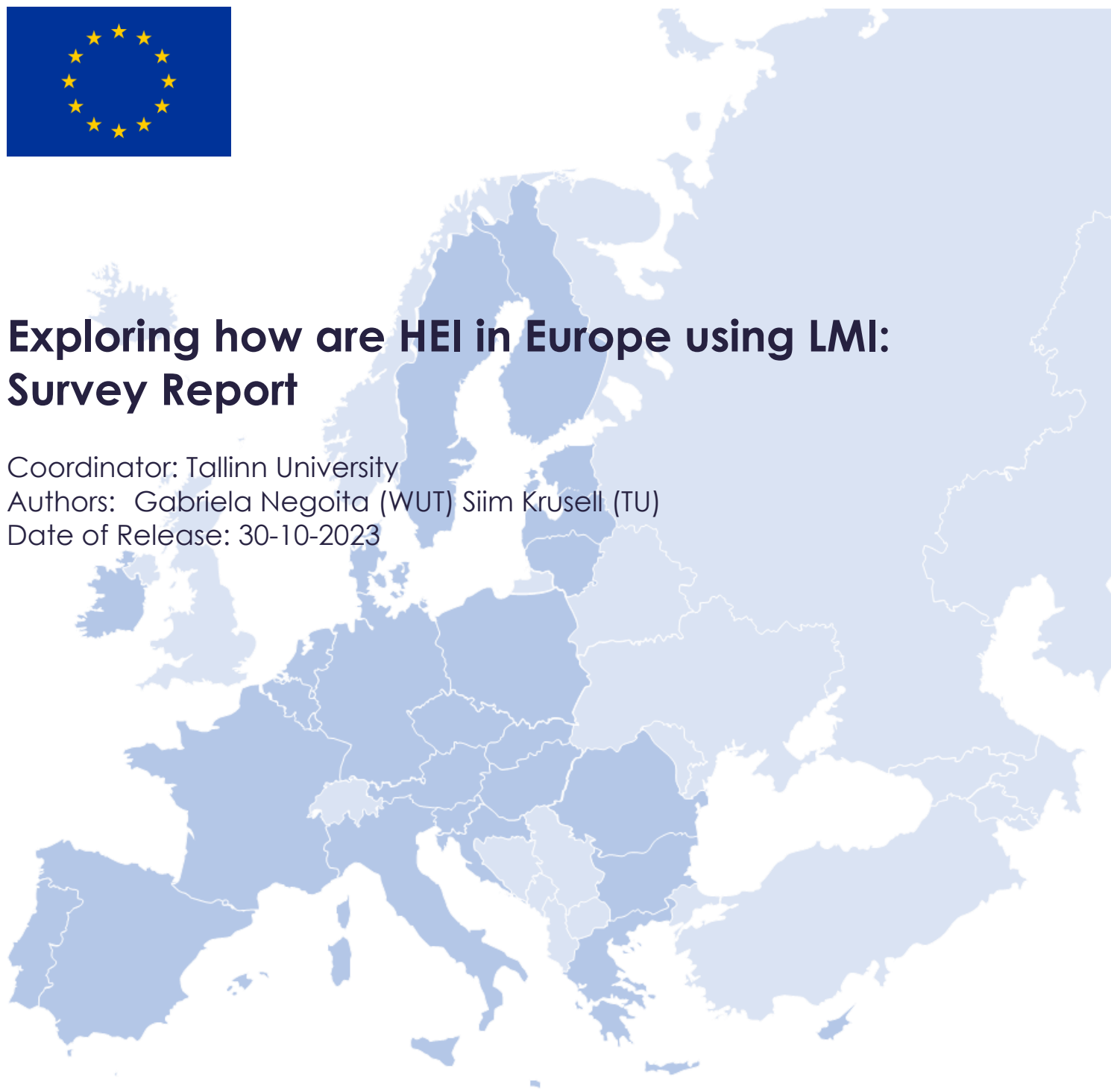# Exploring how are HEI in Europe using LMI: Survey Report

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LMI-EUniv Erasmus+ KA2 Project 2021-1-RO01-KA220-HED-000032249

TABLE OF CONTENTS

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The Report is based on information from the survey of Exploring how HEI in Europe are using LMI within 'Innovating the use of Labour Market Intelligence within European Universities - LMI-EUniv' project, available on www.lmi-euniv.eu.

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EXECUTIVE SUMMARY

This report explored how universities in Europe are using Labour Market Intelligence (LMI) to match the curricular and extracurricular elements they deliver to the needs of their local and regional labour markets. Essentially, we looked at how universities understand what an ever-changing labour market needs now and will need in the future, and how they are responding.

The report is based on the data collected through an online survey conducted in 19 European countries. This survey is the first of its kind focused on LMI usage in universities across Europe and is in itself a considerable innovation.

Good practices in the use of LMI in higher education were found in almost all the countries studied, but the most comprehensive approaches (in terms of type, source and kind of LMI) are found in Austria, Estonia, Greece, Italy, Poland and Spain.

In developing the finding instrument and conducting the research - following desk research on the topic - we took into account that European universities use a wide range of sources, types and content of LMI and for different reasons, both in terms of curriculum development and other aspects of learning to meet labour market needs.

- The most common types of LMI used for curriculum development in European countries were 'Qualitative surveys' and 'National surveys', followed in order by 'Administrative records'.

- The main LMI sources used by Higher Education Institutions (HEIs) were 'Own surveys in university', 'National Institute of Statistics', 'Academic and research institutes'.

- In terms of LMI content 'Skills/Qualifications needs, gaps and shortages today and in the future', 'Occupational/field of activity structure and changes', 'Specific information about occupations/jobs (working conditions, average salary, etc.)' was used the most.

- LMI were commonly used for 'Career guidance', 'Quality assurance of curricula and study content', 'Matching the university skills supply with current and future labour market skills demand and for Adjust curricula'.

- Even though the main purposes for using LMI were related to curricula adjustment and development ('Making changes to the learning content in courses in the curricula', Changing the relative importance of courses in the curricula, 'Adding or removing courses in the curricula'), there other purposes appear to be important as well like 'Additional training for lecturers', ' 'Employing new lecturers', 'Closer cooperation with other universities', 'Closer cooperation with employers' or 'Making changes in the student admissions process'.

- However, the most significant barriers to the use of LMI were identified as time and money: 'Lack of time for analyzing new data' and 'Lack of financial resources', 'Lack of time for analyzing new topics'. Moreover, the lack of knowledge about LMI sources, qualified staff and administrative support also hinders the process of LMI use in European higher education institutions.

For most respondents, the use of LMI in the development of curricula results is quite important, and the average rating given was 6.7 points on a ten-point scale. Nevertheless, many of those surveyed reported that there was no or rarely evaluation of the impact of LMI implementation on curriculum development. Nevertheless, where evaluation takes place the implementation of LMI on curriculum development in their department/university is evaluated by 'Heads of the university or institute' and 'Lecturers and professors', and also by 'Members of councils formed at the university or institute'.

INTRODUCTION

Our innovating LMI-EUniv project assess the use of Labour Market Intelligence within European Universities, is funded under the Erasmus+ programme's Key Action 2. It aims to explore the utilisation of Labour Market Intelligence (LMI) within European Universities. The project is developed by the West University of Timisoara in partnership with the University of Milano-Bicocca, the University of Tallinn, Prospektiker, and the Luxembourg Institute of Socio-Economic Research. The project focuses on enhancing the integration of Labor Market Intelligence into the planning and delivery of educational programs offered by European Universities.

