains data on children, young people and older people. As an undergoing work, we are extending it to include disabled people and migrants (including people with migration background, too). The inclusion of the Roma and institutionalised people are plans in the longer run.

> **About InGRID-2**
>
> InGRID is a network of distributed, but integrating European research infrastructures. InGRID research infrastructures serve the social sciences community that wants to make an evidence-based contribution to a European policy strategy of inclusive growth. This research community focuses on social in/exclusion, vulnerability-at-work and related social and labour market policies from a European comparative perspective.
>
> For the period 2017-2021, the infrastructure has received funding for a 4-year project by the European H2020-programme: the InGRID-2 'Integrating Research Infrastructures for European expertise on Inclusive Growth from data to policy' project.
>
> Within InGRID-2, joint research is organised with the aim to integrate, harmonise and optimise existing tools and methods within the different research domains and to create new tools to fill existing data gaps. A better measurement and understanding of vulnerable groups and related state policies are expected research impacts.

The paper is organised as follows. First, a short overview of IPOLIS is provided, followed by a presentation of the existing visualisation tool. Finally, we describe the challenges related to the visualisation tool in upgrading and extending IPOLIS.

2. A short overview of IPOLIS

IPOLIS was the core outcome of the work package on innovative tools and protocols for poverty and living conditions research of the first InGRID project. Still, within InGRID-2, IPOLIS is in the focus of research activities under the 'Poverty and living conditions' pillar. The extension and further development of IPOLIS is being carried out within the frame of WP8 'Data harmonisation and integration regarding poverty and living conditions'.

IPOLIS fits within the frame defined by the overall objectives of the project according to several respects.

- IPOLIS is related to all three focus areas of the project: (i) integrates harmonised data; (ii) links data, specifically quality of life outcomes with policies and (iii) promotes indicator development.
- Material living conditions and poverty and social exclusion in particular (also as defined by the Europe 2020 strategy target), stays at the core of the integrated indicator system.
- IPOLIS is conceived to be an innovative tool by including interactive data visualisation.
- It will allow not only researchers, but also the broader stakeholder community to follow the situation of most vulnerable groups.
- It builds mainly on the European Statistical System, while other data sources are also considered as inputs.

Here, we recall that the aim of the work package within the first InGRID project (WP20, of which the main aim and outcome was to set up IPOLIS) was to build a platform to improve infrastructure for monitoring, analysing and evaluating the situation of the most vulnerable groups (Gábos & Kopasz, 2014). Nine specific vulnerable groups were identified at the beginning of our work in InGRID:

1. easy-to-reach groups: (a) children (0-17 years), (b) young people (15-30 years) and (c) older people (65+ years);
2. hard-to-identify groups: (d) migrants and people with migrant background, (e) Roma, (f) travellers;
3. hard-to-reach groups: (g) institutionalised people, (h) undocumented immigrants and (i) homeless people.

In the first phase (under InGRID, 2013-2017), the integrated poverty and living conditions indicator system (IPOLIS) was produced for the easy-to-reach, age-specific vulnerable groups: children, young people and older people. The selection of these three vulnerable social groups, already performed in the project proposal phase, was supported by the following considerations:

- the risk of poverty and of social exclusion is higher than population average for children, young adults and older people in almost all countries, when examined by age (e.g. Eurostat, 2010);
- age easily identifies groups both in administrative and survey type data collections, which is not the case with other attributes;
- important prior efforts to monitor poverty, living conditions, quality of life and well-being exist for these age groups, especially for children.

IPOLIS was delivered to the European Commission in February 2016, while the data visualisation tool was launched in February 2017. The set up and launch of IPOLIS were built on the following deliverables:

- Gábos, A., & Kopasz, M. (2014). Conceptual report for the integrated poverty and living conditions indicator system (IPOLIS);
- Gábos, A., & Kopasz, M. (2015). Methodological and data infrastructure report on children;

- Schäfer, A., Zentarra, A., & Groh-Samberg, O. (2015). Methodological and data infrastructure report on young people;
- Kopasz, M. (2015). Methodological and data infrastructure report on the elderly;
- Limani, D. (2017). Methodological and data infrastructure report on the policy and context indicators.

