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Labour market information and guidance

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The **European Centre for the Development of Vocational Training** (Cedefop) is the European Union's reference centre for vocational education and training. We provide information on and analyses of vocational education and training systems, policies, research and practice. Cedefop was established in 1975 by Council Regulation (EEC) No 337/75.

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Foreword

Quality labour market information (LMI) and intelligence are fundamental sources for guidance practitioners, teachers and trainers who support young people in choosing their education and training pathways with mindfulness and realism. They are also fundamental for employed adults to steer their careers in an informed and strategic way. LMI can assist the unemployed to rejoin the labour market by choosing carefully their reskilling options. Its utility depends on the quality of the data gathered, the intelligence generated and the ability of users to access it and make it relevant to their needs. Access, use and the understanding of LMI tools is at the heart of a person's employability and a successful working life.

Many governments invest significantly in gathering and handling LMI. This investment must be guided by rational and practical application of the information generated. The aim of most LMI production is to support labour market policy and individual career decision. Complex skills forecasting exercises are developed to foresee future demand for skills, identifying bottlenecks and changing requirements of occupations and the reshaping of qualifications. Other information, on sector-specific realities, available vacancies and employer perspectives, is also being made available to a wider spectrum of jobseekers, policy-makers, employers and school administrators. Forming a complete picture is increasingly a collaborative work in which employers, information suppliers and delivery services are engaged on a common platform of relevant and updated information.

For this growing wealth of information to become useful for people in making good training and career choices, they need to develop the skills that allow them to search, identify and successfully use it. Career education at schools and guidance and counselling services are the main policy instruments in supporting the development of these skills among youth learners and workers, and adult working and lifelong learning populations. These services are particularly critical for the less qualified, the economically disfavoured, and other groups in need of support for socioeconomic integration, such as migrants and refugees.

From the perspective of enterprises, accurate LMI and ability of learners and jobseeekers to interpret it increases the likelihood to resolve bottlenecks in critical skills and occupations. Good LMI delivery, within a logic of quality career guidance, can serve the double purpose of informing individual career development and addressing labour market imbalances, frequently called mismatches.

This information must be made available in easily recognisable access points. More comprehensive online self-help tools for this are being created across Europe. To be effective, online tools must make use of the potential of social media and be employed in the context of multichannel delivery, with face-to-face service and telephone contact. Such a service needs to be staffed by well-prepared professionals who have adequate guidance, information and communication technologies, and LMI skills.

The new approach to information, with interactive tools, mobile apps and social media, represents an immense opportunity, but also a challenge for both services and professionals. We hope this study provides a solid contribution to the discussion on how to support the adaptation of professionals and services in career education and guidance so that they are adjusted to the needs of society for quality information on available jobs, professions and the future of the economy. We also hope that it promotes reflection on the generation and relevance of data that inform the citizen who cannot be successful without the engagement of all stakeholders: the ones who produce it, the ones who manage it, those who deliver it and those who can benefit from it.

This study will serve as a reminder that information serves no purpose unless it attracts attention by its relevance, practical use and positive impacts on people's lives. Scientific data is what experts produce for guidance and counselling services to act in education as brokers between the world of information and that of employment. Well-trained personnel and access to relevant information often make or break opportunities in a person's working life. This study is a wake-up call to act together so that we reach more young and adult learners and workers with a true picture of the skills and employment needs of the world of work.

Joachim James Calleja
Director of Cedefop

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Executive summary

Labour market information (LMI) should be properly integrated into a guidance or career learning process that promotes the development of reflexive career identities and autonomous exploration of career information. LMI is not a stand-alone tool for the citizen but requires integration in learning processes which enable citizens to use it to identify career and learning opportunities. Career management skills development programmes in education/training and in employment services should be associated with LMI.

Given the importance of good labour market information for career guidance and career education, its quality and provision should be addressed in national policy strategies for lifelong guidance and career education at school, monitored by the responsible institution(s). A common approach should be developed to LMI production and integration into diverse sectors in which it is used, with the cooperation of the relevant decision-making centres. This approach should take into account how lifelong guidance services are provided in different contexts: students, the employed, jobseekers, and groups with special needs.

Examination of case studies and practices across Europe for a Cedefop study has helped identify and analyse the role of labour market information in career guidance and career education. It focused on:

(a) comparison and analysis of diverse strategies supporting the integration of LMI in lifelong guidance, including critical success factors, potential gaps and obstacles;

(b) competences, methodologies and tools for effective LMI management, service design and delivery by guidance counsellors and teachers/trainers;

(c) identification of levers that can aid access to LMI for individuals throughout their lifetime;

(d) outline of the potential transferability of successful practices in applying LMI in lifelong guidance policies and practices.

The methodology consisted of a literature review on integrating LMI into lifelong guidance and on comparative pan-European identification of LMI strategies in such guidance. Fieldwork was developed in 11 EU Member States; one benchmarking (non-EU) case was considered, to provide information on good practices on LMI integration into lifelong guidance. The study also developed blueprints for practitioner LMI toolkits, which will support the debate around such toolkits in future capacity development projects by Cedefop.

The key messages address four themes:

(a)   LMI integration in guidance and career education;
(b)   using technology effectively;
(c)   increasing LMI provision quality;
(d)   empowering individuals to find better job matches.

LMI integration in guidance and career education

When labour market information is offered by separate services, coordination and cooperation among stakeholders is vital. When it is gathered and provided by different ministries, separate databases and information collection tools are developed. Each of these databases provides partial coverage of the available information; frequently, they are created in ways which make consolidation difficult, preventing users making the best possible sense of labour market contexts and opportunities. Coordination among different LMI providers is required to avoid duplication and achieve successful data consolidation. Social partner cooperation with relevant agencies and ministerial departments engaged in LMI provision improves LMI user impact and the efficiency of career guidance services.

The multiplication of online tools generates an overflow of distinct sources and of information itself. Mapping user group needs and individual needs assessments are good practice, along with management of available LMI appropriate to each of the different groups. For example, the long-term unemployed or inexperienced young people tend to require more intensive support in LMI exploration and use, compared to employed highly qualified professionals.

Future research on lifelong guidance policy in the EU should address LMI integration. There is limited information on LMI in guidance activities in most of the EU Member States. A comprehensive inventory and evaluation of LMI integration in guidance services is needed to be able to monitor different Member State policies and document successful practices, which can feed back into EU-level policy studies.

It is necessary to establish national monitoring mechanisms that provide systematic assessment of LMI-related policies and practices, to ensure permanent improvement both at EU and national levels.

Ensuring adequate training and context for professionals

Initial and further training of guidance practitioners and teachers in charge of career education must ensure that they are capable of using labour market intelligence effectively. LMI is an important component of career learning at school and in employment centres. Teachers and guidance practitioners must be able to identify, select and use LMI both to illustrate the reality of occupations and employment and enable their clients/students to explore the information autonomously.

LMI should be a stable and representative subject or topic in undergraduate and graduate training courses; relevant competences and knowledge should be actively developed on the job. Skills and attitudes of professionals towards LMI and ICT-based instruments and tools should also be developed, with formal training but also through supported experience (tutoring), informal learning and on-the-job training. Many professionals are resistant to new technologies, which are fundamental to effective LMI use, and must be supported to integrate them in their methods and strategies.

To ensure best results, practice contexts should be favourable to career learning activities, by establishing reasonable practitioner/user ratios in schools and employment services. Professional autonomy of practitioners and career educators can be stimulated, allowing better adjustment of LMI exploration to users' needs. Autonomy should be supervised and harmonised by equally trained management. One possible way to develop training, autonomy and quality supervision is to develop toolkits for practitioners, career educators and managers of careers services.

Using technology effectively

The 'e-challenge' can be addressed by setting up good-quality, well-targeted single access points which can operate as virtual one-stop shops. This type of initiative tends to have scale economies and positive spillover, with measures under the European e-government action plan aiming at cross-border e-government services for citizens and businesses ([1]).

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[1] European Commission. Digital single market: Society: *European e-government action plan 2011-15,* Article, 19.4.2016: https://ec.europa.eu/digital-agenda/european-egovernment-action-plan-2011-2015

Defragmenting LMI by integrating diverse but complementary sources of intelligence is essential, adding value to career information services. All data gathered can be treated and presented in single access point; this type of portal can also offer dedicated tools to support the work of career guidance practitioners and teachers/trainers.

The design and use of digital and web-based tools must account for different levels of information and communication technology (ICT) competence across the population. Many users, particularly older people, are insufficiently familiar with ICT and must develop new skills to use self-help tools. Many guidance practitioners and career educators are also digital immigrants, born before the widespread use of PCs and internet in the workplace. Many of these professionals need to develop not only a new skillset but also a new set of positive and integrative attitudes towards ICT, updating their usual ways of working.

Online instruments are more effective when combined with other delivery methods. The service provided should offer a diversity of delivery channels: telephone, mail, chat, personal appointments, referral to physical information centres, and social media. The combination of channels must be adapted to user needs and career learning activities. Integration of services offered on-site and services offered online will be beneficial to a wide range of target groups.

Online tools and instruments, such as CV-building, edutainment, job exploration, self-assessment, and social media, should be developed, sustained and regularly updated by a professional career service, which can work as a back office. This is particularly important when social media are made available. Having a guidance practitioner as a central figure is beneficial as it makes the responsible team multidisciplinary in nature.

Increasing LMI provision quality

LMI should be impartial, to avoid biased vocational choices. Career guidance practitioners, teachers and parents can, consciously or unconsciously, enforce bad vocational choices by supplying partial and biased labour market information to young people. In some countries, general education enjoys a positive image, while vocational education has a more negative one, independent of the labour market outcomes of graduates from both learning tracks. Parents, guidance practitioners and educators may tend to promote academic pathways, even when they offer less for employers and are not necessarily in accordance with the career preferences of young people. Comprehensive information on the employability from diverse and alternative pathways should be provided,

particularly to young people, together with information on the actual work environments and career development possibilities of several occupations.

Providing online tools for career advice does not substitute or dispense with intervention by qualified career guidance practitioners and should not be viewed primarily as a cost-saving in terms of staff. In many cases, LMI provision must be combined with (or integrated in) the advice of a counsellor. A pure self-service approach is particularly inadequate for individuals with lower career management skills and reduced knowledge of occupations and learning options. Even where a self-help service is set up without providing direct access to a career counsellor, it must be supported by a professional career service which should create and update the available information and advice.

LMI provision is only effective if people have learned to identify opportunities from the information provided. Career management skills (CMS) development should start at a relatively early stage, before students have to make vocational choices which can determine their futures. Individuals start building career identities early on and can develop particular stereotypes and misconceptions about occupations. If not supported by appropriate career learning at school or via guidance services, young people may have poor ability to interpret LMI, which will carry into adult years. Career education in schools can serve this purpose, either as a separate strand or within the curricula of other disciplines. Simple activities, such as visits from professionals or videos showing the reality of occupations, combined with enquiry-based methodologies, can be used for early CMS development. Engagement of strong influencers, such as parents, friends of parents and other family members, improves results.

LMI is well-assimilated and particularly useful as part of practice-oriented career learning activities. It becomes more useful as a support to informed career choice if integrated into activities which raise questions, change perceptions and increase understanding about the practice and context of occupations. Experiential learning, such as work tasters, is a particularly successful way to transmit information about occupations, promoting effective reflection on career choices. Individuals, particularly the young without work experience, like to learn about work through experimentation, trying out a job or a skill in a workshop or a traineeship. Enquiry-based learning provides interesting activities for career education and guidance and aims to develop enquiring minds and attitudes that are required to cope with an uncertain future. Job shadowing and tasters have proved beneficial to individuals and require the active cooperation of professional services and the private sector.

Empowering individuals to find better job matches

Quality LMI provided through career guidance services can help address the mismatch between people's skills and job requirements. LMI provision should account for skills matching, especially in youth career counselling. The development of sector councils is a powerful way to gather and transmit up-to-date information on the reality of occupations and production, as well as current skills needs. Sector councils bring together representatives of employers, educators and policy-makers. They can provide the trigger to involve employers in the development of qualification standards, skills needs analysis by sector, and standards of vocational qualifications for occupations and jobs. This improves the relevance and accuracy of the information provided.

The provision of accurate labour market forecasts for different economic sectors also increases the quality of LMI and contributes to bridging the gap between labour market demand and supply. Forecasts should have adequate geographic coverage, time span and occupation detail to be fit for purpose. National information is particularly important in generating short-term forecasts with high occupation and geographic detail, which is particularly useful for adult jobseekers. Medium- and long-term forecasts tend to be more useful in counselling young people who are defining career identities and making vocational choices, since they convey information about evolution of sectors and professions.

Forward-looking information should combine material from more than one forecast. Combination of market signalling techniques, such as expert and employer consultation, with sophisticated quantitative top-down approaches is desirable. Forecasting information should also be combined with presentation of distinct local scenarios for the evolution of demand and work conditions, to expand its value. To increase its utility to practitioners and end-users, this information should be presented simultaneously with occupational profiles, work conditions and contexts.

Regularly updated job vacancy information can often serve career guidance better but tends to be less reliable. There is a trade-off between data accuracy/reliability and the value of real-time information on the volume and geographic distribution of vacancies, provided by private recruitment companies and other job adverts. Despite the high relevance of these data, information published by public sources tends to be more accurate and robust, even if less timely and detailed.

CHAPTER 1.
Objectives and methodology

1.1.   Aim and objectives

The aim of this study is to analyse the effectiveness of labour market information (LMI) integrated in guidance and career education, working from analysis of case studies and practices across Europe. The following research questions informed this study:

(a) do the varied types of LMI currently employed in the framework of lifelong guidance (LLG) effectively support the needs of individuals and/or the groups to which they are addressed;

(b) what factors have the potential to enable 'meaningful' integration of LMI in the delivery of career guidance and counselling services and what impediments can act as potential disablers;

(c) what factors can support replication of good and/or interesting LMI-related practices and what are the prerequisites for their transferability?

To provide answers to these questions the study sought to:

(a) compare and analyse diverse strategies employed to support the integration of LMI in LLG, including critical success factors, and potential gaps and impediments;

(b) determine competences, methodologies and tools that drive effective LMI management and service design and delivery by guidance counsellors and other educators, to feed into a useful practitioner's toolkit;

(c) identify levers that can aid access to LMI for individuals throughout the lifespan;

(d) outline the potential transferability of good and/or interesting practices in the application of LMI in LLG and career education.

The study was informed by seven key objectives:

objective 1: to provide comparative pan-European identification of strategies of LMI utilisation in LLG;

objective 2: to analyse selected good and/or interesting LMI delivery practices in LLG;

objective 3: to deliver a matrix of effective LMI strategies and key elements for their successful implementation;

objective 4: to develop insights into strategic cooperative arrangements between various stakeholders to achieve high-quality LMI provision;

objective 5: to provide insights into the competences of guidance counsellors and teachers/trainers to support good and/or interesting LMI management and delivery, according to context and specific target groups;

objective 6: to reflect on relevant career management skills (CMS) that may support improved LMI access by individuals and/or groups;

objective 7: to develop guidelines for a practitioners' LMI toolkit and a citizens' LMI toolkit, to include resources such as websites, statistics, occupational information, methods and skills required according to role.

CHAPTER 2.
Integrating labour market information in lifelong guidance

The Europe 2020 strategy sets out strategic policy directions to reinvigorate economic growth that is smart, sustainable and inclusive ([2]). Within this broad context, lifelong guidance (LLG) can assist policy-makers in addressing a range of goals including 'efficient investment in education and training; labour market efficiency; lifelong learning; social inclusion; social equity and economic development' (ELGPN et al., 2012).

Europe needs education and job choices that are consistent with skills demanded on the labour market. The European economy needs education and training systems and active labour market policies that are capable of dealing with changes in jobs and skills needs. Current key challenges in the European Union (EU) in this respect include:

(a) mismatch of qualifications to job requirements;

(b) skills gaps and shortages with hard-to-fill vacancies in certain sectors;

(c) higher skills needs for transformation into a knowledge economy (upskilling of all jobs);

(d) occupational gender segregation;

(e) underutilisation of highly qualified persons;

(f) 'early disengagement from education still high in many countries, especially among at risk groups' (Cedefop, 2014a, p. 14);

(g) persistent and relatively high levels of unemployment, particularly among young people;

(h) relatively low labour and geographic mobility alongside internationalisation of the economy and the labour market.

Cedefop analyses skills mismatch, underlying causes and proposes possible solutions. Skills mismatch for employers is reflected in a significant number of them having difficulties in filling vacancies with the right skills (skills gaps and shortages). Among European employers, 39% report difficulties in finding skilled staff, though there are variations among Member States: less than 25% in

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([2]) European Commission: Europe 2020: *Priorities*:
http://ec.europa.eu/europe2020/europe-2020-in-a-nutshell/priorities/index_en.htm
[accessed 19.5.2016].

Croatia, Cyprus, Greece and Spain and over 60% in Austria and the Baltic States. Lack of required skills is one of the possible underlying causes ([3]). Recent evidence shows that about 13 to 20% of European employers have recruitment difficulties due to lack of required skills, putting constraints on firm productivity and the adoption of innovative technologies and forms of work (Cedefop, 2015).

From the employee perspective, mismatch leads to about 30% to 40% of European employees being either over- or underqualified, with overqualification increasing over the past decade and during the economic crisis (Cedefop, 2014b). According to a pilot study carried out by Cedefop, about 25% of all workers report a significant skill gap in performing their job. Skills gaps are largely linked to the increasing level of job complexity. According to Cedefop (2015), reducing skills mismatches requires reforms to increase the responsiveness of education and training systems to labour market needs, but ultimately requires the creation of innovative and high-skilled jobs (Cedefop, 2014b).

Study findings support the need for more long-term, comprehensive policy frameworks and strategies when tackling skills mismatches and the consequences for the labour market, where LLG and LMI can play a distinctive role. Employers should invest in learning and training and define career progression paths. Policy-makers have a crucial role to play in creating the right incentives and institutional frameworks to strengthen the involvement of employers in developing and implementing VET policies (Cedefop, 2015). Further, active labour market policies, including guidance for the unemployed, should be related to anticipated skills needs (Cedefop, 2015). Support to the unemployed should aim to define skills, to improve job-finding processes, for example through ICT tools, and promote the increased use of training instruments. Combining training with guidance on areas with the highest skills needs is an innovative approach in this area.

OECD reports (2009; 2012) highlight the gulf between learning and jobs, and the need to connect initial vocational education and training more fully to the needs of the economy. This necessitates the effective design and delivery of active guidance, supported by well-informed knowledge of the labour market and vocational and academic pathways. It means 'better data, especially to show where learning leads to good jobs, and where it does not, and more consistent assessment and qualification frameworks to improve transparency of the system'

([3]) Other causes are unattractive job offers and lack of employer commitment to talent management. Macroeconomic factors also play a role, with high unemployment rates among high-skilled and low-skilled workers.

(OECD, 2009). Investing in the right skills requires a strategic approach in which forward-looking LMI and LLG are both key elements.

Better knowledge about the labour market on the part of workers, learners and education agents has been made urgent due to rapid changes and instability in labour markets. Technological change, along with an enduring economic crisis, have reshaped the labour market, transforming entire sectors and changing the character of occupations. Relevant information about markets and careers, often referred to as LMI, is important in helping people make good decisions about their careers. A number of research studies have, nevertheless, shown that effects are not significant unless transmitted with the support of a qualified practitioner or teacher, who can help users understand its scope, meaning and effect on personal career decisions (Savard and Michaud, 2005).

LMI can be made useful in a wide range of settings, such as schools, colleges, vocational education and training (VET), universities, public employment services and other community settings. Career guidance and counselling services, along with career education, are distributed across these diverse settings, being the primary career information delivery system to young and adults alike. The need for LMI can change according to users and contexts, but it is a fundamental component of career development support and it must accessible and conveniently updated. There are two interrelated key elements within a framework for LMI integration in career development support:

(a) information sources and tools for career guidance and education build on LMI;

(b) individual users and practitioners use these resources and tools for self-help, career guidance and career education.

The necessary skills for working with LMI during career learning processes should be developed to benefit from LMI. The following diagram provides an initial perspective on the processes involved.

Figure 1. **Labour market information in lifelong guidance**
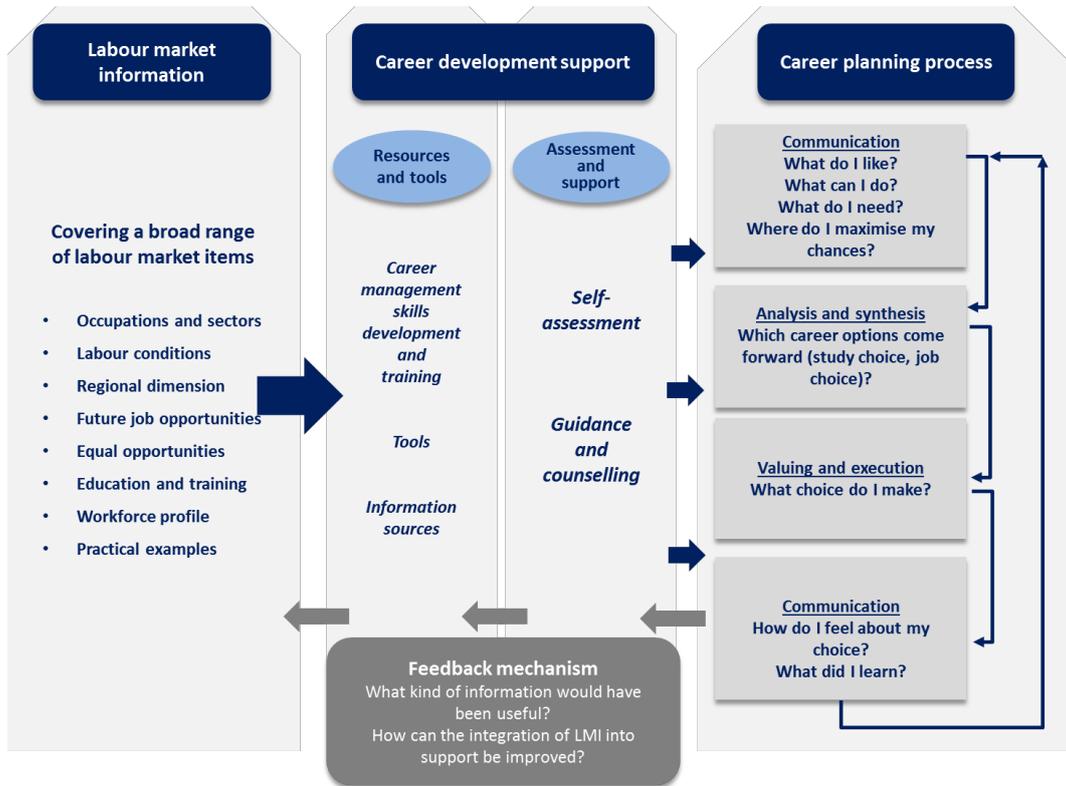
Source: Cedefop.