The LMI-EUniv project has three main objectives: (1) to map essential LMI sources at national level, (2) to explore how Higher Education Institutions (HEIs) in Europe are using LMI, and (3) to produce a training course, guide and a Labour Market Intelligence Hub.

We define LMI as both information and intelligence in the labour market. Labour Market Information includes descriptive data such as statistics or survey results while the Labour Market Intelligence includes analysis, interpretation, conclusions and policy recommendations (for example, unemployment rate, employment structure, skills in demand in the labour market).

The labour market and its needs are constantly changing, and because of this, the use of LMI in curriculum development is crucial and with this survey, our main objective is to explore how HEIs in Europe are using LMI.

Together with the other innovative outputs of our project, the results of this report will be integrated into the LMI HUB (i.e. infographics, executive summary), the training courses and the guide, all of which will be hosted on the project website and made freely available to our target audience in HEIs (e.g., higher education decision-makers) and the key stakeholders (e.g., employers; local, regional and national policy-makers).

METHODOLOGY

Our survey-based research explored evidence-building through LMI within Universities (how do they use it, what for, and to what end). The research was conducted by using an online survey, and the questionnaire was sent to the respondents with the help of inter-university contact networks. This work was done with input from all partners who each studied their own country plus other countries (particularly neighbouring or 'culturally and language related' countries). Thus we covered the largest 7 EU countries: Germany, France, Italy, Spain, Poland, Romania, Netherlands; plus, Belgium, Estonia, Austria, Sweden, Ireland, Latvia, Lithuania, Portugal, Czech Republic, Bulgaria, Luxembourg and Greece.

This survey is the first of its kind focused on LMI usage in universities across Europe and is in itself a considerable innovation.

The research universe was made up of a diversity of HEI's, in terms of **size** and **location**. We used these two criteria in order to classify the Universities, covering the majority of the institutions, and more than 90% of students that study in the country.

The sample of respondents to the questionnaire was made up of 101 university representatives having the following role: head of institute/department, head of the curriculum, employee especially responsible for R&D in general, lecturer or professor, member of the university management. Over 40% of the respondents argue they do not use LMI in developing curricula.

Size was defined in terms of the number of students. Small size universities were defined as those with a number of students between minimum value and first quartile. Those between first quartile and third quartile were defined as medium size, and those with a number of students higher than the third quartile were defined as large size.

Location was defined as either a region or main or capital city. To support the work on this output, a map displaying the European HEIs was developed. Each country was represented in a different colour on the map and the ability to filter it by partner was incorporated. The map

is now integrated into the project website on the LMI-EUniv HUB[1] and it can be accessed by anyone on the link https://lmi-euniv.eu/hei-map/.

The instrument contains both closed and open questions. It is structured along the following dimensions:

- Institutional and personal characteristics;
- Mapping the sources and essence of the LMI;
- The use of LMI in curricula and learning content development;
- Evaluating the impact of the LMI use.

These dimensions comprise a number of items described below.

Institutional and personal characteristics were analysed through the items below:

- *Please tick the country in which your institution is based on.*
- *What is the name of your university?*
- *Does your university use LMI in developing curricula?*
- *How is the implementation of LMI in the development of curricula organized at your university?*
- *Is there any other kind of organizing of the implementation of LMI in the development of curricula at your university (not indicated above)? If yes, please specify below:*
- *What is your main role and level in the university when considering the implementation of LMI in the development of curricula?*
- *Please specify the field corresponding to the previously chosen role and level.*
- *Is there any other role and level you have in the university when considering the implementation of LMI in the development of curricula (not indicated above)? If yes, please specify below:*

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[1] The LMI-Hub is an original platform designed for the Higher Education Institutions. It contains valuable LMI sources and information at the European level identified in the different stages of the project. Access to LMI-Hub is freely available since it represent a valuable source of information both for HEI (at the strategic level - to develop more congruent curricula with labour market needs) and for teachers to better calibrate their lessons.

Mapping the sources and essence of the LMI was achieved by the following items:

- *Please specify the type of LMI data you or your department/university is using to develop curricula (International surveys; National accounts; National survey; Administrative records; Qualitative surveys; Big data from the internet; Projections or forecasts; Real time data).*

- *Please, specify the real-time data if you or your department/university is using it to develop curricula.*

- *Is there any other type of LMI that you or your department/university is using to develop curricula (not indicated above)? If yes, please specify below which and how often:*

- *Which sources for LMI do you or your department/university use (National institute of statistics; Public employment service; Social security; Ministry responsible for labour issues; Ministry responsible for education issues; Employer organizations and trade unions; Employees organizations and professional associations; Academic and research institute[Private Research Centres; Private and public centres of lifelong learning; Own surveys in university; Private providers (e.g. job portal, Inomics, AKADEUS ….).*

- *Are there other LMI sources that you or your department/university use (not indicated above)? If yes, please specify below which and how often:*

- *Please specify the kind of LMI you or your department/university is working with while developing curricula (Changes in employment, unemployment, inactivity; Occupational/field of activity structure and changes; Educational structure and changes; Skills/Qualifications needs, gaps and shortages today and in the future; Post-graduate path and career information of graduates; Specific information about occupations/jobs (working conditions, average salary, etc); Employer's opinions about future developments about skill and job demand; Skills and labour supply today and in the future; Skills and labour demand today and in the future).*

- *Are there other kind of LMI that you or your department/university is working with while developing curricula (not indicated above)?*

- *If yes, please specify how frequently LMI data are used to achieve the following purposes by your department/university (Adjust curricula; Career guidance; Tracking*

graduates; Matching the university skills supply with current and future labour market skills demand; Quality assurance of curricula and study content).

- *Are there any other purposes you or your department/university use the LMI data for (not indicated above)? If yes, please specify below which and how often:*
- *Based on your experience which of the following factors hindered access to LMI (Lack of financial resources; Lack of qualified staff; Lack of administrative support at the university; Little or no knowledge of LMI sources; Lack of rights to access certain LMI content or providers; Lack of time for analyzing new topics; Lack of time for analyzing new data).*
- *Are there any other factors that hindered access to LMI? If yes, please specify below.*

The use of LMI in curricula and learning content development was analysed through the items:

- *How long does it usually take to implement LMI into curricula?*
- *Do you think that labour market changes and skill needs change faster than LMI can be implemented?*
- *Please specify how frequently LMI is used to achieve the following purposes (Making changes to the learning content in courses in the curricula; Changing the relative importance of courses in the curricula; Adding or removing courses in the curricula; Additional training for lecturers; Employing new lecturers; Closer cooperation with other universities; Closer cooperation with employers; Making changes in the student admissions process).*
- *Are there other purposes LMI is used for? If yes, please specify below which and how often.*
- *If possible, please provide practical examples where the use of LMI has had an impact on the development of curricula.*

The following items were used for **Evaluating the impact of the LMI use:**

- *Different factors influence the development of curricula (for example labour market needs, academic priorities). Please try to estimate how important is LMI influence among other factors.*
- *Do you or your department/university evaluate the impact of LMI implementation on the development of curricula?*

- *Who are involved in for evaluating the impact of LMI in the development of curricula (Lecturers and professors; Employees especially responsible for R&D; Members of councils that are formed at the university or institutes; Heads of the university or institutes).*
- *Is there anyone else involved in evaluating the impact of LMI in the development of curricula? If yes, please specify below who and how often:*
- *Could you briefly describe how the impact of LMI is assessed?*

This type of question setting allowed both descriptive and in-depth analysis of the responses to some of the questions, highlighted later in the analysis. Data analysis was carried out using data processing software (IBM SPSS).