We planned from the start of the project to extend the indicator system database with additional vulnerable groups, once they can be coherently identified in a large data infrastructure and robust indicators can be produced.[1] Still within the InGRID project, two reports were produced to drive our thinking for the extension of IPOLIS to include additional groups:
- Bernát, A. and V. Messing (2016). Methodological and data infrastructure report on the Roma population in the EU;
- Schepers, W., G. Juchtmans and I. Nicaise (2017). Reaching out hard-to-survey groups among the poor. Survey protocols, statistical issues and research design.

Accordingly, in InGRID-2 we aimed to continue to develop the IPOLIS database to better facilitate new research on poverty, living conditions and social policy, as well as to extend it with additional vulnerable groups. Four groups were considered:
1. Disabled people.
2. Migrant people and people with migrant background.
3. Roma people.
4. People living in institutions.

After careful evaluation of the underlying data infrastructure (see Gábos and Kopasz 2018, also involving knowledge from the participants of the expert workshop on 'Methods and data infrastructure to measure the quality of life of various vulnerable groups: extending IPOLIS', held on 25-27 April 2018 in Budapest), the selection of disabled people and migrants has been decided for the extension of IPOLIS under the InGRID-2 project. While the data infrastructure on the Roma is improving (see Bernát & Messing, 2016), it cannot yet provide statistically robust and timely data for most of the countries where the share of Roma population is considerably high. As the institutionalised population is concerned, the data infrastructure is poorly developed and far from being able to provide indicators for IPOLIS or for any similar initiative. A methodological and data infrastructure report on these four vulnerable groups will be prepared under InGRID-2.

The overall aim of IPOLIS is not affected by its extension under InGRID-2: to improve infrastructure for analysing and monitoring the situation of most vulnerable groups. It is conceived to serve as a resource for various user groups (researchers, policy makers at different levels, NGO experts, journalists, students, etc.) to
- monitor the situation of children, young people and older people in the fields of poverty, living conditions and quality of life;
- explore relationships between indicators and to detect cross-country patterns according to selected measures.

---

[1] This process within Eurostat is in a very advanced phase in the case of disabled people. For details, see Pascal Wolff's presentation at the Budapest workshop http://inclusivegrowth.be/events/call3/programme-and-presentations.

3. The actual data visualisation tool attached to IPOLIS

While data and indicators in the field of poverty, living conditions and quality of life are widely available, IPOLIS provides at the same time an *integrated, multidimensional* frame for analyses and interpretation, a selection of most relevant measures and a visualisation tool to explore the database in a flexible, user-oriented way. The easy-to-handle and flexible visualisation tool helps users to explore the database and to detect cross-country and cross-time patterns and correlations.

The data visualisation tool attached to the IPOLIS is embedded in an online platform, having a mutual direct linkage with the InGRID project website. The online platform has a simple design and structure, focusing on the online tool that allows visual analytics in IPOLIS. Users can easily navigate between vulnerable group modules and find information about both the project and IPOLIS, including useful links to outputs and events related to them.

The actual version of the IPOLIS data visualisation tool provides users with the following options to explore the indicator database:
- cross-country comparative analysis (column charts, spider web charts);
- time-series analysis (line charts);
- bivariate correlations (scatterplots);
- paired cross-module analysis.

In addition, several in-built features assist users to prepare visual outputs that are most convenient for their purposes. The most important features are as follows:
- tutorial;
- indicator selector, including three levels: domain, indicator and breakdown;
- country selector, including options for individual country and group selection;
- year selector;
- scale fixing option;
- value displaying option;
- benchmark selector (EU-28, EU-27, EU-15, EU-12, overall/adult population where available);
- ranking and highlighting;
- direct download options as either .cvs files or images;
- share through the social media (Facebook, Twitter).

Some features are selective for specific analytical options. The public version of the IPOLIS platform was launched in February 2017.