To explore the integration of LMI in LLG and career education, across these diverse contexts, we first consider fundamental concepts by answering the following questions:

(a) what is labour market information and labour market intelligence?
(b) how is LMI integrated in career education and guidance?
(c) what kind of LMI is needed for career education and guidance?
(d) what are the quality criteria for LMI and LMI tools for career development support and services?

2.1. Labour market information and intelligence

Narrow definitions of labour market information (Murray, 2010) tend to refer to three types of information:

(a) information about labour market trends including forecasts, at aggregate level and by region, sector, occupation (labour demand and labour supply);
(b) information about job vacancies and occupations including on working conditions, wages (labour demand);

(c) information about skills and other characteristics such as interests, educational background of individual workers (labour supply).

This tends to reflect mainstream economics approaches, which research labour markets from the perspective of the balance between supply and demand of labour. One of the consequences of this approach is its emphasis on the statistical information normally used to generate neoclassic economic models. LMI in career guidance tends to be formulated in a broader way, reflecting the complexity of institutional and organisational settings, the nature of individual interactions with career relevance, and the specific nature of information, which is not always clear or shared. A broader definition of labour market information considers all qualitative and quantitative information used by employers, students, employees, and policy-makers to make labour market decisions or plans (Woods and O'Leary, 2006; Murray, 2010). LMI in guidance is information which is relevant for the end-user to make career decisions. In the current study, we adopt the definitions used by the National Guidance Research Forum (NGRF) ([4]):

(a) labour market information tells you about the workplace or labour market. Labour market information often uses data, graphs and statistics to describe the condition of the labour market, past and present, as well as make future projections, but labour market information alone is rarely what is needed in a career education and guidance context;

(b) labour market intelligence is often provided by career practitioners, publications and websites. It is an adaptation, or interpretation of labour market information, a repackaging of graphs and statistics provided to the person seeking career information, advice and guidance. Most career information is labour market intelligence, referring to labour market information that has been analysed and interpreted before presenting it to the public.

From this point onwards, the acronym LMI will be used for both labour market information and intelligence. The data used to generate LMI can be obtained from different sources: the labour force survey; employer skills surveys; the international standard classification of occupations (ISCO); the job vacancy monitor; the Cedefop skills forecast; skills analysis and forecasts by sector federations; administrative databases on employment, social security; public employment services; Eurostat; national statistical offices; surveys and data

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([4]) IER, University of Warwick: NGRF: *LMI learning module*:
http://www.warwick.ac.uk/go/ngrf/lmimodule/ [accessed 2.6.2016].

collected by research centres; education and training databases; graduate surveys.

A vast amount of LMI is available nowadays. Much of the development of LMI tools is oriented towards online and digitally supported provision. Branka's study (2014) provides an overview of good labour market intelligence practices tools, policies and actions. These LMI tools have been developed to contribute to better balance between demand and supply of skills within a particular region. The study distinguishes the following types of tools:

(a) comprehensive tools, combining quantitative and qualitative techniques, sector and occupational views on the labour market, forecasting with trends and having links with policy actions;

(b) occupation-based tools, linked to occupational classifications;

(c) sector-based tools, linked to the statistical classification of economic activities (NACE) or other (green economy, e-skills);

(d) data mining and monitoring tools ([5]), advanced tools for gathering, analysing and publishing of primary data (such as job vacancies);

(e) skills profile and matching, focusing on matching skills supply and demand;

(f) cooperation and labour market actions.

Box 1.   UK portal *LMI for all*, an example of combination of LMI sources

- Employment, projected employment and replacement demands from working futures and labour force survey
- Pay and earnings based on the annual survey of hours and earnings and the labour force survey
- Hours based on the annual survey of hours and earnings
- Unemployment rates based on the labour force survey
- Skills shortage vacancies based on the UKCES employer skills survey
- Skills, knowledge, abilities and interests based on the US O*NET system (mapped to UK occupations)
- Occupational descriptions from the Office for National Statistics (ONS) standard occupational classifications (SOC)
- Current vacancies available from Universal JobMatch
- Geographic patterns of employment and travel to work distances from the UK census of population
- Graduate destination data from the Higher Education Statistics Agency (HESA)
- work is under way to include apprenticeship vacancy data and vacancy statistics

NB: *LMI for all:* http://www.lmiforall.org.uk [accessed 23.5.2016].

([5])   Job vacancy monitoring, labour market observatories (employment, unemployment, sector, occupations, wages, flexibility of the labour market, ageing).

2.2.   LMI integration in career education and guidance

Career guidance is officially defined by the European Council resolution of 2008 as 'referring to a continuous process that enables citizens at any age and at any point in their lives to identify their capacities, competences and interests, to make educational, training and occupational decisions and to manage their individual life paths in learning, work and other settings in which those capacities and competences are learned and/or used'. It includes 'individual and collective activities relating to information-giving, counselling, competence assessment, support, and the teaching of decision-making and career management skills' (Council of the EU, 2008, p. 4).

This definition, and the specific orientations of the resolution, imply universal access to guidance support, along all stages of life and career; in other words, LLG. The teaching of career skills and decision-making is frequently referred to as career education. It tends to take place in a group, rather than individually and can be supported by a curriculum and a set of learning outcomes. There is no clear cut distinction between guidance and career education, since there are strong similarities, complementarities and overlaps between the two. Nowadays, career education, either as a school subject, extra-curricular activity or subject infused reflexion, is frequently supported by a career skills framework.

In career guidance, the level and type of information provided should normally be adapted to both the needs of a person and her capacity to understand and interpret it. Both guidance and career education depart from the assumption that the knowledge and skills necessary to gather, interpret and reflect on relevant career information can be developed. Career education tends to adopt a more stable version of career development ability, which can be more or less homogeneously applied to groups of people.

The DOTS model (Law and Watts, 1977) has proved the most influential model for the establishment of career learning and for the way information is integrated in guidance and career education processes. It describes the career learning process as a combination developing Decision capacity, identification of career Opportunities, managing Transitions and acting on opportunities, and developing Self-awareness regarding one's knowledge, interest and skills. This model, extended by the authors themselves (e.g. Law, 1996), and used by many others as a basis for their own frameworks, is arguably at the root of the lists of career management skills (CMS). CMS are, in turn, frequently used as learning outcomes of career education and guidance processes.

The DOTS model identifies areas of career learning which can be developed via career education or guidance activities. Extensions of the model reflect on the learning process itself, tending to suggest enquiry, adaptation and

experimentation in career activities, as well as acknowledging the role of emotion in the formation of ideas and attitudes about career. The approach emphasises early learning, from primary school stage and the relevance of diagnosing career learning needs. Career learning needs diagnosis tools have been created within DOTS methodologies to support teachers and practitioners and can be used for screening users on entry.

The DOTS approach shows that LMI is an important part of what people learn in career education and in guidance. It provides support in situating one's specific skills and knowledge in a wider context. It also allows for clearer identification of career opportunities, both in the form of vacancies and of training opportunities. It helps adapt to new work environments and seize hidden job opportunities, particularly in the case of non-official, personal information. It also helps make decisions, by supporting the planning process.

The closely related cognitive information processing (CIP) model ([6]) discusses career decision-making and the information needed to support it effectively. It is a particularly useful approach to support the setup of career development services, which make coordinated use of physical career centres and the internet (self-help), relying on a team of qualified staff.

The CIP approach relies on carefully assessing the readiness of individuals for making career decisions, then adjusting the level of support necessary for each person. A degree of screening of all individuals is necessary to define which level of LMI each person should have, the respective delivery methods, support tools and activities. Several methods can be used for screening purposes, it being generally recommended that both standard tests and the impressions collected by counsellors during interaction with individuals should be combined to make a final evaluation.

Depending on individuals' level of readiness they will be directed to one of three options:

(a) individuals with a high level of readiness tend to be referred for self-help services;

(b) individuals with moderate readiness will be referred to brief staff assisted services, where they will receive light support, such as group support sessions, workshops and careers skills development activities; these can be supported by an individual learning plan with predefined outcomes;

([6]) More specifically, this section is based on Peterson et al. (2003).

(c) individuals with a low level of readiness will most likely be referred to individual case managed services, which generally include individual counselling sessions and longer-term group work (training, counselling).

The CIP approach clearly links individual information processing capacities with activities which can be developed in guidance, providing a rationale for user screening and career service organisation. It also raises a central issue of quality in LMI provision, by attributing a central role to integration between self-help and classical practitioner-supported guidance services. Internet provided services cannot work as a stand-alone tool, but rather as a component of a comprehensive provision.

Box 2. **Guidance activities**

Informative activities

Signposting: ensuring that people have accurate information about relevant agencies and the guidance services they provide and are therefore able to select the sources most appropriate to their needs. Signposting is important for access to guidance services and can be culturally adapted, for example, by responding to linguistic limitations and by concentrating relevant information in immigrant-specific services.

Informing: providing (labour market) information about opportunities for work, education, training or other, without discussing the merits or relevance of each option.

Advising: helping individuals and groups to interpret information and choose the most appropriate options.

Developing career management skills (CMS) and autonomy

Counselling: working with individuals to help them discover, clarify, assess and understand their own experience and to explore the different alternatives available as well as strategies for implementation.

Mentoring: offering individuals and groups support to help them overcome personal barriers and realise their potential. Mentoring activities are highly influenced by the skills, value, systems and personality of the mentor, as well as his/her ability to act as role models.

Assessing: helping individuals to obtain an organised and structured understanding of their personal, educational and vocational development to allow informed judgments on the relevance of opportunities presented (in work, training). There is an array of assessment methods, such as psychological tests (GATB and BTPAC batteries) and skills portfolios.

Teaching: planned and systematic progression of learning experiences to enable learners to acquire knowledge, skills and competences. In guidance, teaching is aimed at promoting the acquisition of career management skills, focused on methodologies such as CV and presentation letters creation, job search methods, time management techniques, interpersonal communication techniques.

Sampling: providing work experience, work trials, learning tasters and other experiences that enable individuals to gain direct experience and so clarify their decisions.

Direct support and capacity building

Enabling: supporting individuals and groups in dealing with organisations providing or influencing employment and learning opportunities.

Advocating: negotiating directly with organisations on behalf of individuals or groups for whom there may be additional barriers to access. Advocating is a step further than enabling and can be important for immigrants.

Networking: establishing links with individuals and organisations to support and enhance guidance provision.

Managing critical information and assuring quality

Following up: keeping in touch with individuals after guidance interventions, to assess if further guidance is needed and of what type, direct outcomes from sessions, progress of individuals' opinion about services.

Feeding back: gathering and collating information on the needs of individuals and groups and encouraging providers opportunities to respond by adapting their provision.

Managing: creating and implementing coherent guidance programmes, ensuring stability and development, while assuring the relevance of provision and the quality of its material, knowledge and human resources, with regular and structured assessment. Management highly benefits from a solid QA system based on effective follow-up and feedback mechanisms.

Innovating/systems change: supporting the development of activities and underlying methodologies as well as management practices to improve the quality of provision. Innovation requires the establishment of QA systems with common criteria and is strongly related to regional and national level initiative. There should be concern for target group specificity to allow, for example, successful peer-learning between providers/systems.

Source: Adapted from Ford (2007).

The generally procedural approach adopted by the CIP model, while recommending a holistic and comprehensive type of support, rationalises provision. The fact that the screening process relies on interaction and not only testing, avoids oversimplification of provision, as frequently occurs in trait and factor approaches. It also incorporates individual action planning, as well as rationalised access to counselling models in guidance and experiential learning in career education, acknowledging the importance of self-concept theorisation in career development (Box 3).

It can be described via a recipe metaphor: 'In order to make a good dish (decision) one must have all of the necessary ingredients (content), and know-how to use the cooking instructions (process)'. The relevant contents correspond

to diverse types of knowledge: about his or her self (self-knowledge) and to know about his or her options (options knowledge). There is a need to know how to make decisions and knowledge about emotions, thoughts and monitoring and controlling of decision-making (meta-knowledge, such as 'do I need assistance in making a choice?'). Skills, interests and assessments feed the self-knowledge, and LMI (world of work, occupational knowledge, study and programmes information) informs about the study and occupational options.

Box 3.   **Career development theories: quick reference**

This short reference presents three important strands: Donald Super's model of career development, the work of John Holland et al. focusing on the relationship between career development and personalities, and the life designing model by Savickas et al.

One of Super's greatest contributions to career development has been his emphasis on the importance of the development of self-concept. According to Super, self-concept changes over time, and develops as a result of experience. Given this, career development is lifelong. Super also introduced the archway of career determinants, a set of factors influencing career development. One pillar of the archway concentrates on internal factors such as needs, interests, intelligence (biographical self). The other pillar consist of external factors such as the economic situation, the labour market, family, friends (geographic self). The more insight a person acquires into both pillars supporting the 'self', the more solid career decisions will be. In this model, LMI is just one of the influencing elements (Bijlard, 2011).

An interesting addition here is that LMI is an element in the geographic self which is prone to a distorted perception due to the fact that long-term expectancy is less empowering than short-term expectancies. What relevant others communicate, conscious as well as unconscious, about your possibilities has a stronger influence on many people than the logical conclusion which could be derived from strict interpretation of LMI.

John Holland's work fits into trait-and-factor theories, which fundamentally aim at finding good fits or matching between individual abilities and personal orientations and work environments. Holland's theory assumes that personalities fit into six different categories: realistic, investigative, artistic, social, enterprising and conventional (RIASEC). People are inclined to select the career that is reflective of their personalities and look for work environments that will provide the means to use their skills and/or abilities. People's behaviour is based on interaction between personality and environment. Consequently, the greater the similarity between the person's personality and work environment, the greater the career satisfaction. Due to their low cost and simplicity of implementation, trait-and-factor theories are frequently

used to support career guidance services, particularly in their automated components, such as in cognitive testing or self-help services.

An example of the use of this typology of personality characteristics in career guidance can be found on the website *My next move* (http://www.mynextmove.org) an interest profiler tool developed by the National Center for O*NET Development and sponsored by the US Department of Labour, Employment and Training Administration.

While Super's work focuses on an evolutionary approach to career development during the life span, the theory of Holland is a more static model, with important limitations in the way it deals with both individual and contextual change.

A third and more recent model is the life designing model for career intervention described by Savickas et al. (2009). This was developed as a response to challenges in career counselling. It endorses five presuppositions about people and their work lives: contextual possibilities, dynamic processes, non-linear progression, multiple perspectives and personal patterns. The model recognises that an individual's knowledge and identity are the product of social interaction and that meaning is jointly constructed through discourse.

We will not discuss the theories in detail since the theory of career development itself does not belong to the scope of the study. The literature review in this study will concentrate on literature dealing with the use and integration of LMI in LLG, as explained in Chapter 4, and will refer to the theoretical models where relevant.

For further readings we refer to more comprehensive overviews, such as can be found on the website of the *National guidance research forum* of Warwick University (http://www2.warwick.ac.uk/fac/soc/ier/ngrf). Another interesting reference is the systems theory framework (McMahon and Patton, 1995; Patton and McMahon, 2006). The approach to career development is proposed as a meta-theoretical framework that accommodates the contribution of all theories and offers an integrative and coherent framework of career influences.

Practitioners and career educators need more than to be aware of the potential role of LMI in career learning, as they need to be concerned with the way in which this learning occurs. They must foster appropriate learning experiences, adapted to age, career stage and assessed learning needs. All this requires appropriate training, correct tools and access to LMI sources. Practitioners need to update and expand their LMI expertise routinely by developing, sharing and disseminating LMI knowledge and using this expertise throughout their career guidance activities. There are many robust and reliable sources, mostly government-funded, that are accessible to practitioners who feel confident about handling large data sets. Additionally, practitioners can build their own LMI website resources, which they use with clients; in such cases,

practitioners need to do their own LMI research. Working collaboratively with colleagues to broaden and deepen their understanding of LMI can help.

It has been argued that LMI is central to effective LLG: 'What makes guidance distinctive is the application of, and reference to, expert knowledge and understanding of the labour market and its functioning (Offer, 2001, p. 76). Bimrose and Barnes argue 'it is not just the expert knowledge and information that makes guidance distinctive. It is the objectivity of the information in which they deal and their impartiality that career guidance workers often emphasise as unique' (Bimrose and Barnes, 2010, p. 13). This attitude is an essential competence for all career practitioners. Experimental studies, conducted in Canada between 2009 and 2011 ([7]), highlighted the possibility to improve the chance that users will navigate, understand and use the information more efficiently by structuring it around needs and by referring users to LMI products already assessed by skilled persons (LMI and career specialists) thereby aiding integration of LMI in guidance.

2.3.   LMI type for career education and guidance

The development and application of LMI targeting user groups, particularly those at risk, is a key policy priority. Against the background of a complex labour market, people have different needs according to their career development, culture and personal characteristics (such as gender, migration background, age). Research has pointed out that the key issue here is to organise the LMI around 'needs', not so much around a typology of users (students, jobseekers, youth at risk, as examples) since, ultimately, they may even require the same type of LMI: information on where to study or get training for a given occupation; information and tips on how to look for a job; information on how to keep employment if a person seems to have difficulty maintaining employment (psychosocial needs and skills). The way information is presented to the individuals will be important for reaching all types of users (Bimrose, 2006).

The Labour market information products guidelines drafted by the LMI working group (2012b) of the Canadian forum of labour market ministers provide reference on which information items to include in LMI products:

([7]) Canadian research working group on evidence-based practice in career development: *Measuring the impact of LMI*: http://www.crwg-gdrc.ca/crwg/index.php/research-projects/lmi [accessed 23.5.2016].

(a) labour market profile information, including employment and earnings outlooks by sector, occupation. The regional and local dimension should be included if reliable information is available;

(b) jobs and recruiting information, including job postings, information on recruitment processes and on occupations and required skills;

(c) education and training information, including descriptions of courses, entry requirements and financial issues;

(d) career planning information, including material on matching occupations, learning and training opportunities to overcome skills gaps, and other occupational information. Career planning information should relate to standard occupational classifications, should mention prior learning assessment, refer to essential skills requirement strategies needed to succeed in learning and working in different occupations, and methods for learning to be applied.

According to the Bimrose and Barnes (2010) the following LMI topics are considered most useful by practitioners: local LMI, trends in employment and self-employment, new jobs, skills shortages and skills mismatch, entry and progression in jobs, transferability between occupations and sectors, qualification level of a sector workforce, current developments in education and training, and information regarding equal opportunities. The financial condition of the business plays a role but seems seldom addressed in standard checklists.

Bimrose et al. (2011) argue that individuals (clients) consider the practitioners' ability and confidence to work effectively with LMI to be central and expected. A key finding from a five-year longitudinal case study that evaluated the effectiveness of career guidance for adults in England, carried out by the Warwick Institute for Employment Research (IER) (2003 to 2008), funded by the then Department for Education and Skills, highlighted the value placed on LMI by clients. Over a five-year period, adult clients were asked every year to evaluate the effectiveness of the career guidance they had received and identify precisely what, if anything, they had valued. They consistently identified 'access to expert information' (largely referring to LMI), as highly valued. Other observations in the field lead to the conclusion that information used most by individuals is that related to job vacancies, about the skills and other characteristics of occupations (wage, working conditions, reconciliation of work and personal life) and educational information.

Due to the diverse nature of clients/customers and the lifelong perspective of career guidance, it is important for LMI to be comprehensive and all-encompassing to support career education and guidance. The following LMI can be provided in career development support for young people and adults:

(a) labour market profile and trends including employment, unemployment and earnings outlooks by sector, occupation. Data should be available at national, regional and local levels where (statistically) reliable information and non-disclosive data are available;

(b) trends in skills, including skills needs and mismatches, skills gaps, together with current and future skill demands. The regional and local dimension should be included if statistically reliable and non-disclosive information is available;

(c) information on occupations, including on skills requirements, educational background, interests, working conditions, skills shortages, pay and earnings;

(d) information on work environments, the specificities of occupations and job progression routes in those environments, and vocational training options available on the job;

(e) entry and progressions routes into and through occupations, including job vacancies;

(f) entry and progression routes in education and training to gain skills for an occupation, or bridge a skills gap for a desired occupation;

(g) career education and guidance information, such as on developing CMS, where to find information and assistance;

(h) equal opportunities and diversity issues (support measures), and changing workforce profile.

Most clients of career guidance will go through a wide range of learning experiences until they are successful in achieving their career-related goal(s). Different types of LMI will be required for different exploration and decision stages during a person's career. Table 1 provides an example of LMI use, based on the CIP approach. It highlights how different types of LMI can be useful during career planning (Peterson et al., 2003). Career information processing is presented as a five-step cycle: communication; analysis; synthesis; valuing; and execution.