THE USE OF LABOUR MARKET INTELLIGENCE WITHIN EUROPEAN UNIVERSITIES

The results of the online questionnaire applied in European universities are provided in this chapter through a descriptive and in-depth analysis.

Institutional and personal characteristics

This section provides an overview of the institutional and personal characteristics of respondents from the universities surveyed.

The implementation of LMI is organized at different levels in the different countries analysed (Figure 1): in Germany and Sweden 'Each lecturer or professor is responsible by themselves'; in seven countries (Poland, Czech Republic, Estonia, Latvia, Netherlands, Italy and Portugal) 'It is organized centrally by the university management', 'Are organized by departments/institutes' and 'Each lecturer or professor is responsible by themselves'; Belgium and Romania 'Are organized by departments/institutes'; in Greece, Bulgaria, France and Ireland 'Are organized by departments/institutes' and 'Each lecturer or professor is responsible by themselves'; in Spain is organized both by departments/institutes and centrally by the university management. Some of the respondents in universities argue they do not use LMI in developing curricula at their department, university or even country[2] level.

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[2] Luxembourg and Lithuania

Figure 1. Implementation of LMI in the development of curricula in universities by country
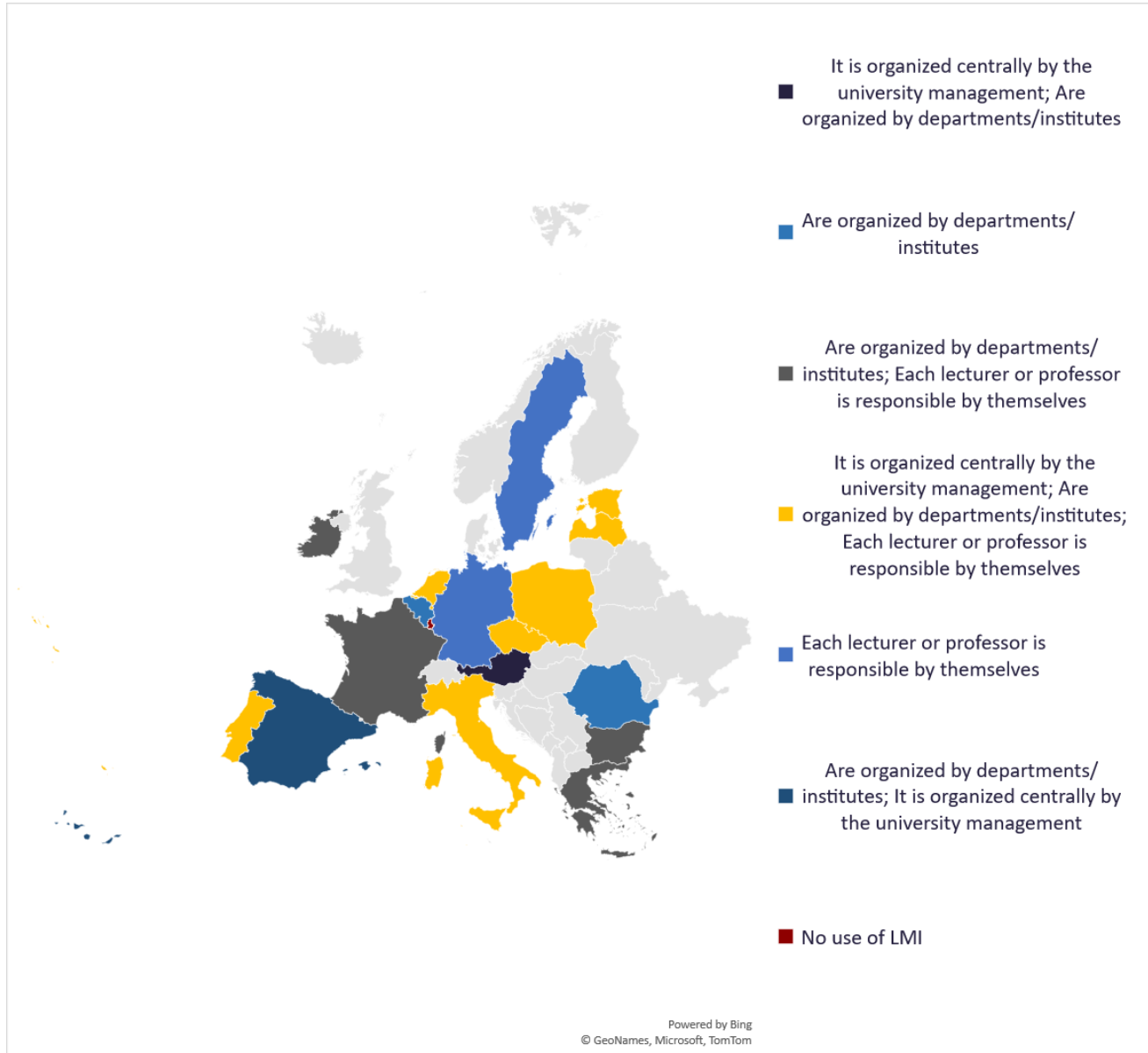
Some of the respondents described other kinds of organizing of the implementation of LMI in the development of curricula at their university. For example, each curriculum has a program committee that includes external stakeholders. They may also consider LMI. Another example was that each curriculum has its program manager whose responsibility is to describe and advertise the curriculum. What was also mentioned is the cooperation with employers and umbrella organizations, student career offices, graduates who already work and invitation guest lectures to bring in real-life, labour market and business perspective.

Figure 2. Respondents' main role and level considering the implementation of LMI in the development of curricula [%]
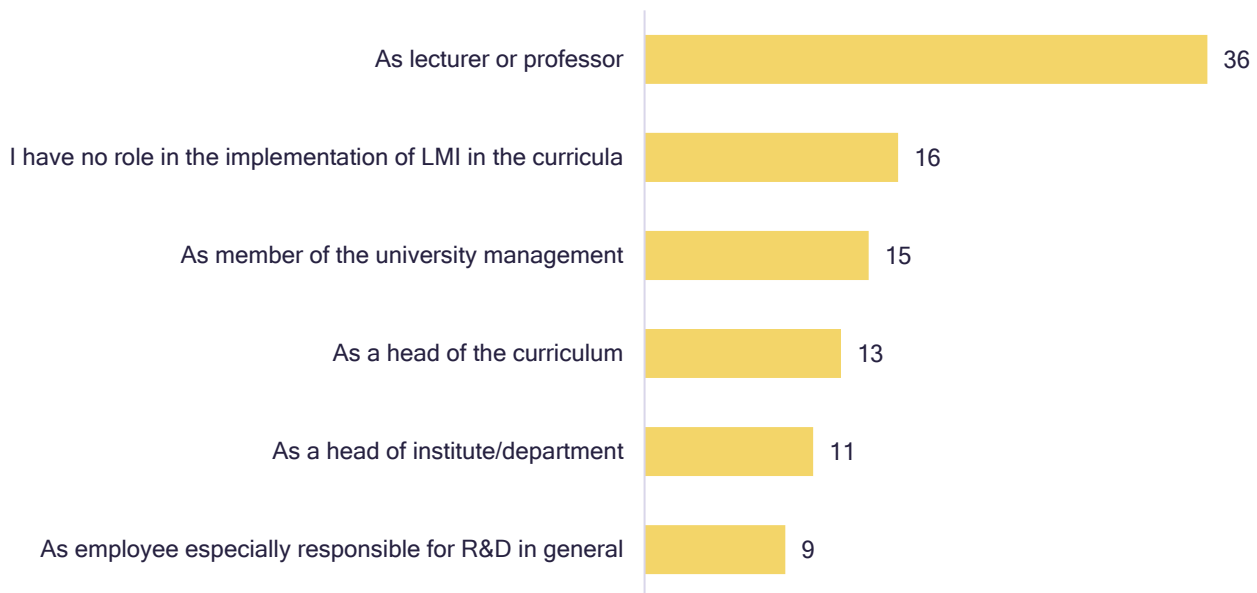
From the HEIs completing our survey (Figure 2), 36% of the respondents having a role in the implementation of LMI in the development of curricula are lecturers or professors, 15% were members of the university management, 13% of the respondents' head of the curriculum,11% head of institute/department and 9% employees responsible for R&D. Some of the respondents claimed they have no role in the implementation of LMI in the curricula.