4. Challenges for the visualisation tool and the web interface in upgrading and expanding IPOLIS

In this section, we shortly overview the most important challenges we face concerning the online platform and visualisation tool when upgrading and expanding IPOLIS towards additional vulnerable groups.

How does IPOLIS handle different vulnerable groups within a single frame?

Recalling the main dilemmas we faced when setting up IPOLIS (Gábos & Kopasz, 2014), we highlight here one of them, which strongly affects the extension of the indicator database with further vulnerable groups. Our desk research (Gábos & Kopasz, 2018) showed that with very few exceptions, prior indicator system initiatives relate either to one specific vulnerable group (e.g. children, older people, etc.) or to the population as a whole. The challenge we face also at this stage was to include new groups in the indicator system structure in a way that IPOLIS can handle them within a single frame. Therefore, we have to

- ensure the coherence of the indicator system structure at the level of domains, components and subcomponents;
- set up direct linkages at indicator level between groups to allow for a comparative assessment of their relative positions – primarily according to the dimensions of poverty and material living conditions;
- consider that each stage of life cycle has its own characteristics and thus we need to pay special attention to age-group specific problems.

Figure 1 shows in a simplified way how the linkages between vulnerable groups like children, young people and older people were established in the first phase. Each portfolio of indicators belonging to a specific vulnerable group is represented in the Figure by a differently coloured vertical rectangle. A set of indicators, referred to here as overarching indicators, characterises all three groups. These measures should have the same definition, preferably should be produced on the same data source and based on the same methodology. The application of these criteria was facilitated by the fact that vulnerable groups in the first version of IPOLIS were defined by age, but – depending on identification and data robustness – might be extended to include both disabled people and migrants and people with migrant background as well. Household level indicators, like household income and material living conditions, meet these criteria. On the contrary, perceived general health or physical activity is also be relevant indicators for all three age groups, but there is no single data source to produce them. In addition, some of the potential indicators can be relevant for not only one, but two vulnerable groups. For example, this is the case with risk behaviour indicators, which are relevant for both children and young people, or with employment rate which is an important indicator for both young and older people.