Table 1. **LMI needs in the career information processing cycle**

Step in the career information processing cycle ([a])	Description	Labour market information
Communication	• external demand: a need is detected, a career decision will be required • internal state or reaction: how a person feels, behaves, acts in response to the need ([b])	
Analysis	• improve self-knowledge obtained from experience, assessment, counselling, exercises: values, interests, skills, employment preferences • increase occupational knowledge • capacity to process this information and meta-cognitions (what kind of information do I need)	• providing information on occupations, education, training programmes and the link between education and training and occupations. LMI presented in a range of formats to address client/customer needs and learning styles • providing information on the world of work (structure, institutions, sectors, labour law, policies, demand) • matching skills and employment preferences with possible occupations and labour market demand
Synthesis ([c])	Identify and select alternatives and narrow down to three to five options for occupation, study, programme	Matching skills and employment preferences with possible occupations and labour market demand (continued, refined)
Valuing	• asses cost and benefits of alternatives • prioritise and make tentative choice	• detailed information on alternatives (testimonials, video, web resources, company visit, etc.) • information on requirements for being accepted as a candidate for a study or a job
Execution	Planning and implementing the choice	Practical information, e.g. application procedures, CV
Communication	Review external demand and internal state. Is there satisfaction with the choice? Can I implement the choice?	

([a]) Career planning process is based on the concept of the CASVE-cycle.

([b]) The word 'need' is deliberately chosen over the term career 'problem'.

([c]) The synthesis can be influenced, for example by what others communicate about their 'horizon of action'. Overview of influential mechanisms in toolkit *My system of career influences* (McMahon et al., 2005).

Source: Adapted from the description of the CASVE cycle in Peterson et al. (2003).

Local LMI is consistently highly valued by all agents and participants. However, it is not always possible to integrate the local or regional dimension into LMI, for example due to insufficient data or gaps in geographic coverage (Bimrose et al., 2011). Information on education and training pathways is considered to be essential for career education and guidance, constituting LMI in

a broader sense. LMI tools developed for career education and guidance should tend to include this information or refer to it.

2.4.   Quality criteria for LMI integration in guidance

Distinction should be made between the different skill sets required by practitioners providing their clients with direct, unmediated access to LMI and those required to provide clients with the support necessary to interpret LMI for an individual's particular circumstances and career progression. While many clients want direct access to information, once they have this, they often need help making sense of it. Because of the increasing pace and complexity of labour market developments, LMI provided needs to meet a high standard and fulfil quality criteria to have a potential effect on career development.

The following quality criteria for good LMI are taken as reference due to their comprehensiveness (LMI working group, 2012b):

(a) accuracy: the information should be precise and correct; new information should be checked thoroughly;

(b) completeness: the information should be as complete as possible, for example in terms of coverage of sectors, regions, subjects;

(c) timeliness: the information should include recent data, the data should be frequently updated;

(d) relevance: the information should be relevant to the career development questions of users and should be adapted to needs of different user groups;

(e) visually attractive: the information should be presented in an appropriate and attractive visual format such as infographs, tables, pictures, icons, formatted texts;

(f) accessibility: the information should consider different capabilities and backgrounds of users (texts easy to understand). It should be accessible without registration and at low cost or free of charge as much as possible;

(g) impartial: the information provided is in accordance with the user's interest only, is not influenced by provider, institutional and funding interests, and does not discriminate on the basis of gender, age, ethnicity, social class, qualifications, or ability ([8]);

(h) have authority: the information should come from reliable sources;

(i) comparability: the data provided should be comparable over time, between different geographic levels/units as much as possible;

([8]) Cedefop, 2005; Eurostat and European Statistical System, 2011.

(j) transparent: sources of information and data are mentioned, methodologies used should be explained where relevant;

(k) be easy to update: it should be possible to update or refresh the information provided with minimum effort or cost;

(l) forward-looking: the information provided should refer to/consider trends, outlooks, expected labour market developments as much as possible (for example employment forecasts by sector, occupation, region).

Although all quality criteria are relevant it is not easy to fulfil them all at the same time ([9]). As we will learn further from literature (Section 3.2) and from the case studies, some are key criteria that should be fulfilled at all times. Impartiality, completeness, accessibility and forward-looking are among them because they are also quality criteria for LLG services as such (Cedefop, 2011). Highlighting orientations for good practice in LMI delivery, the ELGPN has agreed for EU Member States the *Guidelines for policies and systems development for lifelong guidance* (ELGPN, 2015). This document includes a specific guideline for good practice in career information which recommends that:

(a) the information provided must be designed to respond to users' needs and be understandable;

(b) LMI must be reliable and be collected and distributed within a logic of stakeholder cooperation;

(c) information should reflect local job markets and training offer;

(d) forecasting data should be used;

(e) both experiential and non-experiential forms of translating information should be used;

(f) promoting career learning/CMS development is fundamental for adequate use of LMI;

(g) use of diversified media should be promoted in delivery;

(h) EU tools should be further explored.

The current study examines these aspects among others and attempts to document how, in Member States, promising and successful initiatives have integrated them. As the case studies will show, although it is not easy to find all these aspects combined, increased quality tends to result where there is simultaneous concern with many of them.

One other aspect of quality in delivery of LMI is practitioner competences and attitudes. Cedefop's competence profile for practitioners (Cedefop, 2009),

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([9]) Because some criteria influence each other negatively, e.g. more accuracy means less recent data, also because higher quality usually implies higher investment costs.

recommends identifying information sources as well as enabling clients to access them and question personal stereotypes about occupations and training pathways as a fundamental client interaction set of competences. Subsequent work elaborated on this specific area of practitioners' professional profile. The NICE *Handbook for the academic training of career guidance and counselling professionals* (NICE, 2012) indicates that professional practitioners should be competent in:

(a) providing clients with information and assessment methods that support them in autonomously assessing how suitable particular educational and vocational opportunities are for them;

(b) communicating educational, organisational, societal and political requirements and opportunities;

(c) taking into consideration the needs and capacity of clients, and reducing information complexity;

(d) explaining the world of work, vocational and education systems, as well as trends and developments in the labour markets and education systems;

(e) making use of information systems;

(f) employing different assessment techniques for identifying the strengths, weaknesses, opportunities and risks of clients.

The same source recommends competence-specific knowledge and a set of attitudes that should be developed to use career information successfully. The European reference competence profile for PES and EURES counsellors (European Commission, 2014), besides acknowledging the embedded nature of LMI in career guidance processes and activities, also includes specific areas of LMI-related competence, which include the ability to use knowledge of living and working conditions in Member States and to acquire and apply current knowledge of the labour market situation, VET possibilities, and occupational qualifications. In this regard, the practitioner should be able to:

(a) regularly acquire and update their knowledge of education, training, employment trends, labour market, and social issues, including the specifics of local/regional/national labour market conditions, to convey relevant information to clients;

(b) acquire and apply current knowledge of development opportunities for occupational/professional groups to partner with such groups and relevant institutions;

(c) acquire, apply and update their knowledge of national and international occupational requirements, including occupational classifications and occupational qualification/competence standards;

(d) structure and appropriately apply this knowledge to individual cases.

The recommended competence profile also includes the ability to acquire and use current knowledge of disadvantaged groups in the labour market.

Besides LMI-related competences, practitioners also require skills and competences to work with ICT, to deliver LMI in an effective way, during guidance activities. Pyle (2000) stresses the importance of knowledge of computer-assisted software and websites and the ability to motivate clients to use different ICT tools. Kettunen et al. (2015) argue that guidance practitioners need to possess a good attitude to use social media, be patient when using it, be confident and innovative. It is argued that different contexts of career development support require distinct ICT skills:

(a) delivering information: media literacy, ability to locate, evaluate and use various types of online content and services in a critical manner are important skills for practitioners;

(b) one-to-one communication: online writing skills with a style that meets the needs of clients;

(c) using social media as interactive working space: participating in online discourse, which requires appropriate structuring and active facilitation;

(d) participative user-led exploration with practitioner support (co-careering): online presentation skills become important to enable clients' autonomy.

Ketunen's emphasis on differentiated contexts and roles for practitioners is consistent with the DOTS approach of adapting methods and the role of LMI and ICT tools to client activity and needs. While the approach of matching individual traits to work environments seems popular, many other approaches are also possible (Bimrose et al., 2011). Clients can be provided unmediated direct access to high-quality LMI for autonomous exploration, be encouraged to use LMI to support a broader process of personal growth, and pedagogically use LMI for specific purposes such as challenging misconceptions and stereotypes.

CHAPTER 3.
Study design and methodology

3.1.   Research tools: short overview

The study began with a conceptualisation phase during which a comprehensive literature review was undertaken to inform refined research methodology and fieldwork research tools. The information collected through 12 field visits (11 field visits focusing on EU countries and one field visit used as benchmarking) is presented in the form of case studies to feed into the development of two specialised 'LMI Toolkits' for LMI skill development practitioners and for client support.

Figure 2.   **Study phases and research tools**
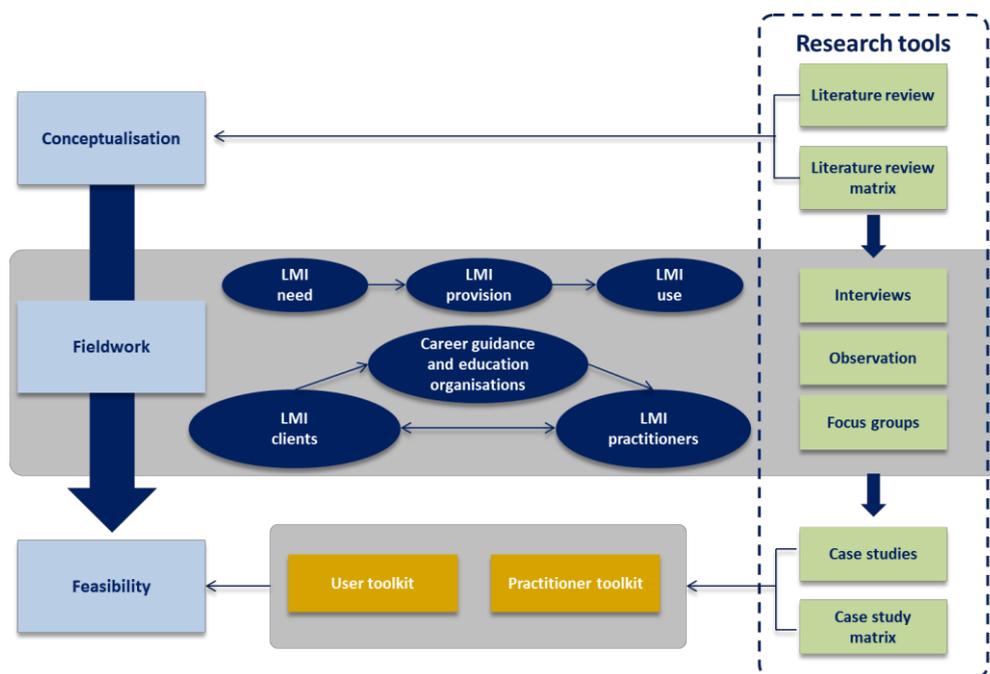
Source: Cedefop.

3.2.   The literature review

The literature review had a broad geographic scope, including both the case study and other EU countries. Information on good practices and policy outcomes from non-EU countries, with benchmark practices such as Canada, has also been included. The choice of literature surveyed reflected the typology of

strategies (or approaches) to integrate LMI into LLG. Table 2 provides an outline of the search and selection criteria for studies, publications, policy documents relevant for analysis applied in this study.

Table 2.   **Search and selection criteria for relevant sources**

Thematic focus related to integration of LMI in career training and guidance	• guidance strategies using LMI and key elements of their success • key challenges and barriers to successful LMI implementation • guidelines of competences, methodologies, tools according to context and target groups, in relation to good LMI management and delivery by practitioners • practitioner toolkits • framework for CMS necessary to aid access to LMI • tools and methods used to access LMI by individuals • client toolkits • criteria to transfer successful practices
Type of report	• theoretical study • evaluation or monitoring report • trend analysis • feasibility study • comparative study • policy document • practical documents, including guidelines and toolkits
Geographic focus	• country level or EU level • all EU countries • selection of EU countries
Type of organisation publishing the document (author)	• research Institute • network • public authority • sector organisation • organisation providing career training and counselling

Source: Cedefop.

Literature has been analysed in a two-step approach. First, relevant academic and grey literature sources were identified, including online sources. Second, items and materials were examined in detail using a literature synthesis matrix provided as accompanying document.

The literature review matrix contains 54 references. Most references relate to the case study countries featured in this report. For each document the following elements are included: title, author, context, main theme, critical success factors and barriers, solutions, conclusions, time and geographic focus. Information in this section is mainly drawn from the table, complemented by suggestions from the project experts.

The methodology allowed for the most relevant material to be retained for further scrutiny. The main purpose was to identify existing LMI and LLG findings. The results of the literature review are discussed below. A question-and-answer structure is used to present the main conclusions, the following questions having been discussed:

(a) what is labour market information and labour market intelligence?
(b) what is LLG?
(c) what kind of LMI is needed to support LLG?
(d) what kind of LMI tools are available?
(e) how is LMI integrated into LLG policies and practices?
(f) what are the quality criteria for LMI tools in support of LLG?
(g) what are the success factors to deliver high-quality LMI in LLG?
(h) what are the enablers and barriers to deliver high-quality LMI in LLG?

3.3.   Case study selection and synthesis of field visits

The fieldwork of this study focused on 12 selected countries (including Canada as a benchmark). Annex 1 presents the country selection approach for the field visits, which were undertaken in the following 11 EU countries:

(a) Denmark (SSE ([10]) – highest expenditure in LMP ([11]) services);
(b) Finland (SSE – moderate expenditure in LMP services) – pilot case;
(c) Croatia (SSE – modest expenditure in LMP services);
(d) Estonia (SSE – modest expenditure in LMP services);
(e) Belgium (CCCP ([12]) – high expenditure in LMP services);
(f) the UK (CCCP – highest expenditure in LMP services);
(g) Greece (CCCP – modest expenditure in LMP services);
(h) Germany (DLSE ([13]) – Highest expenditure in LMP services);
(i) the Netherlands (DLSE – highest expenditure in LMP services);
(j) Austria (DLSE – moderate expenditure in LMP services);
(k) the Czech Republic (SSE/CCCP – moderate expenditure in LMP services).

Canada has been used as a non-EU benchmark case within the fieldwork framework.

([10]) Single structure education (SSE): education is provided in a continuous way from the beginning to the end of compulsory schooling, with no transition between primary and lower secondary education, and with general education provided in common for all pupils.

([11]) Labour market policies.

([12]) Common core curriculum provision: after successful completion of primary education, all students progress to the lower secondary level where they follow the same general common core curriculum.

([13]) Differentiated lower secondary education: after successful completion of primary education, either at the beginning or during lower secondary education, students are required to follow distinct education pathways or specific types of schooling.

For each of the selected countries an area of specific practice is highlighted, considering the following key factors:

(a) evidence of good and/or interesting practice;

(b) evidence in the literature review about the use of LMI in practice;

(c) quality of the LMI provided (including accuracy, completeness, degree of provision of up-to-date information, visual attraction);

(d) critical success factors identified;

(e) transferability of tools and practices in other contexts and countries.

In Table 3, we present some brief information on the initiatives identified and studied during the field visits.

Table 3.   **Synthesis of practices in focus**

Practice/ Initiative	Country/ region	Objectives	Type of LMI initiative described	Host organisation	Funding of practice/initiative
BiWi	Vienna, Austria	Platform which: • connects education and the labour market • provides practical insight to individuals, schools and businesses into the professional world • assists in finding the right education and/or career path https://www.wko.at/Content.Node/Biwi/BiWi___Berufsinformationszentrum.html	LMI portal for all end-users	Styrian Association for Education and Economics http://stvg.at/	Vienna Chamber of Commerce and Industry
Beroepenhuis	Belgium-Flanders	Initiative which provides: • familiarisation with less known vocational and technical professions • introduction to the world of work • provision of labour market information on professions connected to vacancies which are hard to fill http://www.beroepenhuis.be	Exhibition hall on occupations	*Beroepenhuis*, City of Ghent, Belgium http://www.beroepenhuis.be	The main funding for the services provided come from: • entrance fees • public authorities • sponsors • sectors introduced in the *Beroepenhuis*
CISOK	Zagreb, Croatia	The initiative focuses on: • providing tailor made services for lifelong career guidance to all citizens from elementary and high schools students and their parents to the unemployed and jobseekers and to career counsellors • services based on the needs of the region/ location http://www.cisok.hr/	Career information office	Croatian Employment Service http://www.hzz.hr	Cooperation between local municipalities and chambers, universities, adult education institutions, schools and NGOs
Infoabsolvent	Prague, Czech Republic	The portal: • is designed as a self-assistance mechanism and is publicly accessible since 2010 • assists students at all education levels and adults in addressing various issues during the course of education and training and making critical career choices and decisions • supports counsellors to improve the quality of their practice and teachers as a valuable information resource and a career orientation tool in the classroom	LMI portal for all end-users	National Institute for Education http://www.nuv.cz/	Initially developed under the VIP career project and further enriched under the VIP Careers II career counselling project. Since 2008, it has been developed and is operated by the National Institute for Education

Practice/ Initiative	Country/ region	Objectives	Type of LMI initiative described	Host organisation	Funding of practice/initiative
		http://www.infoabsolvent.cz			
eGuidance	Copen-hagen, Denmark	An online guidance service: • supporting young people's upper secondary and higher education choices • supporting the career management and skill development of all citizens https://www.ug.dk/evejledning	Online guidance service for all end-users	Division for Guidance of the Ministry of Children, Education and Gender Equality http://eng.uvm.dk/	The service is integrated within the national guidance web-portal Education guide and operated by the National Agency for IT and Learning
LMI for all	London, England	An online LMI data portal: • makes careers LMI data available from one portal • data organised around the standard occupational classification (SOC) system • LMI available to applications and websites that can bring data to life for a range of audiences • aimed at supporting those making career decisions • provides information available for a range of indicators, including employment forecast data http://www.lmiforall.org.uk	Open data source site allowing creation of customised end-users websites	Prospects ltd. One of 11 prime contractors for the Skills Funding Agency, National Careers Service http://www.prospects .co.uk	Owned by the UKCES Developed by the Institute for Employment Research at the University of Warwick, Pontydysgu and RayCom
Rajaleidja [Pathfinder]	Tallinn, Estonia	Online portal: • providing information on career planning, work and education possibilities in Estonia and abroad. • career counselling, psychological, socio-pedagogical, special education counselling and speech therapy • guidance offered to children and young adults aged 1.5 to 26. http://www.rajaleidja.ee	LMI portal for all end-users Career guidance office	Foundation Innove, Agency for Lifelong Guidance http://www.innove.ee /en	Foundation Innove, Agency for Lifelong Guidance (http://www.innove.ee/en): the initial funding for the project came from the Social Fund of the EU
TET-tori	Helsinki, Jyväskylä, Finland	Online portal that aims at: • improving pupils' knowledge about professions and working life • assisting them in getting the most from their 'introduction-to-work-life' period http://peda.net/veraja/tori	LMI portal for all end-users	Finnish Institute for Educational Research https://ktl.jyu.fi/en	Finnish Institute for Educational Research (https://ktl.jyu.fi/en): initially started and was supported by companies and education providers in Central Finland
Berufsinformat ionzentrum (BIZ) [Career	Berlin Nord, Germany	Occupations-based career information centre which: • operates a career information office for all • develops and provides career guidance and education	Career guidance office	Employment Agency http://www.arbeitsag entur.de	Employment Agency http://www.arbeitsagentur.de

Practice/ Initiative	Country/ region	Objectives	Type of LMI initiative described	Host organisation	Funding of practice/initiative
information center]		services for students and adults https://www.arbeitsagentur.de/web/content/DE/Buergeri nnenUndBuerger/Detail/index.htm?dfContentId=L60190 22DSTBAI485471			
Interactive guidance portal for adolescents; youngsters and adults (TeensGate, Greece)	Athens, Greece	Portal which: • assists teenagers and young people aged 12-25 in assessing their professional interests and values through specific self-assessment tools and in highlighting their competences, achievements and talents through the e-portfolio development tool • informs them on the education opportunities, on professions and on labour market status and trends http://www.eoppep.gr/teens/	LMI portal for all end-users	National Organisation for the Certification of Qualifications and Vocational Guidance (Eoppep) http://www.eoppep.gr	National Organisation for the Certification of Qualifications and Vocational Guidance (Eoppep) http://www.eoppep.gr
Beroepen in Beeld [Professions in the picture]	The Hague, Utrecht, the Netherlands	Website which: • supports young people, parents and teachers/school counsellors/mentors within the framework of career orientation and guidance • provides information (although sometimes limited especially for professions under higher and academic education levels) on the world of work (labour market and professions) and on internships in the country http://www.beroepeninbeeld.nl/	LMI portal for all end-users	SBB Stichting Samenwerking Beroepsonderwijs Bedrijfsleven https://www.s-bb.nl	LOB subsidy (Ministry of Education, Culture and Science) SBB contribution
Benchmarking case: *IMT en ligne* [LMI online]	Quebec Province, Canada	Online tool/service which: • provides information on occupations, educational programmes and on employers • assists jobseekers and employers • embedded in guidance services of education institutions and career development service providers http://imt.emploiquebec.gouv.qc.ca/mtg/inter/noncache/ contenu/asp/mtg941_accueil_fran_01.asp?Lang=ANGL	LMI portal for all end-users	Emploi Québec, the public employment agency of the Ministry of labour, employment and social solidarity http://www.emploiqu ebec.gouv.qc.ca/en/	Emploi Québec, the public employment agency of the Ministry of labour, employment and social solidarity http://www.emploiquebec.gouv .qc.ca/en/

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3.4. Fieldwork visit methodology

The fieldwork visits approach in each country began with an essential preparatory phase during which we identified existing reports and documents on the selected countries for the field visits. This activity served as an initial data collection method and has also been used as input for the development of the case studies. The visits in each country were organised with the assistance of a host organisation managing the selected practice or the organisation (such as a school) adopting the practice. During the fieldwork visits, the focus was on the identified initiatives/practices, addressing, as appropriate, both managing organisations and implementing organisations (when different).