Respondents were asked to specify the academic field where they are active. The most mentioned were business and economics, but several other fields were represented as well, from youth work to social sciences.

Mapping the sources and essence of the LMI

This section maps the type, sources and kind of LMI used to match labour market information and intelligence with labour market demands through curriculum and learning content. It also highlights both the content of the LMI that has been used and what has prevented the use of LMI in the development of curricula.

Figure 3. Types of LMI data universities are using to develop curricula [%]

	Yes	No or do not know
Qualitative surveys	86	14
National surveys	82	18
Administrative records	75	25
National accounts	71	29
Projections or forecasts	65	35
International surveys	57	43
Big data from the internet	55	45
Real time data	45	55
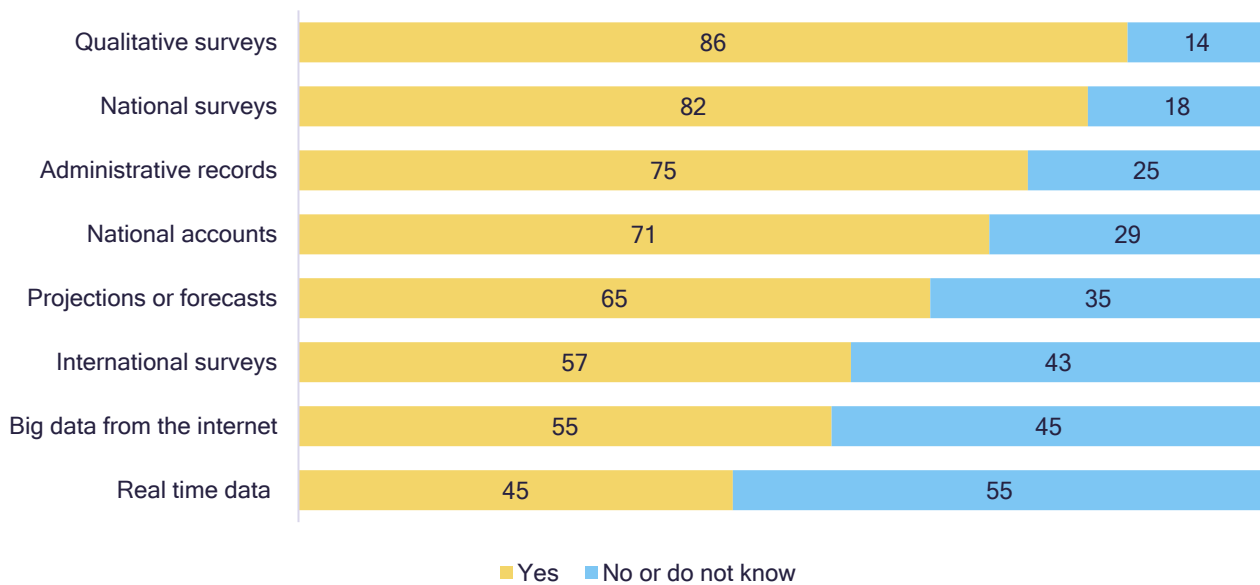
In the HEIs from the European countries participating in our study, the most common types of LMI used for curriculum development were: 'Qualitative surveys' (86%) and 'National surveys' (82%), followed in order by 'Administrative records' (76%) and 'National accounts' (71%), 'Projections or forecasts' (65%), 'International surveys' (57%),'Big data from the internet' (55%) and 'Real time data' (45%) (Figure 3).

The types of LMI used in curriculum development by country are presented in Table 1[3]. The widest range of LMI types used, is reported in Austria, Belgium, Estonia, Germany, Greece, Italy, Poland and Spain.

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[3] We used 'yes' when at least one respondent in the country chose a specific option.

Table 1. Main types of LMI used in curriculum development in the European countries surveyed
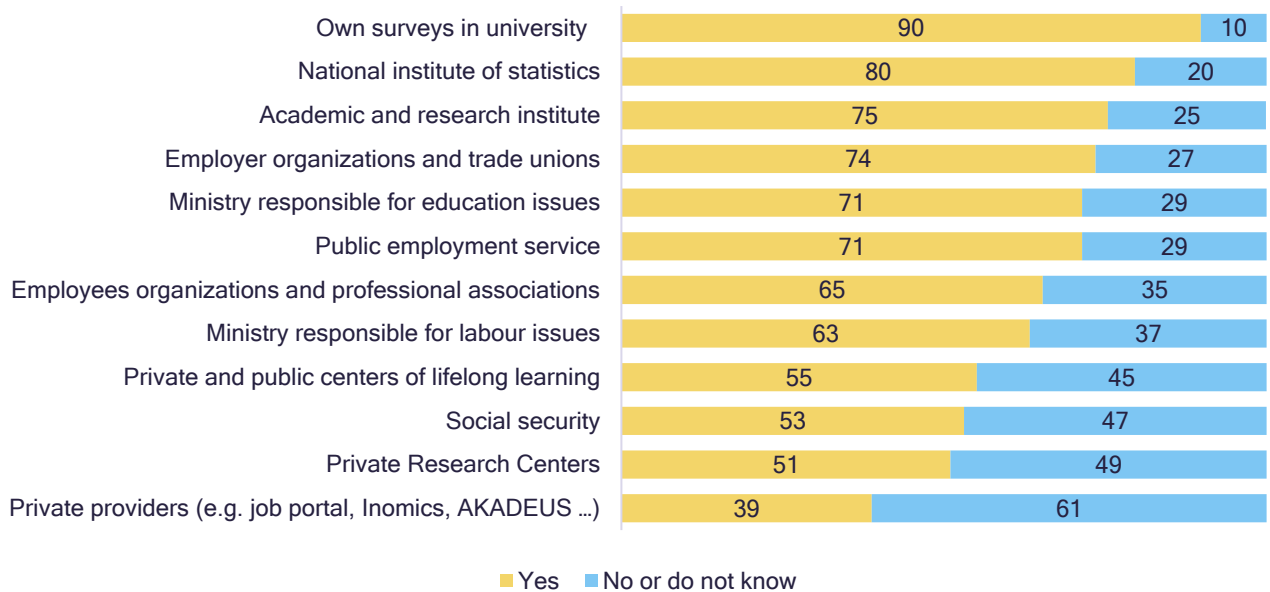
Country	International survey	National accounts	National surveys	Administrative records	Qualitative surveys	Big data	Projections/ forecasts	Realtime data
Austria	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Belgium	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bulgaria	No	Yes	Yes	Yes	Yes	No	No	No
Czech Republic	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Estonia	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
France	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Germany	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Greece	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ireland	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Italy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Latvia	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lithuania	No	No	No	No	No	No	No	No
Luxembourg	No	No	No	No	No	No	No	No
Netherlands	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Poland	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Portugal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Romania	No	No	Yes	Yes	Yes	No	No	No
Spain	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sweden	No	No	Yes	Yes	Yes	No	No	No

Respondents also had the possibility to describe other types of data that are used. According to them, the student or graduate surveys are also quite frequently used, and this was mentioned mostly. Some of the respondents also mentioned feedback and needs from the companies/industries that they have a relationship with, job advertisements, data obtained from interviews with business representatives.