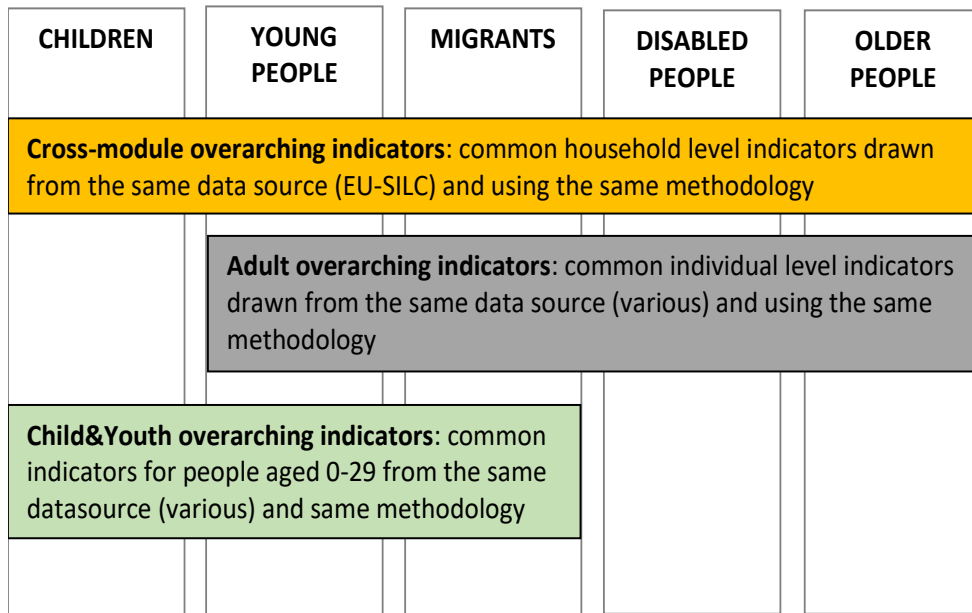**Figure 1. Linkages across vulnerable groups in the first version of IPOLIS**
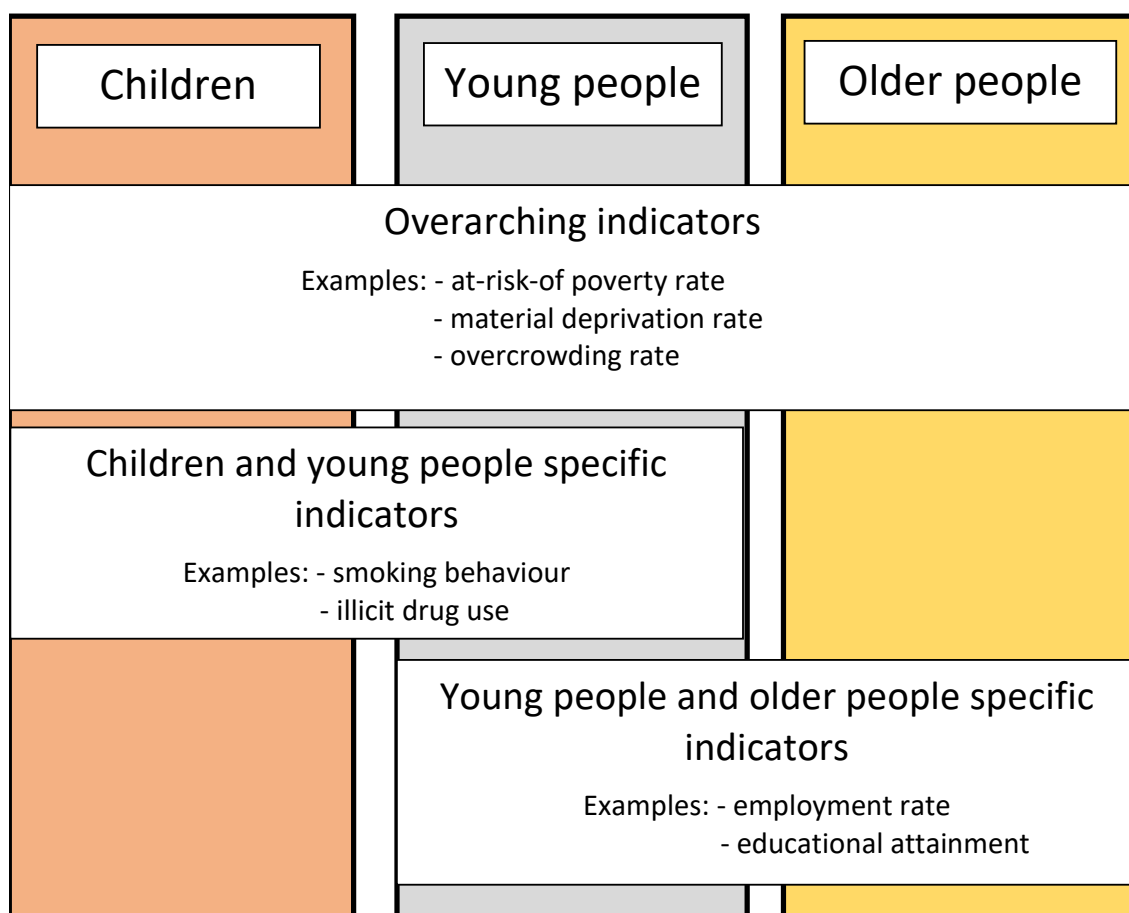
Figure 2 includes two additional vulnerable groups, according to the objectives of the InGRID-2 project related to the extension of IPOLIS, and also informs about the linkages across the five groups. As previously discussed, mainly household level indicators are suitable to make this link across all groups, once the identification variable is present. This identification variable is easily available on each dataset for vulnerable groups defined by age (as children, young people or older people in the first phase of the project), but it may be subject of considerations and of a more complex selection process for other groups, like disabled people or migrants (see in details in the forthcoming methodological and data infrastructure report on additional vulnerable groups). Once these identifiers are at our hands, indicators from the same data source and using the same methodology can be produced to monitor the quality of life of various vulnerable groups also in a comparative way. The groups of overarching indicators in this new structure will be similar to those in the present version:

- overarching indicators: embrace all the five modules and include household level indicators, like household income and material living conditions;
- adult overarching indicators: involve all modules but children, and include individual level indicators on several aspects of quality of life;
- child and youth overarching indicators: some of the individual level indicators at young age can be relevant for not only one, but three vulnerable groups: children, young people and migrants. These indicators include, for example, risk behaviours, educational outcomes, social relations.