Within the selected organisations, the project team carried out interviews with key stakeholders, direct observation and focus groups, with the assistance of the host organisation. The semi-structured interviews were addressed to four types of stakeholder:

(a) management level executives of the relevant organisations providing career education and guidance services;
(b) career guidance practitioners;
(c) policy-makers;
(d) users of guidance and career education services.

The project team, with the assistance of an external expert, also studied Quebec, Canada as a benchmarking example. The interview and focus group guidelines are presented in Annex 3. The case studies are presented in separate documents that accompany the present report ([14]).

3.5. Data analysis

A framework to assess and compare different tools and initiatives was developed, based on nine criteria:

(a) producer of information: the aim of the tool, the organisation responsible and the financial arrangements;
(b) type of tool: the nature of the tool and its main purpose;
(c) user information: how users are supported and guided in accessing and using the tool;
(d) target group: the target groups for the information provided through the tool;

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[14] Cedefop: publications: Labour market information and guidance: *Background material, case studies:* http://www.cedefop.europa.eu/en/publications-and-resources/publications/5555

(e) quality of the information provided: indicates to what extent the proposed set of LMI quality are fulfilled;

(f) content of the information provided: labour market information topics covered by the tool;

(g) presentation of the information: the way users are involved (interaction) and the dynamism of the information provided (showing evolutions or not);

(h) technical information: the transparency of the information sources, the costs for users, how and how frequent the information is updated;

(i) relation to the LLG (policy) framework: how the initiative is situated in the wider LLG policy context, also taking into account labour market and education and training policy frameworks (or other relevant frameworks).

Table 4 provides an overview of the main and subsidiary criteria.

Table 4.   **Categorising LMI initiatives for career guidance purposes**

Producer of information	• purpose of the information (study choice, occupational choice, job choice) • why has the information been produced? • who is responsible for the tool (development, implementation, update)? • type of producer • is it a project-related tool for a certain period of time, a pilot case, or long-term activity? • who funds the information? • what is the annual budget; what is the initial investment cost?
Type of tool	• comprehensive tools combining quantitative and qualitative techniques, sector and occupational views on the labour market, forecasting with trends and having links with policy actions • occupation-based tools, linked to occupational classifications • sector-based tools, linked to NACE classifications or other (green economy, e-skills) • data mining and monitoring tools ([a]), advanced tools for gathering, analysing and publishing of primary data (such as job vacancies) • skills profile and matching, focusing on matching skills supply and demand • multichannel tools (combining online guidance, personal guidance and online information) • cooperation and labour market actions (project, information centre, support programme, training programme, sensibilisation)
User information	• assistance provided for use of LMI • assistance provided for interpretation of LMI • accessibility for persons with special needs and disadvantaged groups
Target group	• policy-makers, researchers • employers • practitioners of career education and guidance • 'train the trainer', career guidance experts, specialised practitioners • individual users • attention for disadvantaged groups/groups with special needs • combinations of target groups
Information quality	Quality criteria (Section 2.4)

Information content	• labour market profile and trends including employment, unemployment and earnings outlooks by sector, occupation • trends in skills, including skills needs and mismatches, skills gaps, together with current and future skill demands • information on occupations including information on skills requirements, educational background, interests, working conditions, skills shortages • entry and progression routes in occupations including job vacancies • entry and progression routes in education and training to gain skills for an occupation, or bridge a skills gap for a desired occupation • career planning information on where to find information and assistance • equal opportunities and diversity issues (support measures), and changing workforce profile
Presentation of the information	• static or dynamic • user-led, personalised (or possible to personalise) • interactive • use of multimedia
Technical information	• information sources are indicated (local, regional, national or international source, administrative data or surveys) • can the information be printed? • frequency of updating • free of charge or not • freely accessible (does user have to login or create an account to view information) • methodologies for calculation, such as % chance of a job or traineeship
Relation to LLG (policy) framework	• policy field (employment, education, other) • policy level (local, regional, national) • part of LLG strategy • part of strategic approach for LMI integration into guidance

(a) Job vacancy monitoring, labour market observatories (employment, unemployment, sector, occupations, wages, flexibility of the labour market, ageing).

CHAPTER 4.
Policy context

4.1. LMI integration in guidance and EU policy

Career guidance and career education are important components of EU policy initiatives and strategies to increase the employability and skills of learners and professionals. One of the key aspects of quality guidance and education in support of those policy initiatives is integration of quality LMI, particularly in what concerns training and education offers and their labour market outcomes. Another important aspect is development of autonomous LMI exploration and use in career planning and decisions. This autonomy is what allows users of LMI of all ages to choose, in an informed way, the best training and careers, according to their profiles, and with a realistic perspective of the labour market.

Career guidance contributes to achieving the Europe 2020 headline targets, by improving the employability of citizens, supporting the prevention of early leaving from education and training and promoting upskilling and qualification of working adults. The role of guidance is particularly prominent in the European education and training framework (ET 2020), since it directly affects its main objectives, particularly in enabling lifelong learning and mobility of citizens and in developing entrepreneurship skills at all levels of education and training.

Reducing school dropout rates below 10% in both general education and VET is one of the headline targets of the Europe 2020 strategy (the EU average in 2013 was 14.4%). An action plan has been approved by the Commission in 2011 as a means of assisting Member States in achieving this headline target by the end of the decade (Council of the EU, 2011). A combination of both preventive and remedial measures has been recommended to reduce the percentage of early school leavers through vocational education and training in particular. According to the Bruges communique (Council of the EU and European Commission, 2010), this could be achieved through labour market relevant VET, increased work-based learning and apprenticeships, flexible learning pathways, effective guidance and counselling, and by learning content and methods that acknowledge young people's lifestyles and interests, while maintaining high-level quality standards for VET. In the 2015 Riga conclusions (Ministers for VET of EU and EEA, 2015), one policy action is dedicated to increasing access to VET and qualifications for all through more flexible and permeable systems, notably by offering efficient and integrated guidance services and making available validation of non-formal and informal learning.

Guidance is particularly effective in preventing early disengagement from education and training, by identifying potential risk situations and promoting effective responses early on. For those who have left education and training, guidance also provides effective return engagement pathways and appropriate motivation to pursue qualifying pathways. For this reason it is also an important component of the early intervention approaches supported under the *Youth guarantee*, with the aim of combating inactivity and unemployment among young age cohorts. The EU *Agenda for new skills and jobs* is another initiative which relies on development of quality guidance to transmit information on skills needs efficiently to workers, jobseekers and learners. It also promotes development of CMS for people to plan and manage their careers successfully, a career guidance core activity.

To support integration of LMI in career guidance, the EU framework has been developing tools to assist practitioners in accessing information about skills, training and relevant frameworks. The EU skills Panorama ([15]), for example, is a website which provides access to information on skills needs per sector and country, in a friendly format. Its future development plans include a tailored guidance practitioner interface. The website Ploteus ([16]) provides information on training opportunities and qualifications offered across European countries. The information on qualification reflects European and national qualification frameworks. The website also supports analysis of mobility during guidance processes, allowing direct comparison of national frameworks. The website EURES ([17]) also provides information on professional mobility, advertising job opportunities in the EU and allowing for the elaboration of a Europass CV ([18]). EURES also provides access to a network of career advisers.

There are EU guidelines for both gathering and production of LMI and use in LLG, but these are still not clearly part of the EU framework. The quality assurance framework of the European statistical system (Eurostat, European statistical system, n.d.) provides a set of principles which can be regarded as best practice in assuring the quality of the labour market data. Principle 15 of the

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([15]) European Commission: *EU skills Panorama*:
http://skillspanorama.cedefop.europa.eu/en [accessed 24.5.2016].

([16]) European Commission: *Learning opportunities and qualifications in Europe:*
https://ec.europa.eu/ploteus/ [accessed 24.5.2016].

([17]) European Commission: *EURES, the European job mobility portal:*
https://ec.europa.eu/eures/public/homepage [accessed 24.5.2016].

([18]) Cedefop: *Europass*: https://europass.cedefop.europa.eu/en/home
[accessed 24.5.2016].

European statistics code of practice ([19]), states that custom-designed analyses should be provided when feasible and the public is conveniently informed, suggesting that customisation responds to users' requests. It logically follows that LMI used in career information should be customised according to quality principles in career guidance.

The quality of career information (including LMI) in guidance is defined at EU level by a combination of three documents: Cedefop publication on *Improving lifelong guidance policies and systems* (Cedefop, 2005); the European Council resolution on better integrating lifelong guidance into lifelong learning strategies (Council of the EU, 2008); and the *Guidelines for policies and systems development for lifelong guidance* of the European lifelong guidance policy network (ELGPN, 2015).

Cedefop founding principles for guidance system development establish the principle of impartiality in guidance provision. This implies that the information provided is comprehensive and fits the needs and interests of users, rather than being biased towards the prejudices or interests of providers, institutions or employers. In practice this means, for example, providing information about both vocational and general education tracks available, if that makes sense for the user of the service.

The 2008 Council resolution on lifelong guidance creates a framework for improving LLG and integrating it into lifelong learning strategies. The resolution refers explicitly to LMI as an integral part of a holistic approach to LLG. Under priority area one, 'encourage the lifelong acquisition of career management skills', it is clearly stated that CMS include learning about the world of work: the economic environment, business and occupations, and education, training and qualification systems. Supporting access to information by citizens and guidance providers is a key element in the resolution. Open access to information sources should be promoted; information should be accessible for all and tailored to the needs of different user groups. Relevant information contributes to the quality of guidance provision. According to the text, information provided should be forward-looking, taking into account anticipated skills needs, and be adapted to the local area. The resolution also highlights the importance of adaptation to context of intervention, distinguishing specific sectors and client groups (Council of the EU, 2008).

The *Guidelines for policies and systems development for lifelong guidance* (ELGPN, 2015) agreed by Member State representatives in the ELGPN deepen

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([19]) Eurostat and European statistical system, 2011.

the idea of context adjustment, by creating individual guidelines for each context. They also suggest a number of transversal guidelines, among which is career information in guidance provision. Besides reaffirming the ideas of impartiality, non-discrimination and universal access, the guideline further reinforces the idea of responsiveness to user needs and introduces some new important elements regarding effective integration of LMI (see Section 2.4).

4.2.   National trends in integrating LMI in guidance

4.2.1.   Cooperation for quality in LMI collection and information delivery

Across the EU, the gathering of LMI and delivery of career information is increasingly the result of cooperation between different stakeholders. This extends from ensuring the regularity and quality of base statistical data, to generating tailored intelligence and ensuring appropriate use by practitioners and educators. The most common categories of LMI in which this cooperation occurs are the production and use of skills forecasts and of updated information on occupations.

Both occupational and labour demand information are increasingly gathered with the support of sector councils or chambers, which ensure that the information used in guidance and career education reflects the reality of professions and sectors. In Belgium (Flanders) sector covenants are one of the main policy instruments promoting competence development and better alignment between education and the labour market. The Flemish government provides support for active labour market actions through a contract between the sector and the government. Career guidance and education activities are an important line of actions in the sector covenants. A LMI tool has been developed to support needs analysis and selection of relevant actions by sectors to be included in the covenant. The advantages of the tool are the detailed level of information on employment, skills, and target groups per sector in different classifications. Data can be analysed by NACE code and by sector committee number. A methodology for sector skills forecasting has also been developed. Sector skills forecasting is being implemented slowly, with a forecast available for seven out of the 33 sectors with a sector covenant.

In the UK (England) the sector skills councils ([20]) are employer-led organisations that cover specific industries. They work on developing an

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([20]) Federation for industry sector skills and standards: *our members, employer-led partnerships*: http://fisss.org/sector-skills-council-body/ [accessed 24.5.2016].

understanding of future skills needs in their industry and contributing to the development of national occupational standards, the design and approval of apprenticeship frameworks and the new apprenticeship standards, as well as creating sector qualification strategies. There are currently 19 sector skills councils, covering about 80% of the British workforce. They are licensed by the government through the UK Commission for Employment and Skills (UKCES).

The intensity of this cooperation tends to be influenced by the degree of embeddeness of education and training systems within the productive sectors. These bodies play a strong simultaneous role in the definition of both LMI and vocational curricula in countries with strong apprenticeship systems. Austria employs dynamic and customised feedback mechanisms aimed at improving the design and implementation of VET, with strong participation of social stakeholders, particularly representatives from the business community. According to the European quality assurance in vocational education and training (EQAVET) reference framework, social partners in Austria are categorised into statutory (including economic chambers, worker organisations, agricultural chambers) and voluntary groups of participants such as the Federation of Austrian Industry and the Austrian Trade Union Federation. Social participation through representative organisations plays an important role in the vocational dimension of education, with active contribution to legislation issues and curricula development. Close cooperation with business stakeholders also ensures that VET curricula are adapted to the real needs of the local, regional and national economy and labour market.

There is also cooperation between national and regional level actors particularly when there is a clear federal or regionalised system. The organisation of LLG in Germany reflects the division of competences in education, training and employment between the federal government, the Federal States (Länder) and municipalities. Education and culture, including school counselling and career education in schools, fall under the responsibility of the Länder. The federal government is responsible for employment policies and vocational training including career guidance. Local municipalities play a role in career guidance through training guidance for adults and through social welfare work. The production of LMI, which supports guidance activities, tends to have an equally regionalised orientation.

The Federal Employment Agency develops regional mechanisms for the production of LMI. In Berlin Brandenburg, for example, there is a quantitative labour market monitor including regional forecasts and a comprehensive occupational LMI system supporting the LLG provided by the Employment Agency. The labour market monitor is a LMI tool enabling national, regional and

local labour market analysis. Comparative analysis with other Member States is possible to NUTS-2 level. The tool focuses on employment, unemployment and vacancies, sectors and occupations. It has options for personalising preferences and for creating groups and communities. The final regional forecast is based on calculations and on dialogue with local employers, unions and other social and economic stakeholders.

In Finland, production of LMI is based on national and regional cooperation between education and labour market administration, social partners and companies. The data are published by Statistics Finland ([21]), the Finnish Ministry of Employment and the Economy, and the Finnish National Board of Education (NBE). Local enterprise partnerships in the UK (England) ([22]) are voluntary partnerships between local authorities ([23]) and businesses set up in 2011 by the Department for Business, Innovation and Skills ([24]) to help determine local economic priorities and lead economic growth and job creation within the local area. There are currently 39 local enterprise partnerships operating across England.

LMI used in career guidance (especially in schools and employment services) tends to be produced by public services, normally with a major role for national statistical authorities and specialised departments within ministries of employment/labour. Liberalised or quasi-market solutions may also be adopted. In the Netherlands, for example, a distinction is drawn between a research and a monitoring function in producing LMI. The research function is mainly conducted by universities and several research institutes (ROA, Research Centre for Education and the Labour Market; Panteia and other research institutes for specific themes, such as SEO Economic Research), and to some extent by the public employment service (UWV). ROA conducts annual school-leaver surveys ([25]) and, every two years, provides labour market forecasts for the following five

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([21]) Statistics Finland: *Statistics: Labour market:* http://tilastokeskus.fi/til/tym_en.html [accessed 26.5.2016].

([22]) *LEP Network*: http://www.lepnetwork.net/

([23]) Wikipedia, the free enclyclopedia: *Local government in England:* https://en.wikipedia.org/wiki/Local_government_in_England [accessed 26.5.2016].

([24]) Wikipedia, the free enclyclopedia: *Department for Business, Innovation and Skills:* https://en.wikipedia.org/wiki/Department_for_Business,_Innovation_and_Skills [accessed 26.5.2016].

([25]) Maastricht University: ROA, Research Centre for Education and the Labour Market: Kerncijfers Schoolverlatersonderonderzoeken [Key figures: school-leaver surveys]. https://translate.google.gr/?ie=UTF-8&hl=en&client=tw-ob#nl/en/School%20verlaters%20onder%20onderzoeken [accessed 26.5.2016].

years with respect to education and occupation. The monitoring function is conducted by the Central Bureau of Statistics (CBS), UWV, SBB and some other institutions. They periodically provide LMI by industry, occupation, education and region.

4.2.2. The importance of national strategies and legislation

National LLG strategies are rare, due to the fact that the area is frequently scattered across policy fields, mainly employment and education policies. Its guidelines are normally diluted in the general frameworks of those ministries and more general strategies to address socioeconomic challenges, such as unemployment or early disengagement from education. This frequently results in lack of consistency of career guidance and irregular development of specialised services and tools. LMI integration in guidance services is negatively affected by absence of a unified strategy, which is further reinforced by feeble coordination between guidance actors at national level.

The existence of formalised frameworks for the producing and using LMI, with the inclusion of guidelines for specialised services, is a possibility. In 2010, the Croatian government adopted the regulation (Ministry of Science Education and Sports, 2010) on the monitoring, analysis and forecasting of labour market needs for occupations and competences needed for planning and delivering lifelong learning career guidance services. Under this regulation, the Ministry of Science Education and Sports, in cooperation with various other government bodies and agencies, is in charge of forecasting and anticipating future labour market and skills needs.

Specific regulation on guidance may act as a stimulus for adequate integration of quality LMI in guidance. The 2003 Danish Act on guidance (Danish Parliament, the Folketing, 2003) aims to develop a transparent guidance system with easy access to high-quality guidance services. The act defines, as one of its main objectives, contributing to improving the individual's ability to seek and use information, including ICT-based information and guidance about choice of education, education institution and career. The act not only paved the way for comprehensive and well-coordinated system development, supported by a national forum, but also generated appropriate conditions for integrating quality, tailored LMI in guidance. The act also allows guidance services to play a clear, strategic role in developing a national skills strategy.

In Austria, the current efficacy of established feedback mechanisms in integrating information about skills needs in guidance is largely extent due to the existence of a national strategy for LLG. The strategy was sponsored by the Austrian Federal Ministry of Education and created by an interministerial working

group including the Public Employment Service Austria, social partners and other relevant stakeholders.

Legislation and national strategies in other policy areas may also work to the benefit of LMI integration in career guidance, if explicit reference is made to it, generating political compromise and minimum accountability. The 2014 national reform of the Czech Republic contains measures aimed at meeting national goals set by the Europe 2020 strategy. It includes support for guidance and counselling within the education and employment sector as well as need for close cooperation between the two. One of its important aspects is the closer integration of information on skills needs in guidance processes, in which employers are empowered to become more involved. Secondary and tertiary levels of education are also encouraged to respond more closely to the demands of the labour market and employers. The strategy outlines a specific project to support cooperation between schools and companies.

The Estonian Ministry of Education and Research has set a national strategy for lifelong learning up to 2020 whereby the Estonian government shall create study opportunities and career services which are of a good quality, flexible and diverse. One of the main features is that the new reformed services better integrate needs of the labour market, contributing to reducing mismatch between qualifications offered and demanded. The strategy intends to improve the gathering of information on labour market developments and provide quality, accessible career counselling. In 2009 the Labour Market Board and the Unemployment Insurance Fund were merged as a means of better integrating labour market services and benefits. Currently, the Unemployment Insurance Fund provides quality career counselling the aim of permanent improvement of LMI integration.

Table 5 shows how LMI initiatives in the context of LLG are linked to national policies, as observed in the case studies for this study.

One other way to stimulate the development of LMI in guidance services via strategic frameworks is to enable combination of funding sources in developing LMI tools. While in some countries, such as Germany, the tools are part of long-term funding programmes, in others, initiatives are project-based and frequently resort to the European Social Fund (as in Czech Republic, Croatia, the Netherlands and the UK). Permanent budgetary commitments might not be easy to achieve, but pure project-based funding approaches bring uncertainty about the continuation of the initiative once the funding period ends. Some countries have opted for mixed models. In Finland and Belgium, employers and users contribute financially to the guidance initiative/tool, to ensure information quality and reliability.

Table 5.   **Practices examined linked to national policy context**

Practice/Initiative	Link with national policies
BiWi (Austria)	National strategy for lifelong guidance
Beroepenhuis (Belgium-Flanders)	• there is no overall LLG strategy • strong links to, and support for, social partnerships
CISOK (Croatia)	• national strategy for lifelong career guidance (2012) • national forum for lifelong career guidance (2014) • national strategy in Croatia 2015-20
Infoabsolvent (Czech Republic)	• strategy for education policy of the Czech Republic until 2020 • strategy of lifelong learning (2007) • national qualifications framework (2007) • sector councils
eGuidance (Denmark)	The Ungepakke 2 public act
LMI for all (the UK)	• UK government plan for growth, (HM Treasury and BIS, 2011) • T*owards a strong careers profession* (Careers Profession Task Force, 2010) • UK open data policy
Pathfinder (Estonia)	• lifelong learning strategy 2014-20 • career guidance forum (2008) • expert group from the ministries of Education and Research, Economic Affairs, and Communications and Social Affairs
TET-tori (Finland)	Tripartite partnership: government, trade unions and employer organisations providing consultation on education reform
BIZ (Germany)	• BeKo guidance quality concept of the Federal Employment Agency • BeQu quality standards for LLG (national guidance forum)
Interactive guidance portal for adolescents and youngsters (Greece)	Law 4186/2013 (Greek Parliament, 2013) on the restructuring of secondary and vocational education opening the VET system to the economy and the job market, attempting to regulate the field from the perspective of lifelong learning
Beroepen in Beeld [Professions in the picture] (the Netherlands)	• national framework for career professionals • 'LOB incentive plans' activated in 2009

Source: Cedefop: publications: Labour market information and guidance: *Background material, case studies:* http://www.cedefop.europa.eu/en/publications-and-resources/publications/5555

The position and status of LMI in LLG policy is dependent on the existence of a national LLG strategy, which is generally reflected in a strong national coordination mechanism. This is the case of Denmark, Germany, Estonia and Finland, with active national guidance forums. An interesting example outside the EU is the Canadian forum of labour market ministers, who created a LMI working group where federal, provincial and territorial governments work together on a coherent, relevant individualised, accessible and coordinated approach to development and delivery of LMI at local, provincial/territorial and national levels. LMI can also be incorporated in quality standards for guidance services and in the training required to undertake LLG activities. In Germany, they are part of the professional standards for guidance services and the education and training programmes for guidance professionals. In Latvia, the guidance master degree includes substantial coverage of the labour market, occupations and the culture

of employing organisations, with practical training involving both observation and research.