Figure 4 provides the share of the main sources of LMI used by our respondents and/or their departments/higher education institutions in the countries surveyed. The results are presented in descending order, as follows: Own surveys in university (90%); National Institute of Statistics (80%); Academic and research institute (76%); Employer organizations and trade unions (74%); Ministry responsible for education issues and Public employment service (71% each). The following are used to a lesser extent: Employees organizations and professional associations (65%); Ministry responsible for labour issue (63%); Private and public centres of lifelong learning (55%); Social security (53%); Private Research Centres (51%); Private providers (38%).

Figure 4. Sources used for LMI by the respondent or their department/university [%].

Source	Yes	No or do not know
Own surveys in university	90	10
National institute of statistics	80	20
Academic and research institute	75	25
Employer organizations and trade unions	74	27
Ministry responsible for education issues	71	29
Public employment service	71	29
Employees organizations and professional associations	65	35
Ministry responsible for labour issues	63	37
Private and public centers of lifelong learning	55	45
Social security	53	47
Private Research Centers	51	49
Private providers (e.g. job portal, Inomics, AKADEUS …)	39	61

■ Yes ■ No or do not know

Good practices concerning the sources of LMI used in developing curriculum by country are provided in Table 2[4].

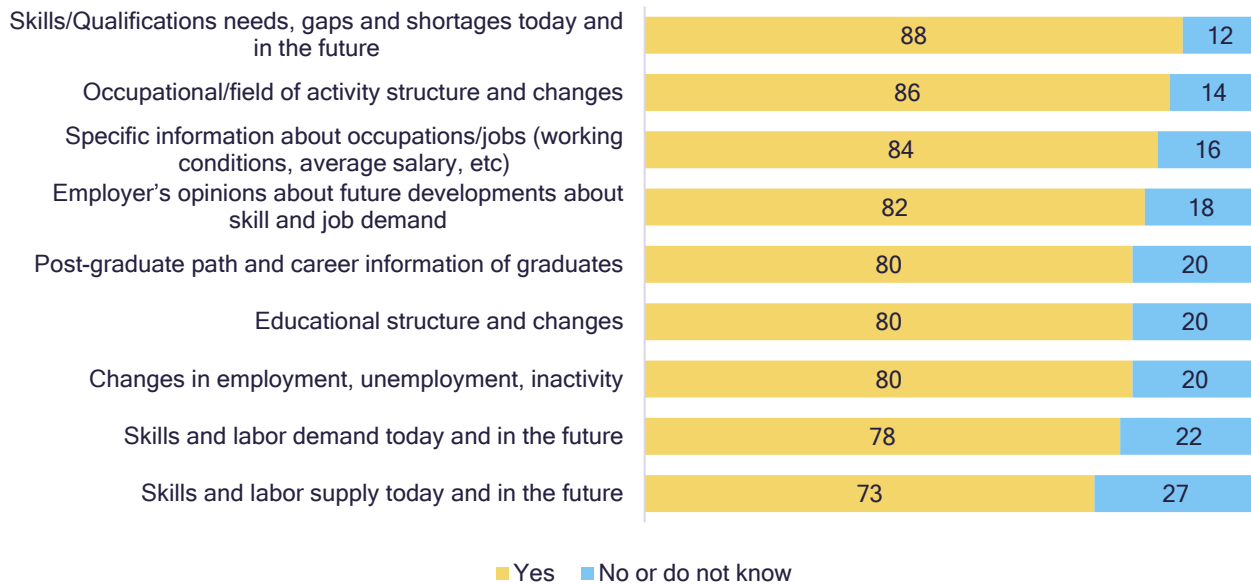**Table 2.** Main sources of LMI used in curriculum development in the European countries surveyed

Country	National institute of statistics	Public employment service	Social security	Ministry responsible for labour issues	Ministry responsible for education issues	Employer organizations and trade unions	Employees organizations and professional associations	Academic and research institute	Private Research Centers	Private and public centers of lifelong learning	Own surveys in university	Private providers (e.g. job portal, Inomics, AKADEUS)
Austria	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Belgium	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bulgaria	Yes	Yes	No	No	Yes	No	No	Yes	No	No	No	No
Czech Repub	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
Estonia	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
France	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Germany	Yes	Yes	Yes	No	No	No	No	Yes	No	No	No	No
Greece	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ireland	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Italy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Latvia	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No
Lithuania	No	No	No	No	No	No	No	No	No	No	No	No
Luxembourg	No	No	No	No	No	No	No	No	No	No	No	No
Netherlands	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Poland	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Portugal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Romania	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Spain	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sweden	Yes	No	Yes	No	No	Yes	No	Yes	No	No	Yes	No

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[4] Ibid

The most comprehensive and diversified LMI sources are used in Austria, Estonia, Greece, Italy, Netherlands, Poland, Portugal and Spain.

In Figure 5 are provided the kind of LMI commonly used by higher education institutions in curriculum development.

Figure 5. Kind of LMI used while developing curricula by respondent or its department/university [%]

Kind of LMI	Yes	No or do not know
Skills/Qualifications needs, gaps and shortages today and in the future	88	12
Occupational/field of activity structure and changes	86	14
Specific information about occupations/jobs (working conditions, average salary, etc)	84	16
Employer's opinions about future developments about skill and job demand	82	18
Post-graduate path and career information of graduates	80	20
Educational structure and changes	80	20
Changes in employment, unemployment, inactivity	80	20
Skills and labor demand today and in the future	78	22
Skills and labor supply today and in the future	73	27

■Yes ■No or do not know

These are used in varying proportions: 'Skills/Qualifications needs, gaps and shortages today and in the future' (88%); 'Occupational/field of activity structure and changes' (86%); 'Specific information about occupations/jobs (working conditions, average salary, etc.)' (84%); 'Employer's opinions about future developments about skill and job demand' (82%); 'Changes in employment, unemployment, inactivity', 'Educational structure and changes' and 'Post-graduate path and career information of graduates' (80% each); they use to a lesser extent 'Skills and labor demand today and in the future' (78%) and 'Skills and labour supply today and in the future' (74%).

The most complex kinds of LMI that are used in the development of curricula can be found in Austria, Belgium, Bulgaria, Czech Republic, Estonia, Greece, Ireland, Italy, Netherlands, Poland, Portugal, Romania and Spain (Table 3[5]).