Figure 2.   Linkages across vulnerable groups in the extended IPOLIS

CHILDREN	YOUNG PEOPLE	MIGRANTS	DISABLED PEOPLE	OLDER PEOPLE

Cross-module overarching indicators: common household level indicators drawn from the same data source (EU-SILC) and using the same methodology

Adult overarching indicators: common individual level indicators drawn from the same data source (various) and using the same methodology

Child&Youth overarching indicators: common indicators for people aged 0-29 from the same datasource (various) and same methodology

Source Based on Gábos and Kopasz (2014: Fig. 1)

What types of analysis will be available in the extended IPOLIS data visualisation tool?

The present version of the IPOLIS data visualisation tool includes three analytical options (cross-country comparison, time-series analysis and bivariate scatterplots) and two cross-module analysis opportunity for each module. Considering the extension of IPOLIS towards disabled people and migrants, Figure 3 presents the new design of the analytical features in the data visualisation tool. While all the three analytical options (cross-country comparison, time series analysis and bivariate scatterplots) remain, cross-modules options will be set in accordance with the incorporations of the new modules and the groups of overarching indicators previously presented in Figure 2. This analytical framework is intended to provide the largest flexibility to all users to explore the underlying database.

Figure 3.   Analytical features across vulnerable group modules

CHILDREN	YOUNG PEOPLE	MIGRANTS	DISABLED PEOPLE	ELDERLY PEOPLE
Cross-country analysis	Cross-country analysis	Cross-country analysis	Cross-country analysis	Cross-country analysis
Time series analysis	Time series analysis	Time series analysis	Time series analysis	Time series analysis
Bivariate scatterplots	Bivariate scatterplots	Bivariate scatterplots	Bivariate scatterplots	Bivariate scatterplots
Cross-module analysis	Cross-module analysis	Cross-module analysis	Cross-module analysis	Cross-module analysis
Child & Youth analysis	Child & Youth analysis	Child & Youth analysis	Youth & Adult analysis	Youth & Adult analysis
	Youth & Adult analysis	Youth & Adult analysis		

How will policy and context indicators be adjusted to the extended IPOLIS?

A specific project output (Eneroth et al., 2019) was dedicated to revise and enrich the existing set of policy indicators. The aim of this task was also to tailor the set of indicators that can help the users to assess cross-country variation in quality of life outcomes against policy and context information to the vulnerable group structure of IPOLIS.

What further changes to the IPOLIS web interface are planned?

While its main structure and layout will remain untouched, the existing web interface is being improved. Besides the main structural changes related to the inclusion of disabled people and migrants in addition to children, young people and older people, the following steps are aimed till the end of the project concerning the IPOLIS website.

- The website (including the upper menu and links in the central panel to the various vulnerable group visualisations) will be re-designed in accordance with the inclusion of the additional vulnerable groups.

- While publishing new information related to the additional vulnerable groups, we will also revise and update all the other information available at present on the website related to meta-information on indicators, data sources and other information for users.

- As a background activity, the update of the data will become easier by improving and simplifying database management.

References

Bernát, A., & Messing, V. (2016). Methodological and data infrastructure report on Roma population in the EU. InGRID Working Paper MS20.3, https://inclusivegrowth.be/downloads/output/ms20-3-roma-eind.pdf

Eneroth, M., Gábos, A., Kneeshaw, J., Marchal, S., Nelson, K., & Nieuwenhuis, R. (2019). Towards an IPOLIS social policy model. Deliverable 8.2. Leuven: InGRID-2 project 730998.