Given the importance of LMI for quality guidance provision, it is surprising to note its low status in most advanced study programmes for guidance practitioners. This is particularly true in developing the capacity to share LMI with clients in a way that is appropriate to individual needs and that promotes the clients' future capability to access information autonomously. Representative research (NICE, 2011) which analysed curricular assignments in practitioner training in a sample of 58 European universities showed that only 3.4% of modules related to assessment and career information were to help 'people get personally relevant information about the world of work'.

Some public employment services actively develop staff occupational knowledge and their understanding of the employers (Cedefop, 2009). The degree programmes of the University of Applied Science of the Federal Employment Agency (Germany) include significant labour market analysis and LMI use competence development. In the Czech Republic, Labour Office counsellors are also responsible both for employment brokerage and for entry to vocational training.

Some countries, however, lack a national system for gathering and analysing information on labour market trends and the dynamic of occupations. Several, particularly the newer EU Member States, report developing classifications of occupations and trades, although this can be a lengthy task. Both Greece and Iceland identify the lack of national systems for labour market data collection and analysis as an inhibiting factor for any ambition that trainers might have to introduce labour market knowledge in the training of career guidance practitioners.

CHAPTER 5.
Examples of integrating LMI in career education and guidance

5.1.   Tools and initiatives examined

The research team visited 11 European countries – Belgium, Czech Republic, Denmark, Germany, Greece, Estonia, Croatia, the Netherlands, Austria, Finland, and UK (England) – where several distinctive initiatives were studied ([26]). These were examined closely to appreciate their inner characteristics and structural elements within the guidance and LMI context in which they operate. The initiatives analysed aim at supporting teachers and schools, parents and/or career/guidance counsellors but primarily students of upper secondary and tertiary education (age group 15 to 24), or younger (age group 11+, *Beroepenhuis* in Belgium and TET-tori in Finland). Some of the initiatives also aim at supporting the unemployed and/or those disadvantaged, physically handicapped or migrants (examples are CISOK in Croatia, BIZ in Germany and Infoabsolvent in the Czech Republic). Most offer descriptions of professions and career and education opportunities available, while one in four disseminate information on employment opportunities, apprenticeships and internships, and skills development available locally or regionally.

Almost half of the initiatives (five out of 11) aim at individual counselling; a quarter (four out of 11) aim at self-guidance or group guidance. Other types of counselling are supported by individual tools such as guided visits and integration of guidance in school curricula while some combine different types of counselling (individual counselling, group counselling, self-guidance) (e.g. BIZ in Germany). Most practices explored are characterised by high involvement of stakeholders in the systematic and formalised collection of LMI relevant and for the proper operation of the practice.

Table 6 highlights the main characteristics of practices studied.

([26]) Canada has also been explored, and is used in the study as a benchmarking practice and guidance system.

Table 6.   **Lifelong guidance practices inventory**

BiWi (Austria)	Aims to: • connect education and the labour market • provide practical insight to individuals, schools and businesses into the professional world • assist in finding the right education and/or career path https://www.wko.at/Content.Node/Biwi/BiWi___Berufsinformationszentrum.html
Beroepenhuis (Belgium)	Aims to: • improve familiarisation with less known vocational and technical professions • introduce individuals to the world of work • provide LMI on professions connected to vacancies which are hard to fill http://www.beroepenhuis.be/
CISOK (Croatia)	Focuses on: • providing tailor made services for lifelong career guidance to all citizens from elementary and high schools students and their parents to the unemployed and jobseekers, and to career counsellors • services based on the needs of the region/location http://www.cisok.hr/
Infoabsolvent (Czech Republic)	The portal: • is designed as a self-assistance mechanism and is publicly accessible since 2010 • assists students at all education levels and adults in addressing various issues during the course of education and training and making critical career choices and decisions • supports counsellors in improving practice quality and teachers as a valuable information resource and a career orientation tool in the classroom http://www.infoabsolvent.cz
eGuidance (Denmark)	An online guidance service: • supporting young people's upper secondary and higher education choices • supporting the career management and skill development of all citizens https://www.ug.dk/evejledning
LMI for all (the UK)	An online LMI data portal: • makes careers LMI data available from one portal • data organised around the standard occupational classification (SOC) system • LMI available to application and websites that can bring data to life for a range of audiences • aimed at supporting those making career decisions • provides information available for a range of indictors, including employment forecast data http://www.lmiforall.org.uk
Pathfinder (Estonia)	Online portal: • providing information on career planning, work and education possibilities in Estonia and abroad • career counselling, psychological, socio-pedagogical, special education counselling and speech therapy • guidance offered to children and young adults aged 15 to 26. http://www.rajaleidja.ee
TET-tori (Finland)	Online portal that aims at: • improving pupils' knowledge of professions and working life • assisting them in getting maximum benef from their 'introduction-to-work-life' period http://peda.net/veraja/tori

BIZ (Germany)	Occupations-based career information centre which: • operates a career information office for all • develops and provides career guidance and education services for students and adults www.arbeitsagentur.de
Interactive guidance portal for adolescents; youngsters and adults (Greece)	Portal which: • assists teenagers and young people aged 12-25 in assessing their professional interests and values through specific self-assessment tools and in highlighting their competences, achievements and talents through the e-portfolio development tool • informs them about education opportunities, professions and labour market status and trends http://www.eoppep.gr/teens/
Beroepen in Beeld [Professions in the picture] (the Netherlands)	Website which: • supports young people, parents and teachers/school counsellors/mentors within the framework of career orientation and guidance • provides information for professions under higher and academic education levels on the world of work (labour market and professions) and on corresponding internships in the country http://www.beroepeninbeeld.nl/

Source: Cedefop: publications: Labour market information and guidance: *Backgroung material, case studies*: http://www.cedefop.europa.eu/en/publications-and-resources/publications/5555

5.2. Case study findings

This section examines areas of effective practice which underpin the approaches to supporting LMI integration in career guidance. These include the need for early interventions, which support educational choices and assure engagement, as well as employability-enhancing interventions, support to job-seeking and support to practitioners and teachers/trainers.

5.2.1. Starting guidance and career education early at school

Ideas about careers start at a very early stage, with recognition of jobs and tasks under more or less conscious influence of significant others, especially family members. Career learning is a slow, complex and multi-layered process which, if left untapped, will generally be dominated by career stereotypes, frequently driving to bad decisions. Young people need not only information but also skills, career constructs and expectation setting, regarding the realities of work. This process ideally should start well before important career decisions are taken (such as choosing a track) and which should be progressive, with increased complexity as pupils progress through school. The development of CMS, such as teamwork, problem solving, information and communications technology (ICT), and exploration of career information, from an early age is an important step in helping young people identify career opportunities.

Previous research by Cedefop highlighted that that prevention of educational disengagement begins with providing high-quality pre-school education,

accessible for all (Cedefop, 2010). Effective approaches also support young people through key transitions, such as from one level of education to another, and into employment. OECD (2010) also highlights that attendance at high-quality early childhood education and care programmes has positive effects on children's school achievement, and subsequently on their school-to-work transitions.

Some practices follow the principle that career information is more effective if there is early development of CMS. The *Beroepenhuis* practice in Belgium focuses on guidance for 11- to 14-year-old students. It aims at familiarising them with less known (vocational and technical) professions, by dismantling prejudgements and introducing the world of work via interactive occupational exhibits, and by developing self-knowledge (discovering talents and interests). The focus is also on 'why work?' and supporting youth in finding a role for themselves in the professional world. The project provides didactic materials for school use, such as lessons to prepare the visit and to develop career learning in school. Other tools include ideas for career workshops in the classroom and a game to discover talents and professions in a gender-neutral way.

TET-tori in Finland assists pupils in getting the most from their 'introduction-to-work-life' period (Box 4), by supporting career guidance and counselling at schools from the early years of basic education. Counsellors use it to organise better the 'introduction' activities and coordinate with other schools; they also collect feedback from both students and their employers to assess the work practice activities. Autonomous exploration by end-users is encouraged from early stages; students and their parents do this to gain information on different companies, workplaces and professions in their region. When the time arrives, students identify the available work practice vacancies and other practical information, such as a short description of the practice and the local company and what is expected of them. After completion of their work practice, the students can then share their experience with their fellow students so that they learn from each other, improving their knowledge about professions and working life. The success of such initiatives depends on the active involvement of employers.

Preparing teachers and trainers to support and encourage the acquisition of CMS as well to encourage parents to become involved in guidance issues is also important. For instance, through BiWi in Austria, students are empowered to explore their education and career paths, building on their CMS with the support of their teachers and parents and also career counsellors. BiWi supports teachers and schools in providing career guidance, by scheduling class visits to the premises of BiWi whereby more information is given on the criteria that

students have used for choosing an occupation. BiWi also organises dedicated parents' evenings either in school or in its premises where career counsellors discuss with parents their role in their children's career choice and provide them with an overview of possible learning pathways and the current situation of the labour market.

In some countries, career guidance is less embedded at schools for diverse reasons: weak strategic coordination and the capacity to translate findings into actions (the case in Belgium-Flanders, Greece, Croatia); lack of framework for the provision of necessary skills to counsellors (in the Czech Republic, Greece, the Netherlands); and conjuncture factors, such as how the economic crisis has affected the way young people look at job positions. In countries with high youth unemployment, such as Greece or Spain, the main aim of young people is frequently finding a job, any job, rather than deciding on the career that better suits their potential and preferences.

Certain initiatives and tools offer career guidance and vocational education and training (VET) that are closely bonded to labour market needs. *Beroepenhuis* in Belgium-Flanders aspires to become a bridge connecting students with the world of work and introduce them to a range of professions, making them aware of their talents and, at a secondary level, to increase employability in certain sectors with high labour demand and limited supply. Sector federations are key *Beroepenhuis* partners, supplying information on occupations and bottlenecks as well as funding.

BIZ in Germany provide career guidance related to study and job choices. They provide information on work and occupations, education and training, and help students make a choice and apply for apprenticeships. The work of the career information centres is considered to be very important by employers and other labour market stakeholders because of the need to have the right vocational qualification to enter a vocational occupation. The responsibility for career guidance in education lies with the Employment Agency due to their familiarity with the labour market. Respecting the basic freedom of professional choice, they provide the best possible career guidance and career education for a broad audience.

Employers are actively engaged when introducing and promoting their production methods, professions and job opportunities and by informing students on tasters and work-based learning opportunities. They generally also take the opportunity to fine-tune their activities and services in a way that benefits the community while assessing potential future employees.

Box 4.   **Introduction to working life: Finland**

Compulsory 'introduction-to-working-life' periods are organised for pupils to support education and occupation choices, and to induce respect for work. More specifically, during the eighth and ninth grades, each pupil joins a local company/organisation for a week. They are not considered as 'full employees' but they work for six hours per day undertaking small useful tasks for the day-to-day operation of the company (such as helping sort clothes in a retail shop, helping in the decoration in a furniture store, preparing coffee and juice in a canteen, helping a client find a salesman or make an appointment). A detailed time plan is jointly prepared by the schools and employers in a region at the beginning of the school year. Pupils are informed about the 'job offers' and are encouraged to contact directly their potential employer(s) for more details on their foreseen responsibilities.

5.2.2.   ICT tools to empower career guidance

Easily accessible guidance services are promoted by using a combination of e-guidance with other delivery channels. For example, the interactive guidance portals for adolescents, youngsters and adults in Greece (TeengGate) host various career guidance support tools: career interests, values and decision-making tests on professional skills and interests, on professional values and on the key factors affecting a youngster's professional orientation; digital personal skills dossier (e-portfolio) development tool aiming at collecting, organising and presenting information and digital artefacts on youngsters' and adults' skills, competences and progression; and videos on professions, thematic information catalogues and other useful links.

An increasingly digitised world demands being ready to adapt to the new needs of jobseekers and students. In England, the National Careers Service is designed to meet the needs of adults and young people by combining online LMI with telephone services and webchat, as well as face-to-face provision. Face-to-face sessions are mainly reserved for adults. In the Czech Republic, the Infoabsolvent information portal is designed as a self-help mechanism and is backed up by the services of the Information and Guidance Centre, which is involved in preparing methodological information and providing telephone, online and face-to-face help; if a user wants an individual consultation the system will guide them towards contacting the guidance centre (by email, telephone) or to arrange a personal visit. Promotion of open access to resources and support in providing information through either individual counselling or institutional provision is important and indicates that guidance services are accessible to everyone regardless of their knowledge level and skills. Despite the utility of online tools, limitations in internet access and the ICT skills level of the different

population groups and practitioners is often a barrier to individuals accessing LMI, particularly those most disadvantaged.

Comprehensive websites tend to combine qualitative information and detailed quantitative data presented in a friendly way (for a wide range of professions, for various regions and sectors) with a short- to medium-term perspective (four to five-year forecasts). The Netherlands offers interesting examples, through several well-established labour market research institutions such as ROA, Panteia, SEO, CINOP, and ITS. UWV and SBB also develop and distribute a lot of LMI by unlocking data in an accessible way and making them suitable for target groups. This is important in countries that plan to develop a similar tool to *Beroepen in Beeld* in the Netherlands, which compiles and provides access to updated information on the labour market and professions in the country.

The existence of multiple online tools with LMI addressed at a range of potential users (employers, practitioners, candidates) may generate excessive 'noise', making user choice of online platforms difficult. This may also result in overflowing and unclassified information received by those working in the LLG sector. In cases where LMI is abundant and diversified, a single reliable source of up-to-date official data – on employment/unemployment levels per occupation (both current and future projections) and job characteristics, such as necessary qualification, skills/abilities, day-to-day activities, expected earnings – is valuable for jobseekers and people in career transition phases. LMI for all in England has a range of data in one single portal, with updated information available for a range of indicators allowing the creation of end-users' customised websites.

Going beyond online information sharing can involve virtual communication channels such as online chat. Use of such communication has proven fruitful in some cases. Denmark's 'eGuidance' uses various means such as telephone, email, online chat and social media: online chat is by far the most popular communication channel, accounting for more than 50% of the virtual guidance sessions provided. It enables clients to ask, conveniently and anonymously, exactly what they want while having the option to leave the conversation whenever they want.

During these sessions, eGuidance counsellors share links with the clients, who have the opportunity to go through them together. They also frequently summarise key points of the chatting session to ensure that progress is being made in all necessary areas. The typical duration of a session is between 10 to 15 minutes but there is no set time limit: during the course of the online chat session clients are able to respond at their leisure and have enough time to reflect on their current situation and possible future choices as suggested by their

eGuidance counsellor. The conclusion of each session is the next step that the client should take to address their particular career guidance and information needs. If this next step does not produce the outcome expected by the clients, they are asked to revisit eGuidance to start a new session.

In Finland, the national job-seeking helpline is called *Työlinja* (Jobline) and provides general information on employment and economic development services (PES). Education advice and career guidance (by psychologists) are also available. Most of job descriptions are connected to a 'career tool' AVO ([27]),which helps users to assess their interests, skills, job preferences and potential restrictions. The online tool connects different occupations with available relevant study programmes.

Social media is becoming increasingly popular among individuals of all ages (though mostly younger people) which provides those working in LLG with a further channel to reach prospective clients. Building on this growing popularity and the high percentage of Facebook users in Denmark (approximately 3 million ([28]) or 53% of the population), the eGuidance Facebook page has currently more than 17 000 followers: its 'wall' provides clients with a digital place to share their experiences and learn from the experience of others, as well as with tailored advice delivered by eGuidance counsellors.

In Finland, the Työlinja Facebook page is targeted at young users, and the helpline maintains a blog called 'favourable direction' ([29]), a chat service and a Twitter account ([30]).

The use of virtual communication tools offers benefits not only to the users but also to professionals working in a wide range of different settings. It enables increased flexibility and convenience for clients while allowing professionals to provide information and guidance to clients seeking support in choosing their future career and/or education from across the country, regardless of their geographic location. However, transferring these practices to other countries implies presupposing that:

(a) the services are addressed to clients that possess a level of ICT literacy;

([27]) *AVO programme [AVO ohjelmaan]*: http://www.te-palvelut.fi/avo [accessed 30.5.2016].

([28]) Statista: *Figures of 2016*: http://www.statista.com/statistics/283654/denmark-number-of-facebook-users/ [accessed 9.6.2016].

([29]) *Favourable direction [Suotuisa suunta]* http://suotuisasuunta.blogspot.fi/ [accessed 9.6.2016].

([30]) https://twitter.com/tepalvelutfi [accessed 9.6.2016].

(b) the required skills and attitudes of practitioners and managers are present or can be developed;

(c) there is access to appropriate infrastructure and tools;

(d) the guidance approaches employed by the counsellors are adapted to the particularities of each different channel; for example, the approach used to communicate with clients by telephone is not entirely suitable for guidance sessions via online chat and vice versa.

To ensure adequate and individually adjusted use of its diverse delivery tools, the eGuidance practice in Denmark has developed the '4C model'. This regulates the virtual interactions of eGuidance counsellors, providing an overall guidance approach, as well as specific guidelines for each channel to ensure that each session will follow a consistent structure leading to a concrete positive outcome and, ideally, action on the side of the client, regardless of the channel. Using a broad array of complementary virtual communication channels is a comprehensive and effective approach that aids access to career information and counselling services provided via digital means for the widest possible audience.

As with other aspects of career development support, LMI provision is not always required with the same intensity and level of complexity. An initial needs assessment is crucial in enabling clients to navigate through LMI. For example, long-term unemployed or young age cohorts with little exposure to the labour market may have little labour market knowledge. Progressive exposure to LMI, in a way that questions personal constructs and preconceptions, is important. Autonomous exploration of website content is ideally expanded as people develop their career learning capacities. A career service should assist clients to navigate through the LMI website according to their needs, and gradually become self-sufficient in such navigation.

Guidance services based on the principle of 'accompanied self-service' have greater impact on students making training and career decisions. Such services involve well-tailored activities and tools aimed at empowering students to explore education options and career paths autonomously. They support the development of CMS among the young, normally with the support of their parents, teachers as and career guidance practitioners.

BiWi, in Austria, is a service which invites students to explore and make a profile of their interests through a dedicated, computer-assisted question-and-answers tool, Interest profile. Subsequently, students can explore a range of potentially suitable training and professions on their own. The process is closely supervised by their teacher and it is only after the students have answered numerous questions about their personal interests and researched suitable education and occupation opportunities, that the results are discussed and

scrutinised with the help of BiWi career counsellors. Through BiWi, both teachers and parents get appropriate support on guidance activities to develop and the labour market context.

The Infoabsolvent information system in the Czech Republic, is not only used by students, who are the main target of the system, but also by teachers and other social stakeholders, as a practitioner-supported complementary service to their work. Infoabsolvent is primarily used by students at the eighth grade of the lower secondary school, with the support of their teachers to help learn how to search for and evaluate information on education and the labour market on their own. Students enrolled in the ninth grade seek and gather information on economic sectors and occupations of their choice, particularly when preparing their applications for secondary level. Infoabsolvent is also used by municipal officials as a fundamental source of information for developing strategic education documents in their region and by government officials preparing labour force regional reports. Career guidance practitioners use it in job centres and other support activities when discussing career choices with students and their parents.

Investing in an interface that presents LMI according to the needs and the ability of the client is also important. Some tools are designed in such a way that they can reach a broad group of clients, including those with special needs (such as low language level or low cognitive skills); an example is *Berufe Entdecker* ([31]) based on pictures. When the target group is pupils or young potential professionals, online tools adapted to the target group, both visually and textually, can increase their spread to the pupil/student community; *Beroepen in Beeld* in the Netherlands attracts pupils and students but also teachers. A visually modern and usable interface ensures effective use by target groups. A high level of LMI detail is closely related to design options and website mechanisms, making transferability only possible between countries with similar LMI systems.

5.2.3. Engaging different stakeholder groups for LMI integration success

Engagement of the business community, public authorities and other social stakeholders is essential for the smooth and effective functioning of both education and employment, and for efficient integration of LMI in the development of career guidance. A lifelong perspective in career guidance requires cooperation between different government departments and between

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([31]) *Berufe Entdecker [Occupations explorers]:* Bundesagentur für Arbeit [Employment Agency]: http://entdecker.biz-medien.de [accessed 30.5.2016].

government and other stakeholders in developing and planning services. Lack of coordination between different service providers creates weak support to transitions and potentially generates costly duplication.

In LMI production these inefficiencies are most visible when different ministries produce overlapping databases which together provide only partial coverage of what is available. Such data sets created cannot always be consolidated in a way that helps users make better sense of options and opportunities. Public employment services (PES) can play an important role if cooperating with education and training systems to address imbalances between supply and demand of skills for the labour market. As seen in Figure 3, education systems and PES help match supply and demand on the labour market through information, placement, and active support from local, national and regional services.