Table 3. Kind of LMI used in curriculum development in the European countries surveyed

Country	Changes in employment, unemployment, inactivity	Occupational/ field of activity structure and changes	Educational structure and changes	Skills/ Qualifications needs, gaps and shortages today and in the future	Post-graduate path and career information of graduates	Specific information about occupations/ jobs (working conditions, average salary, etc)	Employer's opinions about future developments about skill and job demand	Skills and labor supply today and in the future	Skills and labor demand today and in the future
Austria	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Belgium	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bulgaria	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Czech Republic	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Estonia	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
France	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Germany	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Greece	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ireland	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Italy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Latvia	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Lithuania	No	No	No	No	No	No	No	No	No
Luxembourg	No	No	No	No	No	No	No	No	No
Netherlands	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Poland	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Portugal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Romania	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Spain	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sweden	No	No	No	Yes	No	Yes	No	No	No

According to respondents to our survey (Figure 6) in European higher education institutions, the following factors hindered access to LMI to varying degrees: 'Lack of time for analysing new data' and 'Lack of financial resources' (88% each); 'Lack of time for analysing new topics', (86%); 'Little or no knowledge of LMI sources' and 'Lack of qualified staff' (78%each); 'Lack of administrative support at the university' (76%); Lack of rights to access certain LMI content or providers (57%).

[5] Ibid

**Figure 6. Factors hindered access to LMI [%]**

	Yes	No or do not know
Lack of time for analyzing new data	88	12
Lack of financial resources	88	12
Lack of time for analyzing new topics	86	14
Little or no knowledge of LMI sources	78	22
Lack of qualified staff	78	22
Lack of administrative support at the university	75	25
Lack of rights to access certain LMI content or providers	57	43

■Yes ■No or do not know

Some of the respondents specified other factors that hindered access to LMI. For example, they mentioned that market analysis is very resource consuming - from data collection to meaningful data interpretation, therefore this area is often a bottleneck and at the same time extremely important for development new curricula. Low awareness can also be a problem, and universities have foremost focus on basic research and labour markets are not included as topic. It is not a 'built-into' process within university.

The use of LMI in curricula and learning content development
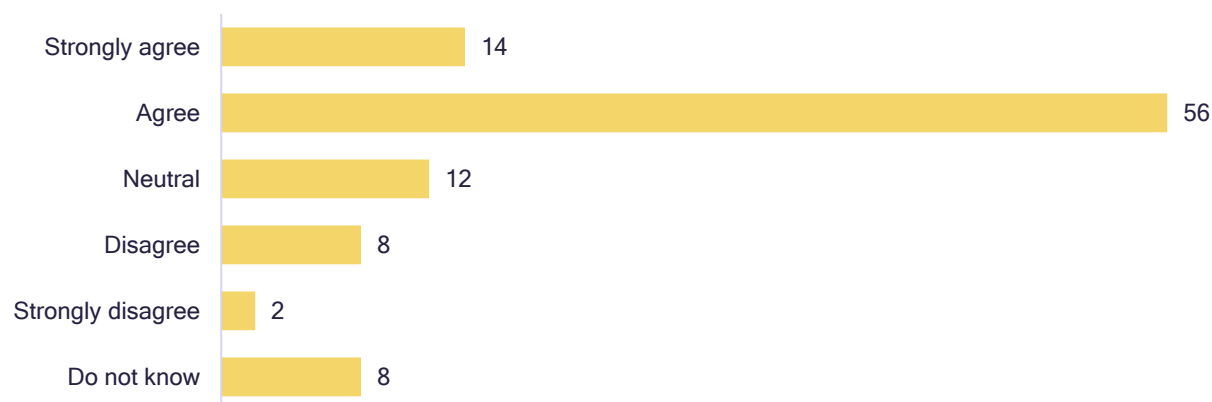
This section provides an overview of how long it takes to implement LMI, what purposes LMI is mainly used for, and what impact LMI has had over time.

Figure 7. Estimated time to implement LMI in curricula [%]

Category	Value
Do not know	25
At least 5 years	10
3-4 years	8
1-2 years	45
Less than a year	12
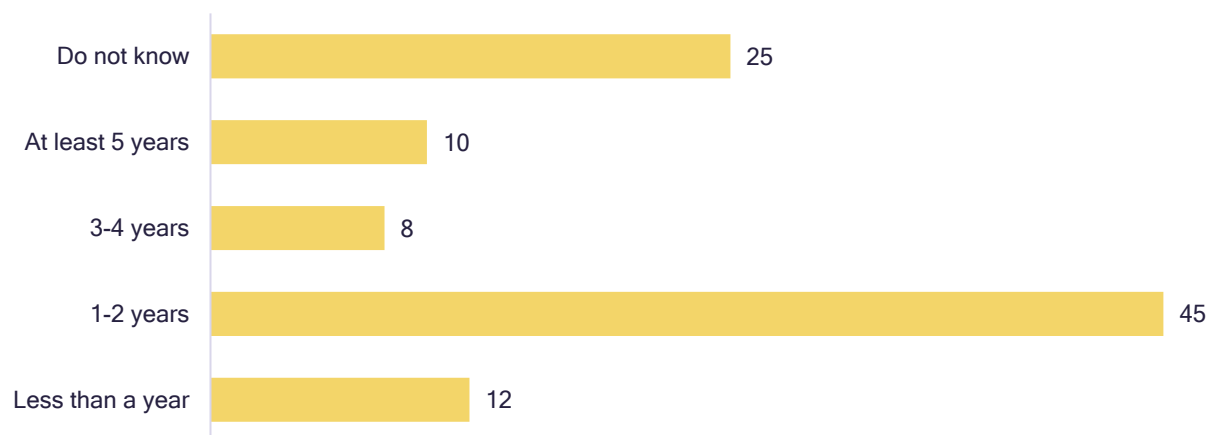
In most of the universities surveyed (45%) it takes 1-2 years to implement LMI into curricula, and in a lower proportion it takes less than a year (12%), 3-4 years (8%) or at least 5 years (10%). Also, one quarter of respondents did not know how long it would take to implement it. (Figure 7).

Figure 8 . Consent with the statement that labour market changes and skills needs change faster than LMI can be implemented [%]

Category	Value
Strongly agree	14
Agree	56
Neutral	12
Disagree	8
Strongly disagree	2
Do not know	8

Most of the respondents agree (55%) and strongly agree (14%) that both the labour market and skills needs are changing faster than LMI can be implemented. Only 10% of respondents did not agree with this statement. (Figure 8).