Gábos, A., & Kopasz, M. (2014). *Concept paper for an Integrated Poverty and Living Conditions Indicator System (IPOLIS) database* (Deliverable 20.1). Leuven: InGRID project 730998.

Gábos, A., & Kopasz, M. (2018). *Concept paper on the extension and further development of IPOLIS* (Deliverable 8.1), Leuven: InGRID-2 project 730998 – H2020.

Gábos, A., & Kopasz, M. (2015). *Methodological and data infrastructure report on children*. Leuven: InGRID project, MS88.

Kopasz, M. (2015). *Methodological and data infrastructure report for the elderly* (Working paper). Leuven: InGRID project, MS20.8.

Limani, D. (2017). *Methodological and data infrastructure report for the policy and context indicators* (Working paper). Leuven: InGRID project.

Schäfer, A., Zentarra, A. & Groh-Samberg, O. (2015). *Methodological and data infrastructure report on youth*, Leuven: InGRID project. M20.7.

Schepers, W., Juchtmans, G. & Nicaise, I. (2017). *Reaching out hard-to-survey groups among the poor. Survey protocols, statistical issues and research design*. Leuven: InGRID project.

InGRID-2
Integrating Research Infrastructure for European expertise on Inclusive Growth from data to policy

Referring to the increasingly challenging EU2020-ambitions of Inclusive Growth, the objectives of the InGRID-2 project are to advance the integration and innovation of distributed social sciences research infrastructures (RI) on 'poverty, living conditions and social policies' as well as on 'working conditions, vulnerability and labour policies'. InGRID-2 will extend transnational on-site and virtual access, organise mutual learning and discussions of innovations, and improve data services and facilities of comparative research. The focus areas are (a) integrated and harmonised data, (b) links between policy and practice, and (c) indicator-building tools.

Lead users are social scientist involved in comparative research to provide new evidence for European policy innovations. Key science actors and their stakeholders are coupled in the consortium to provide expert services to users of comparative research infrastructures by investing in collaborative efforts to better integrate microdata, identify new ways of collecting data, establish and improve harmonised classification tools, extend available policy databases, optimise statistical quality, and set-up micro-simulation environments and indicator-building tools as important means of valorisation. Helping scientists to enhance their expertise from data to policy is the advanced mission of InGRID-2. A new research portal will be the gateway to this European science infrastructure.

This project is supported by the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 730998.

More detailed information is available on the website: www.inclusivegrowth.eu

Co-ordinator
Monique Ramioul

KU LEUVEN **HIVA**

RESEARCH INSTITUTE FOR WORK AND SOCIETY

Partners

TÁRKI Social Research Institute Inc. (HU)
Amsterdam Institute for Advanced Labour Studies – AIAS, University of Amsterdam (NL)
Swedish Institute for Social Research - SOFI, Stockholm University (SE)
Economic and Social Statistics Department, Trier University (DE)
Centre for Demographic Studies – CED, University Autonoma of Barcelona (ES)
Luxembourg Institute of Socio-Economic Research – LISER (LU)
Herman Deleeck Centre for Social Policy – CSB, University of Antwerp (BE)
Institute for Social and Economic Research - ISER, University of Essex (UK)
German Institute for Economic Research – DIW (DE)
Centre for Employment and Work Studies – CEET, National Conservatory of Arts and Crafts (FR)
Centre for European Policy Studies – CEPS (BE)
Department of Economics and Management, University of Pisa (IT)
Department of Social Statistics and Demography – SOTON, University of Southampton (UK)
Luxembourg Income Study – LIS, asbl (LU)
School of Social Sciences, University of Manchester (UK)
Central European Labour Studies Institute – CELSI (SK)
Panteion University of Social and Political Sciences (GR)
Central Institute for Labour Protection – CIOP, National Research Institute (PL)

InGRID-2

Integrating Research Infrastructure for European expertise on Inclusive Growth from data to policy Contract N° 730998

For further information about the InGRID-2 project, please contact
inclusive.growth@kuleuven.be
www.inclusivegrowth.eu
p/a HIVA – Research Institute for Work and Society
Parkstraat 47 box 5300
3000 Leuven
Belgium