Figure 3.   **Cooperation of education systems and PES**
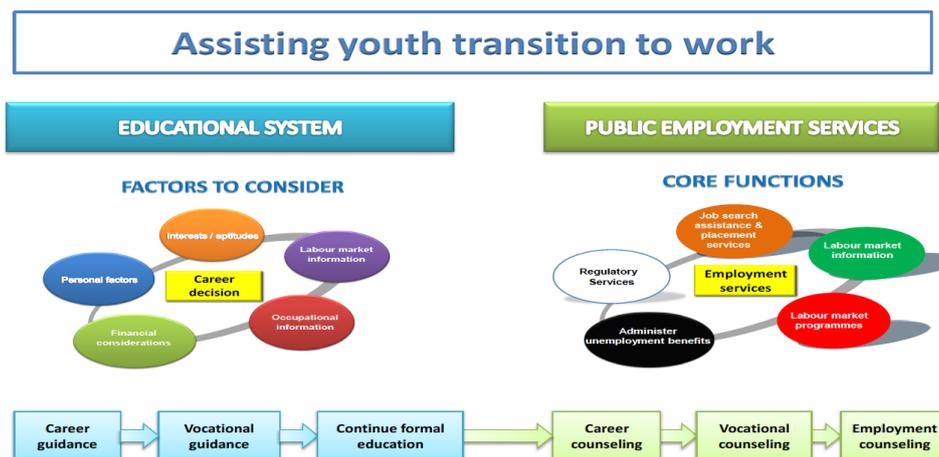
Source: Brewer (2013).

An important aspect in supporting learning is the cooperation between career services and the business community. For example, what distinguishes BiWi from other career information centres in Austria is cooperation in which detailed and practical insights into the labour market come straight from the business community. However, the effectiveness of this approach is dependent on willingness to contribute to the activities of career services. BiWi focuses on motivating professionals to participate in its career information and guidance practices by promoting a philosophy of reciprocal benefits: students benefit from the insights and material provided by professionals in their search for a suitable apprenticeship or career, while businesses are able to communicate what they

need and potentially even find and attract well-suited apprentices and employees.

The German Employment Agency with their career information centres (BIZ), which provide career guidance and information related to study and job choices, provide annual regional forecasts by local agency and sector, with the cooperation of various stakeholders. Guidance activities are developed using labour market knowledge from various quantitative labour market analyses and regional stakeholder dialogue. The final regional forecast is based on calculations and on dialogue with local employers, unions and other social economic stakeholders. These forecasts are important not only because they provide orientation for guidance counsellors but also because they are used to determine what kind of vocational education paths will be sponsored. The decision on training support is based not only on the forecasts but also on dialogue with regional and local stakeholders.

Participation of social stakeholders in vocational education and training (VET) design, evaluation and reform through various formal and informal mechanisms is important in ensuring that VET content and orientation reflect labour market and social conditions at local, regional and national level. The production of LMI in Finland is consistent and based on national and regional cooperation between education and labour market administration, social partners and companies ([32]). The principle of decentralisation is applied, with a national core curriculum outlining the main educational objectives and context being set by the central government (Finnish National Board of Education); the detailed local curricula (in-line with the national core curriculum) describing the type of educational services, tools and methods are the responsibility of local municipalities and schools.

An advanced qualification and labour demand and supply forecasting mechanism provided by the Austrian Employment Service (the qualifications barometer), and advanced career guidance institutions such as BiWi, the Career Information Centre of the Viennese Economy, ensure that education and the labour market are closely connected and maintain a dynamic relationship. In Germany, the approach to involving regional stakeholders not only in fine-tuning forecasts but also in policy tools supporting the German guidance system (vocational training subsidies programme) seems a productive way to accelerate sharing among different types of stakeholders and different regions.

([32]) The data are published by Statistics Finland, the Finnish Ministry of Employment and the Economy and the Finnish National Board of Education (NBE).

Interesting examples of stakeholder involvement are also seen outside Europe. In Quebec, Canada, there is a long tradition in career guidance, mostly delivered at school level up to the 1980s, and gradually implemented in the employment development and rehabilitation services provided by public employment organisations and NGOs. A 'comprehensive guidance school' concept was introduced in the early 2000s, at secondary school level, where all significant people (family, teachers, employers) in the lives of students can contribute to developing world of work awareness and support links between educational matters and the workplace.

A further example of cooperation between different stakeholders is the *Beroepenhuis* initiative in Belgium-Flanders, which covers occupations from 11 different sectors. The sector federations are key partners, with local authorities, social partners and schools supporting the initiative. The partnership functions as a local labour market and education dialogue platform exploring issues beyond but complementary to the *Beroepenhuis*.

Education and industry are brought together in the Netherlands in the Cooperation Organisation for Vocational Education, Training and the Labour Market (SBB) ([33]). The website *Beroepen in Beeld* brings together 17 centres of expertise for vocational training and the business community representing more than 40 different sectors. The information on the website is developed by SBB in consultation with education and business sectors.

Guidance services in Croatia are provided and delivered by the Croatian Employment Service. Career guidance services are provided by non-teaching staff (school pedagogues, psychologists) as part of their duties, while partnership-based models include various national stakeholders. For example, the Croatian Employment Service cooperates with schools to organise lectures and workshops to inform pupils on professions, qualifications and available education paths. The CISOKs developed as part of the Employment Service are based on a partnership between local municipalities and chambers, universities, adult education institutions, schools and NGOs.

The Infoabsolvent information system in the Czech Republic, aimed at students in all education levels and adults in training, provides an interesting example of cooperation between central and regional/local services. Even though the basic education framework is developed centrally by the National Institute for

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([33]) SBB, Cooperation organisation for vocational education, training and the labour market: *Partners onderwijs en bedrijfsleven [Education and business partners]*. https://www.s-bb.nl/over-sbb/over-sbb/partners-onderwijs-en-bedrijfsleven [accessed 26.5.2016].

Education, schools enjoy a high level of flexibility and, in cooperation with the regional authorities, design their own curricula to react to regional/local labour needs. As a result, students in the Czech Republic can choose among a wide variety of school programmes and study plans to be prepared for their professional career.

A further example of a LLG system where different social stakeholders collaborate can be found in Estonia. Career guidance experts of the Pathfinder centres organise lectures, workshops, presentations as well as interactive games at the 16 regional centres. They collaborate with school career teachers and visit schools to organise career lessons and workshops, complementing in-school activities within the context of the compulsory course 'lifelong learning and career planning', as well as the elective course on career education in those schools that implement it.

Parents also play a key role in the education and career decision-making of students. In the Austrian BiWi, career counsellors make a conscious effort to bring parents in as partners in their practice, with dedicated activities. These include parents' evenings, during which career counsellors discuss with them their role in their children's career choice and provide them with an overview of possible learning pathways and the current situation of the labour market, and parent-teacher conferences, which target both parents and teachers of young students with a view to presenting the comprehensive career guidance and information offering of the centre.

TET-tori in Finland also provides information to parents on 'introduction-to-work-life' periods and their contribution to career education, including the tasks young workers are allowed to undertake and safety in the work place. In the Finnish context, parents can use the practice for finding information on different companies, workplaces and professions in their region and for identifying the available work practice vacancies in their area. They can also find practical information, such as a short description of the practice and the local company, and what is expected of recruits helping them make their choice(s).

In some schools in the Netherlands, parents are interviewed to assist pupils in considering which type of labour market area they might prefer. The general principle in this guidance system is 'experience', allowing pupils to enter into dialogue with their mentor or their parents. In this context, the website *Beroepen in Beeld* in the Netherlands offers support to young people, parents and teachers/school counsellors/mentors within the framework of career orientation and guidance. In recent years, regular qualitative research has been conducted in which users (pupils, parents and counsellors) were able to evaluate the site.

5.2.4. Need for access to quality information in guidance

Providing good guidance requires accurate and reliable information about the evolution of the labour market, characterisation of local labour markets, and their sectors and occupations. Other labour market signals, such as expected earnings, conditions of employment, and potential career pathways, are also important for both practitioners and end-users. In Finland, the most advanced new service is the 'ForeAmmatti' ([34]) an online labour market forecast service provided by the Finnish Ministry of Employment and the Economy. When reflecting on employment and employability factors, users can obtain LMI on job vacancies, emerging competence areas, future job descriptions and average wages.

The Croatian Employment Service has developed several e-tools which are publicly accessible and are widely used by CISOK career counsellors for the provision of lifelong career guidance services: the LMI system (LMIS) which combines visual information on employment, unemployment and wage rates in Croatia; an advanced LMI system (ALMIS), which offers insights into labour market trends, employment opportunities and education possibilities; and statistics online from the Employment Service, which aims to improve and modernise public access to data on registered unemployment and employment. The Croatia Employment Service has also developed the My choice computer programme for vocational guidance, targeting citizens over 13 years old who are choosing a profession or thinking about changing profession, as well as those who want to learn more on specific occupations.

The Pathfinder portal in Estonia is divided into different parts according to the targeted groups (young people, adults, tutors). It includes a database of more than 200 job/occupation descriptions outlining the job/professional nature of work, working conditions and environment, knowledge, skills and personal qualities, education and training, job opportunities, and salary and benefit information. There are videos and photos illustrating the occupations and questionnaires to support learning and knowledge.

Labour market forecasts can generally play a positive role provided they are updated and sufficiently granular. Regional-based forecasts with qualitative scenarios are generally necessary to maximise the impact of career guidance and counselling for the client. In the UK, sector, occupational and regional employment forecast data have been available through the *Working futures* reports funded by the UKCES. The LMI for all data portal includes these

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([34]) http://www.foreammatti.fi/

forecasts up to four digit SOC level, which means that these data are now readily available and can be used through the LMI for all career tools. These data can be presented in various ways adapted to the needs of specific users ([35]). Currently, the following types of data are collected and available:

(a) employment levels by occupation (current and future projections);
(b) replacement demand;
(c) average pay and earnings, plus hours worked;
(d) skills, knowledge, abilities and interests;
(e) unemployment rates;
(f) occupation descriptions;
(g) vacancies;
(h) graduate entry routes into occupations;
(i) geographic patterns of employment;
(j) travel to work distances.

In the Netherlands, *Beroepen in Beeld* compiles and provides access to updated information on the labour market and on more than 600 professions, including descriptions and illustrative videos and training information for each profession. Internships and labour market opportunities are also mapped out for each profession, while there are several ways for pupils to search for occupations that match their interests and talents. The service also adapts the forecasts by occupational group of ROA to indicate the likelihood of finding a job and a traineeship.

Correct integration of forecast information in career services and career learning activities is important. In Austria the different approaches employed by the career information centre of the Viennese economy (BiWi) and the career information centres (BIZ) of the public employment service (practice-oriented versus theoretical focus) form a complementarity in the LLG system. While BIZ produces detailed forecasting, regional and occupational information, BiWi, integrates this information, locally, in practical presentations of the world of work. The *Beroepenhuis* in Belgium-Flanders follows a similar process, by using forward-looking information on professional bottlenecks to define priorities in career learning activities.

Characterising local markets and including qualitative information can be reinforced if dialogue between employment agencies and counselling offices and regional and local stakeholders is promoted. The regional dialogue model can

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[35] See, for example *icould:* http://icould.com; and *RCU*: http://www.rcu.co.uk [accessed 30.5.2016].

also be used to adopt annual vocational training subsidies programmes. There are several critical success factors in the case of BIZ practice In Germany: there is a strong quantitative capacity, both at central and regional level, leading to regionally adapted forecasts; the production of the LMI and the guidance provision is under one roof; local and regional labour market, economic and education stakeholders are regularly and systematically involved in discussing and fine-tuning the data. Each BIZ adapts its career guidance services to regional and local reality by considering needs and developing activities different from other BIZ. Each BIZ has his own network of local partners where they produce activities with local employers, local social organisations and other local stakeholders.

Another example of local-oriented strategy is the TET-tori initiative in Finland, which is currently used to support career guidance and training activities in more than 40 regions. In this case the tool is developed incrementally, accommodating local needs, requiring buy-in by interested regions and stakeholders. Each new region wishing to use the tool must cover a registration fee of around EUR 2 000. These costs cover actions for the tool to be adjusted to the region specific content, such as developing the pool of companies from the region interested to collaborate with local schools for the provision of work practice to pupils, and provision of information to the local school counsellors. An annual operational fee of EUR 80 applies for system maintenance for the following years.

5.2.5. Client needs assessment for quality

Assessments can direct services to focus on the practical needs of students and job-seekers, helping define how information should be explored. BiWi in Austria develops different types of orientation checks (support to the individual clients in choosing the right training path and helping them identify their own interests, strengths and weaknesses) to assist counsellors, teachers and career educators to inform and prepare better their students. Employers are also encouraged to take these checks to know what scores to expect from potential apprentices who approach them. Such orientation checks can prove a valuable aid for well-prepared students who are applying for an apprenticeship and their results are highly valued by some companies.

Another example is the *Beroepenhuis* in Belgium-Flanders which includes visitor surveys for evaluation purposes; these support continuous focus on improvement of guidance methodologies and tools based. The main question is how to increase the impact on study choices, and how to reach more students,

parents, schools and teachers with objective information on study and career options.

Counsellors in Denmark are supported by a tailored guidance model developed for the virtual sessions they have with their clients, '4C model'. This encourages progressive exploration and assessment of the client's needs, as a means of interacting effectively with, and providing personalised guidance to, young pupils in lower secondary education, adolescents in upper secondary education, and adults who are interested in receiving continuing (vocational) education and training. This guidance model is accompanied and supplemented by a dedicated toolkit with recommended approaches, such as an exploratory approach for the communication phase and one for the conclusion phase. There are also examples of questions that counsellors can employ during each phase and guidelines to assist eGuidance counsellors in tackling the challenges of the different virtual communication channels.

Formative assessment/portfolio tools promote lifelong acquisition of CMS, especially to develop them in adult training programmes. They can support structured development of career learning capacities, through progressive exploration of LMI. They serve to support practitioner work and self-help processes, documenting people's needs, plans and achievements. One example is the e-Portfolio development tool which has been developed as part of the lifelong career development portal, e-Stadiodromia, for adults in Greece. It provides the opportunity for adults to present and document various skills (numerical ability, digital competence, ability for lifelong learning, flexibility/adaptability, interpersonal and communication skills, problem solving, creativity, group working) related to adult participation in the labour market and employability (employability skills) and the management of personal and social life (life skills). A section dedicated to CMS has been developed, including interactive CMS activities and CMS learning material, and is offered to help adults understand and access several aspects of their career development.

5.2.6. Developing professionals skills, attitudes and work contexts

Appropriate initial and further training of those working in LLG is crucial: a major challenge is how best to connect with the labour market to keep up to date with reliable sources of information. The Council resolution on better integrating LLG into lifelong learning strategies (Council of the EU, 2008) highlighted the wide variation across Europe in competences and qualifications acquired through training. Cedefop (2009) identified that guidance and counselling was undergoing gradual change, due to complex demands placed on career guidance practitioners, their working environments, and client groups becoming more

diverse. The same study identified relatively weak LMI skills development in practitioner training and similarly weak usage of LMI in professional guidance environments.

Adequate initial counsellors training in LLG can help increase the quality of LMI integration in guidance, since it tends to be a standard curriculum theme. Skills and attitudes can also be gained and improved through experience, informal learning and on-the-job training, not just through formal training leading to a qualification. In Finland, school counsellors are required to hold a master degree and have a certificate of completion of specialist training in guidance and counselling. They are also required to participate in in-service training every year. School counsellors in Finland are employed by each school and play a key role in the education process, enjoying a high degree of autonomy in selecting various (online) education methods and tools to achieve municipal and national objectives.

In Estonia, career guidance practitioners in Pathfinder centres are highly qualified, with bachelor degrees (most in pedagogy or social sciences) and further training on employment. Their distinct roles as career information specialists (provision of information on the labour market), or as career counsellors (preparing clients for entering the labour market in terms of increasing self-awareness, identifying necessary skills) helps better address client support needs and imply different qualification and autonomy levels.

Continuous professional development is important to ensuring high-quality LLG provision and contributing to having motivated counsellors, an element that should not be underestimated when it comes to the effectiveness of their work. In BIZ (Germany), counsellors have an education degree in social sciences (bachelor or master), and often a bachelor in career guidance. They undertake half a year of training when they start in BIZ and internal training when new LMI tools are introduced.

In the Danish eGuidance practice, guidance and information delivered via virtual communication channels entail practices that require well-tailored skills and expertise (such as how to operate various ICT tools simultaneously). Intensive three-month training is provided to all eGuidance counsellors to help develop the competences required to provide quality guidance through virtual communication means.

The practitioner/user ratio in schools and employment services is also a determining factor on the success of LMI integration in career development activities. The lack of personnel or of a national framework for initial and continuous education and training of career counsellors are major obstacles to the provision of quality career guidance services. In Croatia the impact of career

guidance services to students cannot be optimised unless the ratio of users to practitioner reduces significantly.

Another important factor is the level of professional autonomy. Both in guidance and in career education, adjusting LMI exploration to users' needs means conferring a certain degree of autonomy on professionals in the choice of methods and tools, according to their knowledge, experience and judgement. This is greatly supported in Belgium and the Netherlands, where teachers and career counsellors interviewed expressed appreciation of their professional independence. However, the implications of this approach for the guidance activities provided (quality, coherence, methods, tools, results) may be a point of attention in further research. Freedom of teachers to choose (and create) methods and tools that they deem appropriate for their pupils/clients depends on the degree of autonomy conferred by the national guidance or education system. The Dutch education system, for example, is characterised by freedom in education: freedom to establish a school, freedom of parents to choose a school, and the freedom of schools to organise their teaching according to a particular educational method, including career education.

School counsellors in Finland are employed by each school and play a key role in the education process, enjoying a high degree of autonomy in selecting educational methods and tools to achieve the objectives set at municipal and national level. Details of the school framework for career education and guidance are jointly decided between the counsellor, the school and the local community. Depending on the school size and needs, more than one counsellor is employed. Their high qualification level (they hold a master degree, have completed pedagogical studies required for teaching qualifications, and have a certificate of specialist training in guidance and counselling) and continuous training (they participate in in-service training each year) guarantees high-quality career education and training.

CHAPTER 6.
Conclusions and recommendations

6.1.   Challenges and response strategies

Following the main findings and possible transferability of practices that the research team has reported, several challenges are identified for the provision of LMI. These are accompanied by examples of response strategies (or conditions necessary to address the challenge) that have been implemented in specific countries. Many of these challenges are faced by all Member States and the practices mentioned below aim to serve as model or pioneering practices for peer learning purposes.