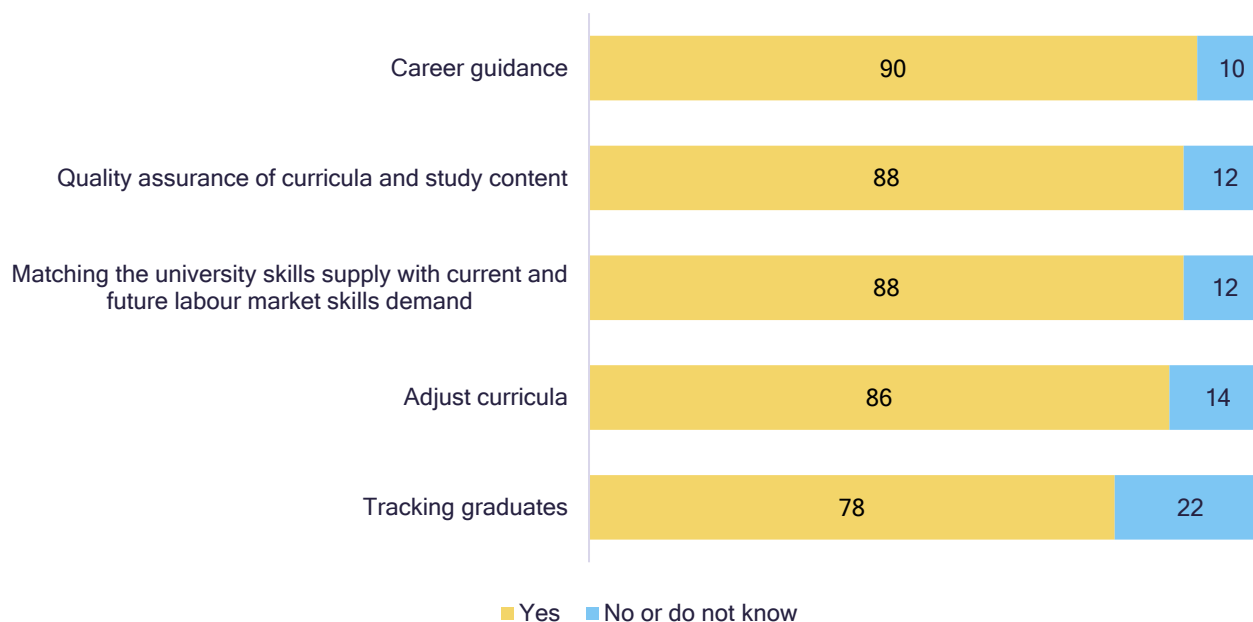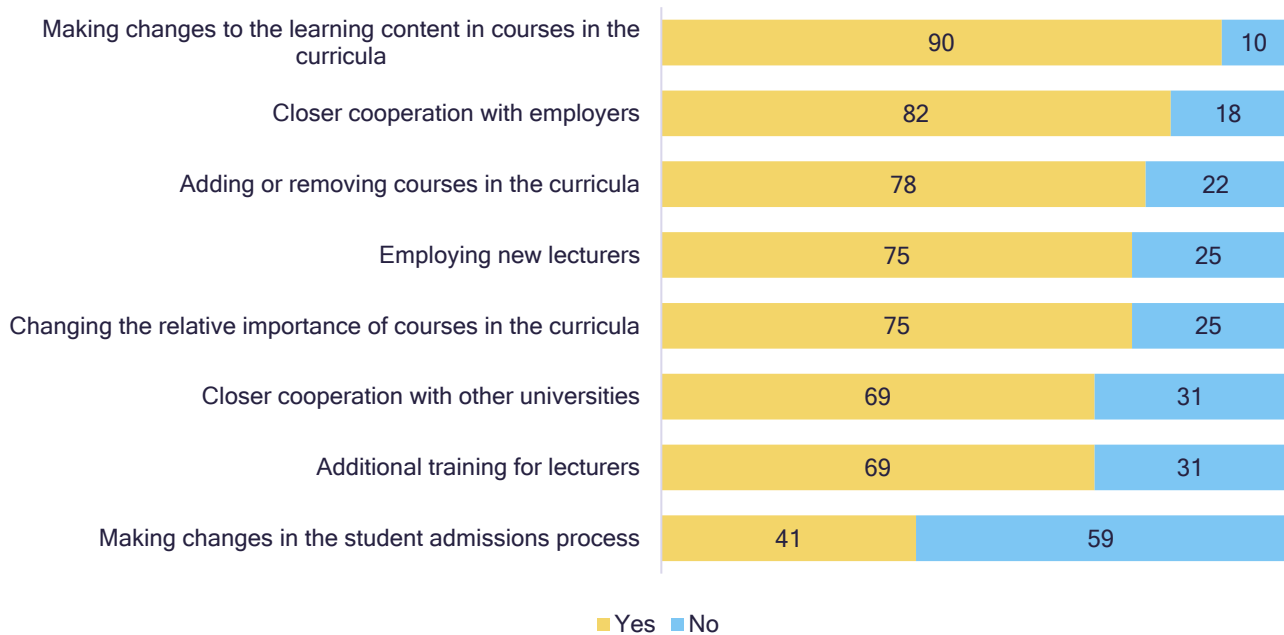**Figure 9. LMI data used to achieve the curricula related and other purposes [%]**

Figure 9 outlines the frequency with which LMI is used in faculty departments/universities to achieve the following purposes: 'Career guidance' (90%); 'Quality assurance of curricula and study content' and 'Matching the university skills supply with current and future labour market skills demand' (88% each); 'Adjust curricula' (86%), and Tracking graduates (78%). In addition to those purposes, LMI was used for planning and offering training courses by some respondents.

Respondents indicated that the most common purposes for using LMI were: 'Making changes to the learning content in courses in the curricula' (90%); 'Closer cooperation with employers' (82%); 'Adding or removing courses in the curricula' (78%); 'Employing new lecturers' and 'Changing the relative importance of courses in the curricula' (both 76%); 'Additional training for lecturers' and 'Closer cooperation with other universities' (both 69%); 'Making changes in the student admissions process', with a lowest proportion of 41%. (Figure 10).

Figure 10. LMI usage for curricula related and other purposes [%]

	Yes	No
Making changes to the learning content in courses in the curricula	90	10
Closer cooperation with employers	82	18
Adding or removing courses in the curricula	78	22
Employing new lecturers	75	25
Changing the relative importance of courses in the curricula	75	25
Closer cooperation with other universities	69	31
Additional training for lecturers	69	31
Making changes in the student admissions process	41	59

Some of the respondents provided practical examples where the use of LMI had an impact on the development of curricula or described the process:

- *This is part of a defined organizational process to develop new curricula. So, each main curricular change, renewal of curricula and development of new curricula has to be based on LMI.*

- *It is mandatory to consider LMI by the National Qualifications Agency. As several curricula leaders from the university participate in the LMI creation process themselves, the process is quite natural but could be more effective.*

- *Generally, within the online courses here, for course review purposes, we tend to rely upon a range of data as a means to evaluate curriculums to ensure that the course is producing effective ("industry-ready") graduates.*

- *Increased courses that include guest lectures with practitioners, partnerships within courses for challenge-based projects with outside stakeholders.*

- *Including new learning content in subjects (economics and business management), proves to be useful to improve skills/competences.*

- *The generalization of internships programs in most faculties at the university, definitely in the Business and Economics faculty.*

- *Adaption of teaching contents.*

Evaluating the impact of the LMI use

This chapter provides an overview of the importance of LMI, whether and how its impact on curriculum development is assessed.