Table 7.   **Challenges in provision of LMI and examples of response strategies from 11 Member States**

Challenge	Example of response strategy and conditions for addressing the challenge
Addressing the needs of the clients	
High diversity and complexity of education and training systems	*Establishment of career guidance and information centres with activities customised to the particularities of the national education system* **Austria** Apprenticeships are an integral part of the Austrian education system. However, deciding on an appropriate apprenticeship is far from easy, especially given the young age of prospective apprentices and the (sometimes conflicting) desires and priorities of their parents. In this context, BiWi appears to be a perfect fit in the Austrian education system in supporting its dual training aspect. Many of its activities (e.g. application training, orientation checks, occupation taste) are directly aimed at supporting appropriate decision-making by students in cooperation with their parents, for the benefit of both the prospective apprentices and their potential employers.
High number of available information sources	*Provision of assistance to jobseekers and career planners to navigate through the wealth of LMI sources* **UK (England)** The LMI for all online data portal has been developed with a view to collecting high-quality LMI from numerous robust national datasets (such as the Office for National Statistics and the UKCES) and offering career counsellors a powerful tool for their services. They can identify and select (extract) suitable information to address better their clients' needs in planning and/or advancing their career and develop a careers LMI tool.
Decay of service quality	*Adoption of a 'continuous improvement' mind-set* **Austria** Austrian institutions, such as ibw Austria, Research and Development in VET ([a]) and the öibf, Austrian Institute for Research on Vocational Training ([b]), constantly conduct research on how to improve the LMI that is integrated into the practices of career guidance and information centres in Austria. The directions followed in this respect include (among others) collecting and better adjusting LMI to suite different target groups (e.g. older adults, people with

Challenge	Example of response strategy and conditions for addressing the challenge
	special needs or disabilities, immigrants) and improving LMI quality (e.g. by increasing its update frequency, collecting information from neutral sources, employing interactive means to present it).
Lack of coverage of publics with special needs	*Different tools for groups with special needs* **Belgium-Flanders** The *Beroepenhuis* has a differentiated approach for groups with different needs (students with special needs and OKAN students that do not have the native language as mother tongue). Guidance methodology has been developed that can easily be adapted to the ability and needs of visiting groups. The materials supporting the visit have been developed in different formats (including pictograms and easy language). The exhibition contains exploration corners with a different level of difficulty (e.g. the restaurant corner is easier than the presentation of the chemical sector because restaurant jobs are more familiar to students compared to process lines in the chemical industry). The assignments are designed in different levels of difficulty. The person guiding the group can adapt the instructions during the visit, not only at group level but also at the level of individual students.
Effective and efficient data collection and provision of LMI	
LMI does not reflect labour market reality	*Provision of realistic data on LMI* **Czech Republic** In the Czech Republic an open, universally accessible database of professions, which realistically reflects the situation of the labour market, is developed by sector councils which bring together representatives of employers, educators and ministries. This national registry of occupations (^{c}), along with the national qualifications framework, provides important information on qualification requirements, which are subsequently reflected in education levels.
Outdated and static information	*Development of an efficient labour market monitoring and forecasting system* **Estonia** Information on the future development of the labour market is currently collected by the Ministry of Economics and Communication but it is not detailed enough for clients when deciding their next education steps. An expert group was recently formed involving representatives of the Ministries of Education and Research, Economic Affairs and Communications and Social Affairs, aiming to set up a well-ordered system for forecasting, monitoring and collecting feedback on the labour market. In cooperation with employers and other ministries, the system will provide career guidance practitioners with a better and more accurate description of the skills and qualifications actually needed in the labour market, such as labour market information at regional level, forecasts on professions, and rising/declining professions. The new database will be under the responsibility of the Ministry of Education and Research to align and integrate better the LMI into the education system. **Germany** The German Employment Agency has developed a solid labour market monitoring and forecasting system that is used as a basis for guidance provision. One of its ambitions is to create a lively online LMI community the online labour market monitoring system includes also information about the community. **The Netherlands** The Netherlands has very detailed LMI forecasts that look ahead four to five years. The country has wide experience in this area, partly because it has renowned labour market research institutions, such as ROA. Every two years

Challenge	Example of response strategy and conditions for addressing the challenge
	ROA provides labour market forecasts for the next five years with respect to education and occupation. ROA forecasts cover the entire labour market and are highly differentiated. They distinguish 21 economic sectors, 127 occupational groups and 102 types of education. The forecasts are used in many websites providing LMI, such as http://www.werk.nl; http://www.studiekeuze123.nl; http://www.kansopwerk.nl; http://www.beroepeninbeeld.nl (information on job opportunities are based on the ROA forecasts). The *Beroepen in Beeld* initiative analysed in this study, adapts the forecasts by ROA occupational group to indicate the likelihood of finding a job and a traineeship.
Fragmented information	*Defragmentation of the collection of LMI* **Greece** Eoppep experts consult all available official data sources and collect and present relevant information through the Eoppep Interactive guidance portals are a 'single source of LMI'. This information can be used directly by end-users, such as youngsters, adolescents and adults, as well as by career counsellors during their practice.
Low self-knowledge among young people	*Provision of self-assessment tool* **Germany** There are continuous evaluations and innovation projects to improve the reach of LMI tools and guidance services. *Berufe Entdecker* [occupations explorers] (http://entdecker.biz-medien.de), the new tool for occupational interest profiling for young students is a result of this work supported by the Employment Agency. It is a very accessible tool based on pictures of different work environments.
Involvement of different stakeholders	
Low engagement of social partners	*Provision of support and involvement of social partners in career guidance and education* **Austria** Austria has a well-developed landscape of social partners (e.g. Chamber of Commerce and Industry, Chamber of Labour, Federation of Austrian Industry) that support and participate in career guidance and education activities. The costs of many of the services provided by BiWi are borne by the Vienna Chamber of Commerce and Industry and representatives of social partners frequently participate in industry presentations of the centre. The role of social partners has been vital in establishing BiWi as well as in participating in its services.
Weak stakeholder participation	*Enhance cooperation among stakeholders through different channels* **Estonia** The career guidance forum, established since 2008, has been broadened. The forum involves representatives from the ministries responsible for education, the labour market and the economy, the public employment service, training institutions and employers', clients' and practitioner's organisations. It aims to reach a common national understanding and strengthen the cooperation of all stakeholders in maximising the efficiency of the career guidance services.

Challenge	Example of response strategy and conditions for addressing the challenge
Low involvement of employers	*Getting companies involved in provision of information to students about their work environment* **Estonia** A new project has been developed by the Ministry of Children, Education and Gender Equality with the aim of encouraging students to visit companies and vice versa, incentivise professionals from companies to visit schools and showcase their work to students. This initiative will be integrated in career guidance and education provided in the frame of Danish compulsory education (*Uddannelse og job*) with a view to fostering cooperation between schools and companies. **Austria** The development of fruitful synergies with the business community is vital for the transferability of BiWi guidance practices. Involvement of the business community in BiWi services allows development and delivery of practice-oriented career guidance (e.g. occupation taste, industry presentations) as well as cost-effective collection of up-to-date LMI. Their involvement in career information and guidance practices is achieved through the philosophy of reciprocal benefits: students benefit from the insights and material provided by the professionals in their search for a suitable apprenticeship or career, while businesses are able to communicate what they need and potentially even find and attract well-suited apprentices and employees.
Youth not aware of labour market reality	*Orientation of guidance services provided to younger age groups towards the labour market* **Denmark** The 'education guide' has a wealth of LMI and is already intensively used by career counsellors across Denmark. However, as new professions are emerging and existing ones change constantly, describing these new jobs – especially to young students – becomes a challenge for guidance counsellors. To tackle this challenge there is cooperation between schools and companies that will provide young students with the opportunity to experience actual workplaces. Surveys run by the Division for Guidance indicate that students want to go out of the schools and have a 'taste' of real jobs. There are initiatives, that enable students to visit companies at the moment, but only on very small scale. A new project has been developed by the Danish Ministry of Children, Education and Gender Equality with the aim of encouraging students to visit companies and vice versa, incentivise professionals from companies to visit schools and showcase their work to students. This initiative will be integrated in career guidance and education provided in the frame of Danish compulsory education. **Germany** Career information centres (BIZ) of the German public employment service are specialised in advice for secondary school students. The BIZ counsellors work intensively with schools, classes and pupils to provide tailored education guidance (both in group and individual). Cooperation between BIZ and schools is formalised in annual agreements describing planned career guidance activities. The counsellors can make use of LMI tools adapted to different student groups according to their age and type of education (vocational education or general education). The tools are adapted over time and new tools can be developed considering the latest trends, such as potential of games used for serious purposes. **Belgium** The *Beroepenhuis* is specialised in career guidance and education for the young (11-14 years) using an occupational exhibition and developing corresponding educational support material. To improve its services and have

Challenge	Example of response strategy and conditions for addressing the challenge
	more impact on the young students that visit the *Beroepenhuis*, the team collects the views and experiences of its visitors and of external experts. An evaluation by a developmental psychologist showed that the guidance method of the *Beroepenhuis* is highly productive for the 11-12 age group, but the guidance method for the 13-14 age group was less suitable. This latter guidance method is currently under review and will aim to involve more interaction among students themselves, a more self-oriented visit to the exhibition and more coaching for self-reflection. The long-term objective of the *Beroepenhuis* initiative is to become a Flemish centre of expertise on the provision of LMI (for young people) with more structural funding and imbedded in a more comprehensive strategic LLG framework and in this way reach more young students ([d]).
Weak cooperation of employment services with local/regional stakeholders	*Increase the connection between employment services and other government departments* **Croatia** CISOKs have been established in cooperation with local/regional stakeholders (municipalities, chambers, schools), and offer various career guidance services customised to the needs of citizens, such as group informational/counselling workshops, presentations in schools (either in the school premises or in CISOK offices), individual coaching for the development of individual career plans. There are examples where local actors have formed formal partnership agreements with CISOKs offering support and resources (including equipment and knowledge exchange) towards achieving common goals.
Linking labour market needs with education	
Mismatch of skills produced in education and training and jobs	*Matching education supply and labour market needs* **Czech Republic** There are 29 Sector councils bringing together representatives of employers, educators and ministries. The aim is to match better education supply with the demands of the economy by involving key actors, especially employers. They work on qualification standards, skills needs analysis of the labour market in sectors, and standards of vocational qualifications in relation to occupations and jobs defined in the national register of occupations. They also have responsibility for development of sectoral profiles. This information from the labour market is then fed into the Infoabsolvent portal and is linked with the available education offers in the country, helping supply meet labour market needs (jobs, professions, skills) **UK (England)** London Councils' Young people's education and skills (YPES) board identified the need to ensure the skills of young Londoners (supply) match the requirements of employers and the London economy (demand). A skills match interactive tool was developed, bringing disparate skills and labour market data sets together, acting as an online resource that allows exploration of the dynamic between skills supply and employer demand across London. This features within *London ambitions: reshaping a careers offer for all young Londoners* (London Enterprise Panel and London Councils, 2015). The LMI resource informs and supports: • careers advisers to provide information, advice and guidance by looking at future employment trends and comparing this with the subjects that young people are studying; • schools, colleges and training providers to foster a new learning support mechanism and to make visible new areas of labour market growth at a geographic level; • planners and policy-makers to plan strategically local skills development, regeneration and business innovation;

Challenge	Example of response strategy and conditions for addressing the challenge

	• employers to understand better and 'tap into' the local labour market, and explore local providers offering courses that are relevant.
	
	Skills match matches information from:
	(a) on the supply side, relevant initiatives include:
	   • the National pupil database (Department of Education): information on young people completing post-16 courses in schools;
	   • individualised learner record (Skills Funding Agency/data service) – information on young people completing 16-18 courses in colleges and apprenticeship providers;
	(b) on the demand side, relevant initiatives include:
	   • Greater London Authority economics: overall job projections, and information on replacement demand and net requirement from education/new entrants;
	   • working futures (UKCES): detailed jobs data and qualification levels;
	   • 2011 census (workplace zones) (Office of National Statistics): distribution of jobs between different local authorities in London
	NB: The working futures data is London level only.

Lack of coordination between public, private and third sectors	*Strengthening the cooperation between public, private and third sectors* **UK (England)** The Skills Funding Agency (under the Department for Business Innovation and Skills) launched in 2012 the National Careers Service, where career guidance is provided by 12 prime contractors (individual companies or consortia) each focusing on a specific region in England. The services are offered mainly via telephone or web chat for anyone over 13, while face-to-face sessions are made available locally to adults only. The National Careers Service 'inspiration agenda' is a government driven initiative which aims to support local brokerage arrangements between schools, colleges and employers. The statutory responsibility for providing career education and guidance to young people resides with schools which must ensure independent and impartial advice is made available to their students. Even though some schools and colleges have established their own careers delivery teams, the majority rely on external careers providers, such as private companies, charities or National Careers Service contractors. There is also evidence of new partnership agreements emerging between business and schools, with business sponsorship and private finance initiatives being two differing types of such cooperation. These schemes offer funding and support aligned to supporting transitions from school to work.
Exploitation of the potential offered through technology	
Low uptake of e-services	*Integration of technology within existing structures and provision of consistent guidance* **Finland** During the current European Social Fund period (2014-20) Finland has started a major initiative to increase the use of technology in guidance. The goal is to develop an integrated multichannelled information, advice and guidance system in 2014-20 with a joint concept both in stand-alone online services and regional low-threshold one-stop centres. The web-based portal for career information (including LMI), guidance and counselling services will merge the existing web-based services into one entity, meeting the emerging needs among the citizens in relation to education, training, work or rehabilitation. This new online service will be developed as a part national eGovernance programme (SADE programme/service-portal for citizens).

Challenge	Example of response strategy and conditions for addressing the challenge
Outdated methods to deal with youth groups	*Full exploitation of online tools* **Greece** Establishment of career and counselling centres (KESYPs) in all prefectures (despite all the difficulties in their operation) as well as the existence and development of new online tools (such as the Greek version of the 'real game' which focuses on youngsters and follows the latest gamification techniques), are positive signs on a changing mentality in the provision of career guidance services. The latest statistics ([e]) of Eoppep show high use of the portal, while feedback from career practitioners highlight that pupils are becoming increasingly familiar with them and eventually approach KESYPs counsellors seeking assistance.

([a]) IBW Austria, *Research and development in VET*: http://www.ibw.at/en [accessed 30.5.2016].

([b]) ÖIBF, *Austrian Institute for Research on Vocational Training*: http://www.oeibf.at/ [accessed 30.5.2016].

([c]) NSP, National Registry of Occupations: http://www.nsp.cz/ [accessed 30.5.2016].

([d]) The assignment cards will not be used. Students need to work out the visit themselves and will be coached by the guides/supervisors of their group. There are two reflection moments. Students will try to determine their own talents and the talents of their classmates. The talents will be linked to occupations (including occupations that are not visualised in the *Beroepenhuis*).

([e]) According to reported information, around 311 000 people have used the portal to date and around 30 000 the e-Stadiodromia.

6.2.   Key policy messages

6.2.1.   Strategic integration of LMI in guidance and career education

LMI should be well-integrated in a career learning process that promotes the development of reflexive career identities and autonomous exploration of career information. LMI should not be seen as a stand-alone tool, as is frequently the case. Without career development support, people frequently have difficulties in using LMI to identify career and learning opportunities. CMS development programmes in education/training and in employment services should be associated with the delivery of LMI.

Coordination and cooperation among different ministerial departments and stakeholders involved in production and delivery of career information is vital. Where potentially complementary career and LMI is being collected by different authorities, resulting databases need to be consolidated in a way that helps users make sense of career options and opportunities. It also requires coordination among the different service providers to avoid costly duplication. Involvement of social partners in the development and dissemination of LMI to the different target groups also increases the effectiveness of LMI provision. Cooperation between different social partners and industry with the relevant agencies and ministerial departments that provide and gather LMI improves the usability of LMI

and the efficiency of career guidance services. Multiplication of online tools generates an overflow of distinct sources and of information itself.

Quality and provision of LMI should be addressed in the national policy strategies for LLG and career education at school and monitored by the responsible institution(s). A common approach should be developed for LMI production and integration in the diverse sectors in which it used, with the cooperation of the relevant decision-making centres. This approach should consider how LLG services are provided in the different guidance contexts (such as students, migrants, the employed, jobseekers, groups with special needs). Besides attention to diverse delivery contexts, mapping of needs by user group and individual needs assessments are good practices, along with management of the LMI available to each of the different groups according to their needs.

Future studies on the progress and implementation of LLG strategies in Europe should include LMI integration into guidance. Systematic documentation of LMI integration is needed for each of the Member States that can also feed back into EU-level policy. These monitoring mechanisms and studies should cover the fields of employment, VET and education, labour market measures and practices in career guidance and counselling.

Systematic assessment of such policies and practices is also necessary. There are few evaluations of different policies related to the implementation of LLG strategies and the integration of LMI into guidance. Assessment of the effectiveness and efficiency of existing measures and practices will benefit the design of policies at both EU and national levels.

6.2.2. Using technology effectively

Well-targeted single access points should be established to operate as virtual one-stop shops, adaptable to the needs of different client groups. Defragmenting LMI by integrating diverse but complementary sources of intelligence is essential, adding value to career information services. All gathered data can be treated and presented in single access point. This type of portal can also offer dedicated tools to support the work of career guidance practitioners and teachers/trainers.

The design and use of digital and web-based tools must account for the existence of different levels of information and communication technology (ICT) competence across the population. Many users, particularly older people, are poorly familiarised with ICT and must develop new skills to use self-help tools. Many guidance practitioners and career educators are also digital immigrants, born before the generalisation of PCs and internet in the workplace. Many of these professionals need not only to develop a new skillset, but also a whole new

set of positive and integrative attitudes towards ICT, updating their usual ways of working.

Online instruments are more effective when combined with other delivery methods. The service provided should offer a diversity of delivery channels, such as telephone, mail, chat, personal appointments, referral to physical information centre, and social media. Their use must be adapted to users' needs and career learning activities.

Online tools and instruments, such as CV building, edutainment, job exploration, self-assessment, and social media, should be developed, sustained and regularly updated by a professional career service. This is particularly important when social media is made available.

6.2.3. Ensuring adequate training and context for professionals

Initial and further training of guidance practitioners and teachers in charge of career education must ensure that they are capable of using labour market intelligence effectively. LMI should be a stable and representative subject or topic in undergraduate and graduate training courses; relevant competences and knowledge should be actively developed on the job. Skills and attitudes of professionals towards LMI and ICT-based instruments and tools should also be developed, with formal training but also through supported experience (tutoring), informal learning and on-the-job training.

To ensure best results, practice contexts should be favourable to career learning activities, by establishing reasonable practitioner/user ratios in schools and employment services. Professional autonomy of practitioners and career educators should be stimulated, allowing better adjustment of LMI exploration to users' needs, choosing the most adequate methods and tools, according to their knowledge, experience and judgement. Autonomy should be nevertheless supervised and harmonised by equally trained management. One possible way to develop training, autonomy and quality supervision is to develop toolkits for practitioners, career educators and managers of careers services.

6.2.4. Increasing the quality of LMI provision

LMI should be impartial, to avoid biased vocational choices. Career guidance practitioners, as well as teachers and parents, can consciously or unconsciously enforce bad vocational choices by supplying partial and biased LMI to young people. Comprehensive information on diverse and alternative pathways should be provided, particularly to young people, together with information on the actual work environments and career development possibilities of several occupations.

Providing long-distance online tools for career advice does not substitute or dispense with the intervention of qualified career guidance practitioners and

should not be primarily viewed as a cost-saving solution in terms of staff. In many cases, LMI provision must be combined with the support of a career guidance practitioner. Even where a self-help service is setup without providing direct access to a career counsellor, it must be supported by a professional career service.

LMI provision will only be effective if people have learned to identify opportunities in the information provided. CMS development should start at a relatively early stage before students have to make vocational choices which can be determining for their future. If not supported by appropriate career learning at school or via guidance services, young people may have low ability to interpret LMI, which will carry into adult years. Career education in schools can serve this purpose either as a curriculum subject or infused in the curricula of other disciplines.

LMI is well-assimilated and particularly useful as part of practice-oriented career learning activities. LMI becomes more useful as a support to informed career choice if integrated in activities which raise questions, change perceptions and increase understanding about the practice and context of occupations. Experiential learning, such as work tasters and job shadowing, have proved beneficial to individuals and require the active cooperation of professional services and the private sector.

6.2.5.   Empowering individuals to find better job matches

Quality LMI provided through career guidance services can help address the mismatch between people's skills and job requirements. The development and engagement of sector councils or analogous bodies is a powerful way to gather and transmit up-to-date information on the reality of occupations and production, as well as ongoing skills needs. These bodies bring together representatives of all partners involved, including employers, educators and policy-makers.

Providing accurate labour market forecasts for the different economic sectors in the economy also increases LMI quality and contributes to bridging the gap between labour market demand and supply. Forecasts should have adequate geographic coverage, time span and occupation detail to be fit for purpose. Forward-looking information should combine information from more than one forecast. Combination of market signalling techniques such as expert and employers consultation with sophisticated quantitative top-down approaches is recommended. Forecasting information should be combined with presentation of distinct local scenarios for the evolution of demand and work conditions, occupational profiles, and work contexts.

Regularly updated job vacancy information (or real-time) can frequently serve better the purposes of career guidance, but tends to be less reliable. This type of information should be used in combination with that from public sources, which tends to be more accurate and robust, even if less timely and detailed.

CHAPTER 7.
Blueprints for practitioner toolkits

7.1.   Developing LMI toolkits

As part of this study, we propose a blueprint for two toolkits ([36]) including guidelines, recommendations, examples and information resources on integrating LMI into LLG. This blueprint includes a toolkit concept, the final detail of which will be subject to the specificities of the different countries to avoid preparing a toolkit that is too general. The current draft versions will be discussed by an international panel of guidance experts and the outcomes of this discussion will be part of the documentation published along with this study.

The toolkit blueprints target two different groups:

(a) 'LMI guide for practitioners' targets career education and guidance practitioners. The toolkit aims to provide them with insights into the kind of labour market information and intelligence (LMII) that are the most appropriate for career guidance or training for specific target-groups and contexts, how to integrate LMI into their practice and develop the skills and competences required, and how to identify more specialised LMI whenever necessary;

(b) 'bringing LMI to clients' provides practitioners with support in transferring LMI to individual users, especially those from client groups at risk on the labour market. Originally, the terms of reference for the study (Cedefop, 2014a) requested a toolkit concept targeting individual users directly. However, in consultation with Cedefop it was decided that it would be more useful to provide support material for practitioners. This is a more direct response to the need for capacity building among LMI practitioners. Developing another tool for individual users would create important challenges in terms of contextualisation, positioning among existing tools and materials, and promoting and marketing it in the different Member States.

([36]) A toolkit can be defined as follows: 'an action-oriented compilation of related information, resources or tools that together can guide users to develop a plan or organise efforts to conform to evidence-based recommendations or meet evidence-based specific practice standards'. A tool can be defined as 'an instrument (e.g. survey, guideline, or checklist) that helps users to accomplish a specific task that contributes to meeting evidence-based recommendations or practice standards' (AHRQ, 2013, Section 6, p. 1).

Figure 4.   **Steps for toolkit development**

Step 1	• verify the objectives of the toolkits by involving potential users and relevant stakeholders
Step 2	•overview of existing toolkits (*if any*)
Step 3	• determine the content of the toolkit and distinguish between vital and supplementary information
Step 4	• consider options for design, language and style as well as for publishing and presenting the toolkit taking into account different target groups
Step 5	• assess feasibility, test the concept and implement corrective adaptations if necessary

Source: Cedefop.

For the preparation of this report we have implemented steps 1, 2, 3 and 4 (step 4 partially) of this approach. There has been (limited) ad hoc consulting of potential users; this could be improved during development of the toolkit concepts. We have been looking for toolkits in and outside the area of career guidance and found some interesting examples. We selected the key messages the toolkits should present to their target public by using extensively the results from this study. Steps 4 (style, language, design, publishing) and 5 should be addressed when taking the toolkits further towards implementation.

7.2.   Practitioner toolkit 'LMI guide for practitioners'

What kind of information is relevant for career practitioners? What are practitioner's needs in this respect? Awareness of the use of good quality LMI should be raised, to inform them about what kind of LMI is most relevant for career education and guidance, how to use LMI in their career education and guidance activities, how to develop the necessary skills to do so, and how to find more specialised LMI if necessary.