Figure 11. Importance of LMI influence among other factors. N.
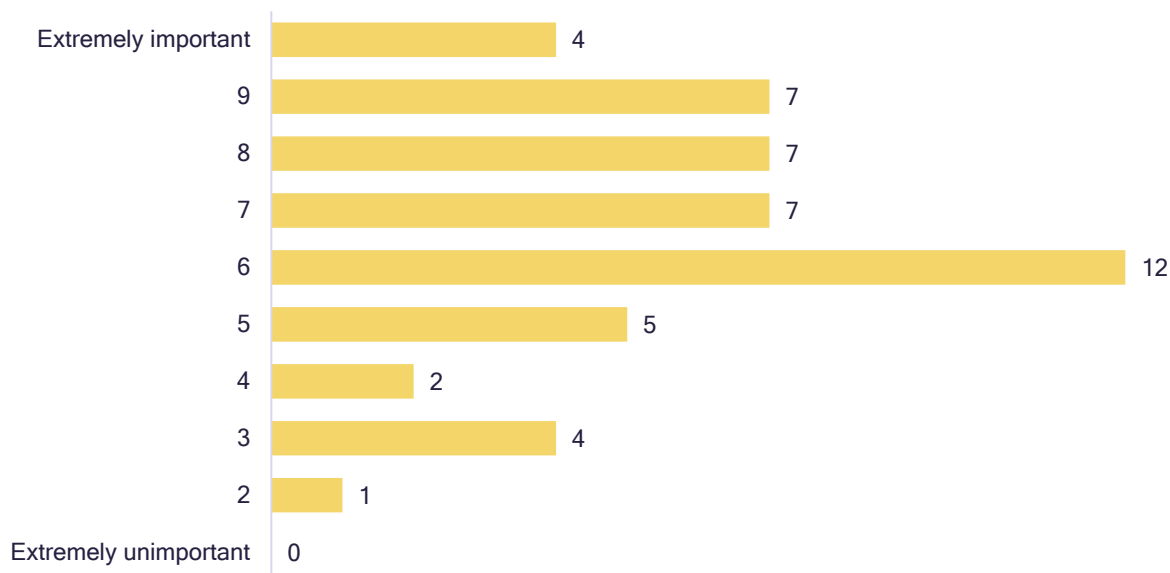
| Category	Value
Extremely important	4
9	7
8	7
7	7
6	12
5	5
4	2
3	4
2	1
Extremely unimportant	0

Different factors influence the development of curricula (for example labour market needs, academic priorities). Respondents estimated how important is LMI influence among other factors. On a ten-point scale, there were a few respondents who did not consider LMI important. For most respondents, the use of LMI in the development of curricula is quite important, and the average rating given was 6.7 points (Figure 11).

Figure 12. Evaluation frequency of the impact of LMI implementation [%]
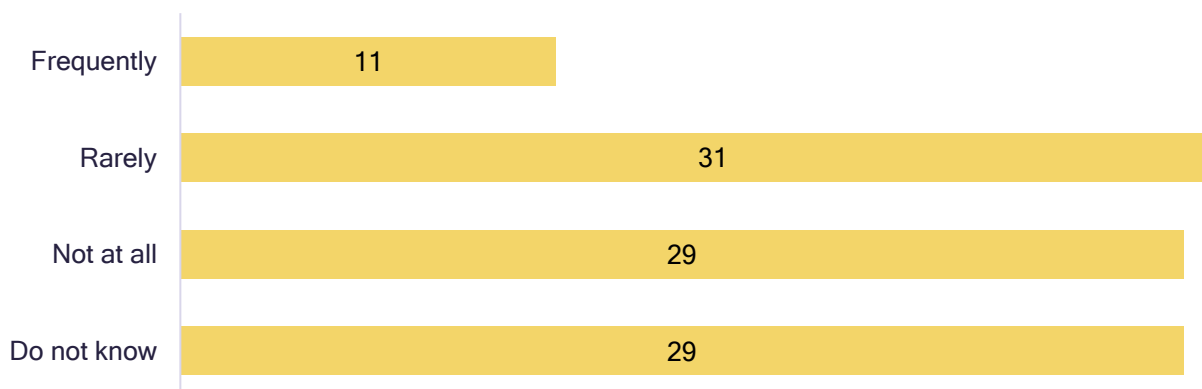
Most respondents reported (Figure 12).that no evaluation of the impact of LMI implementation on curriculum development is carried out or that they did not know whether it is (both 29%), while 31% said that it is done but rarely, and only 11% that the evaluation is done frequently.

Figure 13. Involvement in evaluating the impact of LMI in the development of curricula by position in university [%]
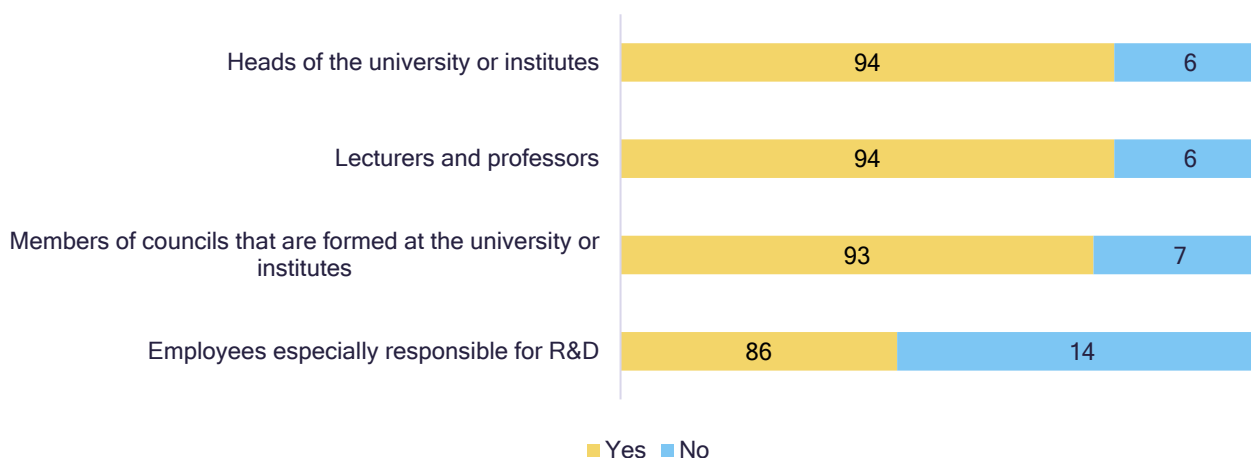
Respondents indicated (Figure 13) that the impact of the implementation of LMI on curriculum development in their department/university was evaluated by 'Heads of the university or institute' and 'Lecturers and professors' (94% each), 'Members of councils formed at the university or institute' (93%) and, to a lesser extent, 'Employees especially responsible for R&D' (86%). Graduate students, alumni officers and policy officers were also mentioned as responsible for evaluation.

Some of the respondents briefly described how the impact of LMI is assessed:

- *The LMI is handed to the development team. When finally developed, the curricula (or curricular changes) are presented at the Innovation committee that monitors how LMI is represented in the changes.*

- *We would rather use insights from LMI in the curricula development than assessing the impact of LMI.*

- *To assess the meeting of needs we gather feedback from the field, asking in-service facilitators and partners to evaluate the skills and knowledge students have applied.*

- *Desk research with recommendations before the development starts, evaluation/comparison of the curricula to the analysis, consultations with different stakeholders.*

- *Making use of our professional advisory committee, we evaluate how our education connects with actual practitioner work and how prepared our students are for the labour market. We utilize alumni surveys and steer some curriculum decisions based on their profiles and experiences.*

- *Tracking the graduate students' job performance.*

- *We conduct survey to graduated students about matching of curriculum and labour market demands.*

- *Meetings with professional associations.*

Finally, respondents provided some general comments regarding the application of LMI in curricula development.

- *Often it is difficult to get to very good and current resources (e.g., from the LinkedIn and similar platforms that use the information to almost on the fly adapt their educational offer), or to the information from where else (apart of own surveys, labour*

information in the country and statistical information) one could get good and current data.

- It would be great to find a way (a platform, a central hub, or something else) how to get good data in shorter time (as now this process is very time consuming).

- Often, the challenges do not lie in the application of LMI in specific but are rather related to the quality of the curricula development process.

- I would be interested to see some 'best practice' examples of effective use of LMI in curriculum development - especially with respect to some useful EU LMI sources and how and at what point they should be used in curricula development.

- LMI might not be as relevant as assumed. Employers in the employment markets often do not know what they need, but claim they do. In addition, they tend to think that universities mission in teaching is to supply people ready to go to work.

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