7.2.1.   Content
We recommend keeping the draft structure of the toolkit relatively simple for three main reasons:
(a) short and comprehensive information is more likely to be used and have impact on readers;

(b) it should be possible to make the toolkit fully accessible online. The ambition is to make it available both as pdf and as online accessible tool;

(c) the results from the previous research stages enable us to focus on key factors for successful integration of LMI in career guidance and education. We have carefully screened the results from the literature review and the case studies, focusing on what kind of information practitioners would need most for integration of LMI in their career guidance and education activities ([37]). This analysis leads to a list of topics for the practitioner's toolkit.

Table 8 presents the first draft of the concept toolkit and a preliminary text concept. There are seven building blocks with selected topics listed for each. These topics, tips, and conclusions should be used to write short text elements for the final version of the toolkit concept. The building blocks cover the following themes:

(a) describing the relevance of LMI for career guidance;

(b) definition of LMI;

(c) indicating what type of labour market is needed in different types of career issues;

(d) indicating the LMI quality criteria for career guidance and education purposes;

(e) examples of how LMI can be successfully integrated in career education and guidance by means of good practices (see case studies);

(f) information on skills and competences to deal with LMI, and on how to improve them, referring to learning tools and resources where possible;

(g) suggestions for working with groups with special needs.

Good practice examples explored during this study are provided. The examples mentioned here do not represent an exhaustive list; other good examples may exist.

([37]) Reported strengths, success factors, weakness to be addressed, barriers to be overcome and other results observed both in literature and during the case study research.

Table 8.   **Blueprint 'LMI guide for practitioners'**

Suggested topics and tips based on study results	Preliminary text concept building on suggested topics and tips
Block 1: Introduction	
	This toolkit on LMI is meant for all career practitioners active or interested in LLG and career development. LMI is an essential element of career guidance and counselling. Depending on the life stage and the personal situation of the individual (client) different types of LMI will become more or less relevant. In this toolkit we show the added value of LMI for LLG, and how the use of LMI can reinforce guidance activities. The toolkit is meant as a starting point for exploration and as a synthesis of key messages (NB: toolkit is for self-learning). For more in-depth knowledge we recommend to turn to local experts or specific tools, manuals or training. The final aim of the toolkit is to contribute to improving the quality of LLG. We are looking forward to receiving any comment or suggestions from toolkit readers. **Definition of lifelong guidance** LLG is a continuous process that enables citizens at any age and at any point in their lives to identify their capacities, competences and interests, to make education, training and occupation decisions and to manage their individual life paths in learning, work and other settings in which those capacities and competences are learned and/or used (2008 EU Council resolution; Cedefop, 2011). It refers to career guidance and career education activities in schools, universities, employment services, career guidance centres, and social support programmes, during all life stages. The aim of LLG is to improve career development competences and aid study and job choice. **Lifelong guidance user groups** LMI is useful for career guidance and counselling activities for a broad range of user groups. The following user groups are distinguished: • school pupils; • VET students; • higher education students; • adult learners; • employed; • unemployed; • older adults; • youth at risk; • disadvantaged groups;

Suggested topics and tips based on study results	Preliminary text concept building on suggested topics and tips
	• people with a migrant background.
	Example of LMI need/focus for school pupils: what are my talents; what do I like; why do we work; what is the value of work; what is an occupation; what is a sector?
	Example of LMI need/focus for adult learners: how do skills needs evolve; what opportunities are available when I return to the labour market after some years of absence; what kind of training or support is available for upskilling?

Block 2: What is LMI; what is good LMI; examples

Attractive LMI: it is interesting for practitioners to know what kind of LMI is most attractive for individuals. Across different client groups, individuals seem to prefer information that is locally adapted. The information should ideally be available for the region where they are looking for study or work opportunities. Individuals seem to prefer visually attractive information. Users also like to try things out, to experiment, to do something, to have access to inspiring activities at employer sites.	What is LMI? LMI tells you about the workplace or labour market. LMI describes the condition of the labour market, past and present, as well as future projections. It makes clear where work opportunities are increasing or decreasing, what occupations exist and what is required to take up an occupation, how one can find a job, change job or progress in a career. Career practitioners should adapt, interpret, repack LMI and use it to support clients. Attractive LMI is presented in a visually appealing way. It should be presented in different ways to meet different information needs and learning styles of clients. It can be challenge to find a balance between providing neutral and objective career development support based on impartial LMI and the aim and strategy of the organisation you are working for. **Examples:** • career guidance and education by a sector federation focuses on only one sector, while opportunities usually exist in several sectors.; • employment counsellors in public employment services may be forced to seek a balance between case load objectives and fast activation targets on one hand and individual preferences or untapped potential of jobseekers on the other hand. **LMI relevant for lifelong guidance** The following LMI is relevant for career development support: • labour market profile and trends including employment, unemployment and earnings outlooks by sector, occupation. Data should be available at national, regional and local levels where statistically reliable information and non-disclosive data are available. Basic principles of labour market regulation, laws and labour market policies;

Suggested topics and tips based on study results	Preliminary text concept building on suggested topics and tips
	• trends in skills, including skills needs and mismatches, skills gaps, together with current and future skill demands. The regional and local dimension should be included if statistically reliable and non-disclosive information is available; • information on occupations, including on skills requirements, educational background, interests, working conditions, skills shortages, pay and earnings; • entry and progressions routes into and through occupations, including job vacancies; • entry and progression routes in education and training to gain skills for an occupation, or bridge a skills gap for a desired occupation; • career planning information on where to find information and assistance; • equal opportunities and diversity issues (support measures), and changing workforce profile. **What is good LMI?** High-quality LMI should have the following characteristics: • accuracy (e.g. statistically reliable); • completeness, e.g. in terms of sectors, regions; • timeliness: recent data, frequently updated; • relevance to user needs and adapted needs of different user groups; • visually attractive and available in different formats (pictures, infographics, tables, charts, graphs and videos); • accessibility: considering different capabilities and backgrounds, easy to understand text, access without registration, at low cost or free of charge as much as possible, plus available in electronic and hard copy; • impartial: the information provided is in accordance with the user's interest only, is not influenced by provider, institutional and funding interests, and does not discriminate on the basis of gender, age, ethnicity, social class, qualifications, ability (Cedefop, 2005; Eurostat and European Statistical System, 2011); • have authority; • comparability of data over time, over different geographic levels; • transparent: sources of data are indicated; • be easy to update; • forward-looking. **Examples:** • of a forward-looking, visually attractive, accessible and regionally adapted LMI tool: *Beroepen in Beeld* (the Netherlands); • of a transparent, open access (meta)tool: LMI for all (the UK); • of a complete, accessible, forward-looking and locally adapted tool with user guidelines: *IMT en ligne*

Suggested topics and tips based on study results	Preliminary text concept building on suggested topics and tips
	(Canada).

Block 3: How can you integrate LMI in your guidance activities? Key tips

• LMI is a difficult concept: be aware of this, use alternative words such as 'world of work'; • user's needs: all users have the same questions in relation to career decision but depending on the type of career question, and stage in their career, different LMI will be needed. Selection of most relevant LMI; • a specific aspect is digital literacy, new communication habits, how users integrate new technologies into their lives and how to adjust the dissemination of LMI accordingly; • key role for practitioners in using LMI: the role of the practitioner is essential in making LMI effective for career guidance purposes. Ideally, individuals combine self-search and online tools with personal support. Online tools should refer to personal assistance channels. Practitioners should be aware that they will receive questions from individuals who have been looking for information independently with LMI tools. Further, they need to be able to provide assistance on using LMI tools; • develop your own set of instruments that you're comfortable with (presentation, educational games, lessons, questionnaires); • active promotion of LMI tools; • impartiality: a neutral position should be kept in your provision although the balance maybe difficult if you work, e.g. for a sector federation or have objectives in terms of case load (depending on the mission of the organisation you work for).	The role of the practitioner is essential in making LMI effective for career guidance purposes. One of the reasons for this is that LMI is a difficult concept in itself. The LMI expertise needed by career practitioners includes the abilities to: make critical judgements about validity and reliability of sources; select the LMI appropriate for working with a particular client at a particular time; and mediate the LMI effectively with the client. Further, career practitioners should be able to treat and respond to questions that reach them through the internet, social media or other digital communication platforms. Practitioners seem to benefit from developing a portfolio of key LMI sources adapted to the preferences of the practitioner and the profile of its clients. This can be a combination of external sources (manuals, databases, websites) and internal sources (presentations, educational games, lessons, questionnaires/quizzes) created by the practitioner or the organisation he/she works for. **LMI integration for different user groups** Many tools provide guidance and information for several user groups, some tools focus on a specific user group: • school pupils; • VET students; • higher education students; • adult learners; • employed; • unemployed; • older adults; • youth at risk; • disadvantaged groups; • people with a migrant background. **Example:** • of an advanced tool integrating LMI and guidance: eGuidance (Denmark); • of LMI for school pupils: the initiative *Beroepenhuis* (Belgium-Flanders) is specialised in education and career guidance for ages 11-14. Also offer guidance adapted to students with special needs (lower cognitive abilities) and students with a migration background; • of LMI for different user groups (youngsters, adolescents and adults): Infoabsolvent (Czech Republic);

Suggested topics and tips based on study results	Preliminary text concept building on suggested topics and tips
	• of LMI for adults: career information centres BIZ of the public employment service (Germany) developed a guidance approach for adult clients in addition to their original target groups (school pupils, etc.), e.g. for persons returning to the labour market after some years of absence. NB: Examples and learning sources for each group where available, however it is difficult to integrate country-specific tools in general sections due to the language issue. If the language is not accessible to the reader, how can we solve this?)

Block 4: Learning how to work with LMI. How to improve your LMI expertise?

• skills needed to work with LMI: there is a certain level of knowledge and skills needed to use LMI effectively as a practitioner. You can find more information in a standard occupational profile or qualification profile for career counsellors if this exists in your country, and if LMI is mentioned specifically (as should be the case). One should be able to have the following knowledge and perform the following tasks: - what is LMI? - where to find LMI? - validation of LMI sources (what are good quality sources for career guidance and education purposes, for different client groups); - refer individuals to good quality sources and tools; - teach individuals how to use LMI more independently; - know how to integrate LMI in personal support (select LMI and manipulate effectively for their clients); - digital literacy; - new ways of communication, working with new technologies; • how can you acquire these skills;	There is a certain level of knowledge and skills needed to use LMI effectively as a practitioner. LMI should be mentioned as a key task or skill. **LMI skills needs** A practitioner should be able to have the following knowledge and perform the following tasks: • what is LMI? • where to find LMI? • validation of LMI sources (what are reliable and good quality sources for career guidance and education purposes, for different client groups); • understand and interpret LMI; • refer individuals to good quality sources and tools; • teach individuals how to use LMI more independently; • know how to integrate LMI in personal support (select LMI and manipulate effectively for their clients); • digital literacy and new communication habits, …how the users integrate new technologies into their lives and how to adjust the dissemination of LMI accordingly; • new ways of communication, working with new technologies. How can you acquire these skills? **Different ways to improve your LMI skills** • initial training: bachelor or master, sometimes specific study options, specific bachelors and masters exist (Germany); • continued training; • interaction with other practitioners; • experience as employment counsellor; • familiarity with a business environment (other function than career counsellor); You should keep your LMI knowledge up to date: different approaches can help. You can follow workshops,

Suggested topics and tips based on study results	Preliminary text concept building on suggested topics and tips
- initial training: bachelor or master, sometimes specific study options, specific bachelors and masters exist (Germany); - continued training; - Interaction with other practitioners; - experience as employment counsellor; - familiarity with a business environment (other function than career counsellor); • keep LMI updated, improve LMI skills: how to keep your LMI updated? Engage in local employment partnerships, work with sector federations, work with public and private employment agencies, additional training, and share experiences with other practitioners, company visits. Integration of LMI in guidance = networking; • when the level of expertise in LMI is insufficient, make management aware of the importance of investing in skills and competences for integrating LMI into guidance; • self-evaluation: do you know what works well in your counselling practice in terms of LMI; what does not; monitor, evaluate improve?	seminars on labour market topics, organised by sector federations, human resources companies, PES. You can follow additional training inside or outside your organisation. Professional networks for career practitioners provide additional activities. It is interesting to share experiences among career practitioners inside and outside your organisation. Engaging with local employers and employer networks is another way to feel the pulse of the labour market in the region and to expand the LMI network of the career practitioner. Another element that contributes to developing skills is self-evaluation. Try to know what works well in your counselling practice in terms of integrating LMI. What does not, and why? This insight can help to improve use of LMI in LLG. Engage in local employment partnerships, work with sector federations, work with public and private employment agencies, additional training, share experiences with other practitioners, company visits. Integration of LMI in guidance = networking. When the level of expertise in LMI is insufficient in your organisation, make management aware of the importance of investing in skills and competences for using and integrating of LMI. **Examples** • of initiatives including LMI support for career practitioners: Infoabsolvent (Czech Republic); CISOK (Croatia); Pathfinder (Estonia); TET-tori (Finland); *Beroepen in Beeld* (the Netherlands) and eGuidance (Denmark); • of LLG initiatives with strong local stakeholder involvement: BIZ (Germany); BiWi (Austria) and TET-tori (Finland).
Block 5: What about groups with special needs?	
• user's ability: there are many different ability patterns among clients. Practitioners should be aware of broad variety, influenced by educational profile, language ability, social situation, migration background, cognitive ability, leading to different requirements for presenting and working with LMI in guidance activities; • adaptation to client groups with practical interventions (e.g. pictures instead of text,	Practitioners should be aware of a broad variety of ability patterns among clients, influenced by the educational profile, language ability, social situation, migration background, cognitive ability leading to different requirements for presenting and working with LMI in guidance activities. Special approaches and programmes have been developed for groups with special needs. Define the needs and ability of the client group you are working with. Look out for specific support tools. Design your guidance activities from the start to be as accessible as required for the context and client groups you are working with (principle of *Design for all* http://designforall.org/). Sometimes simple interventions can improve the accessibility of the information provided (e.g. pictures instead of text, pictograms instead of text).

Suggested topics and tips based on study results	Preliminary text concept building on suggested topics and tips
pictograms instead of text).	Examples of LMI tools tailored to client groups: visual tool for school pupils *Berufe Entdecker* [Occupations explorers] (Germany), BiWi guide for clients with a migrant background (Austria) (WKO et al., 2009)

Block 6: National resources, good practices (EU, Canada)	

Where can you find LMI? Practitioners should try to establish a single LMI entry point or a shortlist of key LMI tools for career guidance and education since there is a wide range of tools, manuals, profiling instruments, available.	Practitioners should try to establish a single LMI entry point of, or a shortlist of key LMI tools for career guidance and education since there is a wide range of tools, manuals, profiling instruments, available. For your country/region the following sources are recommended. They are divided into different topics:
	• what is LMI?
	• how to integrate LMI in guidance;
	• learning how to work with LMI:
	  - *Professionalising career guidance: practitioner competences and qualification routes in Europe* (Cedefop, 2009);
	  - *European reference competence profile for PES and EURES counsellors* (European Commission, 2014);
	  - NICE network for innovation in career guidance and counselling in Europe (http://www.nice-network.eu/)
	• working with groups with special needs;
	• good practices.
	NB: See examples provided and add in resources at local, regional, national and EU levels.

Block 7: Interaction/feedback mechanism	
• interaction with LMI producers and developers: practitioners should know how to interact with producers of LMI, and LMI tools for career guidance and education to contribute to continuous development and improvement of the LMI for career guidance and education purposes (user panels for practitioners?); • possibility to signal shortcomings on LMI in occupational profiles, quality standards, education and training possibilities for career practitioners.	As a career practitioner you can play an active role in improving LMI for career guidance purposes. Provide suggestions and remarks to producers of LMI (tools). Participate in user panels if possible. Your organisation can play a role at sector level by signalling shortcomings with respect to the use and integration of LMI in occupational profiles, quality standards, education and training possibilities for career practitioners.

7.2.2. Examples

Existing toolkits can provide inspiration for structuring, content, style, language, design. Examples of existing toolkits that have been consulted are:

(a) Plotr: *Life skills: your lifeskills careers guidance toolkit* (for teachers, UK) ([38]);

(b) Florida Department of Education: *Educator's toolkit on career and education planning* ([39]);

(c) Belgian toolkit on dealing with diversity on the workplace:

UNIA: Interfederal Centre for Equal Opportunities: *eDIV* (interesting format) ([40]);

(d) *Guidance and career counsellors' toolkit: advising high school students with disabilities on post-secondary options* (HEATH Resource Centre, 2006);

(e) *Career and labour market information service delivery guidelines* (LMI working group, 2012a).

7.2.3. Concept

The following fact sheet summarises the concept for the practitioner's toolkit.

Table 9. **Toolkit concept**

Target group of the toolkit	Career practitioners in the EU
Intended impact	Awareness-raising Didactic
Principles	User-friendly Short Online Adaptable to national context 'Single point of entry' on the topic
Organisation responsible for developing and disseminating the toolkit	Cedefop
Development of concept for the toolkit and static demo	Team Q-Plan International and wes research and strategy et al. in cooperation with Loft33
Format	Current: Word-document
Structure	Seven building blocks, feedback possibility Q&A and information boxes
Further development	Cedefop in cooperation with experts
Date	November 2015 (draft final)
Funding	Cedefop

Source: Cedefop.

([38]) https://www.plotr.co.uk/_assets/files/view/a403b44b-22f2-45dc-bf8d-bb6d591544eb/

([39]) http://www.fldoe.org/academics/college-career-planning/educators-toolkit [accessed on 23.5.2016]

([40]) http://www.ediv.be/homepage.php?language=dutch [accessed 23.5.2016]

7.3.   Practitioner toolkit 'Bringing LMI to clients'

The second toolkit concept explores how the toolkit could be developed as pedagogical support in career education and job search aid to low-qualified unemployed and other groups at risk or with special needs (ability-, language-, age-related issues).

We believe that such a toolkit must show the key messages for more difficult-to-reach guidance clients: what type of LMI is relevant for study and career choices; why this information is important compared to other information sources (opinions of friends, family, social media); what tools can be used to find this information; and where training and assistance can be found to retrieve or interpret LMI. It should be practical and recognisable for practitioners working with specific user groups.

7.3.1.   Content

The content will be limited to showing the key topics for understanding and using LMI, this will help the practitioners in selecting the most important information for their clients. The building blocks of the toolkit will refer to:

(a) definition of LMI and overview of different types of LMI;
(b) describing the relevance of LMI for career guidance next to other information sources;
(c) indicating what type of labour market is needed in different types of career issues;
(d) how to use LMI; key tips;
(e) information on further support in career guidance and on LMI.

To determine the key messages we follow an approach similar to the approach for the development of the practitioner's toolkit. All useful results from the literature review and the case studies have been integrated in the list with suggested topics and tips, for individual users (regardless of the different contexts such as school, employment, and jobseeker). The topics are allocated to the main building blocks of the toolkit.

Table 10 provides an overview of the building blocks for the toolkit concept, showing how such a toolkit could be understood. Our suggestion is to present it as a checklist that practitioners can use when explaining LMI to their clients or when they want to screen education and guidance activities with their clients. We distinguish two variants: general, targeting all individual users; and focused on the groups at risks where the information provided excludes background information or information for more in-depth understanding.

Compared to the first concept, this toolkit blueprint is less developed because of the change of focus during the study. More reflection is needed to fine-tune its purpose, its relationship to the other toolkit, the key messages expressed, and the way the content should be presented to users.

7.3.2.   Examples

The preparation of for this toolkit concept has mainly has focused on practices targeting individual users. There are many examples of national career information tools, centres, and support for individuals such as the examples discussed during the case studies. One example of a guide for career decision-making was developed for Canadian research aiming to measure the impact of LMI. The guide is based on the 'four employability dimensions model' used for the past 20 years within the Canadian employment services to assess the needs of clients and to assist clients to look for LMI pertaining to their needs: (CCDF et al., 2013) [41]. This example is not specifically adapted for groups at risk.

There are also guidance materials developed for target groups and groups at risk, for example advising high school students with disabilities on post-secondary options (HEATH Resource Center; 2006).

Another example can be found at Disability rights UK: *Careers and work for disabled people* [42].

7.3.3.   Concept

Similar to practitioner's toolkit

7.3.4.   Feasibility study

Similar to the first practitioner's toolkit.

It should be considered how these toolkits can be developed as support tools for practitioners in career education and job search aid for the low-qualified unemployed. Examples of tools providing support to career practitioners should be further explored.

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[41] All users, not specifically targetted at groups with special needs.

[42] http://www.disabilityrightsuk.org/careers-and-work-disabled-people
[accessed 2.6.2016].

Table 10.   **Blueprint 'Bringing LMI to clients'**

Suggested topics and tips based on study results All types of clients	Recommendations for working with client groups with special needs especially groups at risk (low-qualified persons, NEET)
Block 1: Introduction	
• why this toolkit/document/tool? • how can you use the toolkit in your work with career guidance/career education clients?	Explain why specific guidance is needed for target groups
Block 2: What is LMI? What is good LMI? Example from case study	
When explaining LMI the following items should be explained to guidance users: • be aware that it is not always possible to provide very recent information for a specific job in a specific location (e.g. salary information); • LMI is complex, needs some explanation, takes some time to select, understand, inform your decisions, answer your questions (do not give up if it takes some time to find what you are looking for). Never hesitate to ask for help; • define LMI: employment, skills, competences, competence profile, occupational profile, social security regulations, labour law, statistics and surveys;. • how do I know that information is good and accurate (e.g. on the internet)? Pay attention to obtaining good quality information. Good quality information has the following characteristics: - impartial; - accurate; - timely/recent; - complete; - transparent (where do the data come from, who is responsible for them); - accessibility; - personal guidance available, how, when, where; - free of cost; - forward-looking.	It seems more appropriate to define LMI by explaining what kind of LMI is needed for what kind of career issue (building block 4). If the definition of labour market is provided it should be very accessible (language, images)

Suggested topics and tips based on study results All types of clients	Recommendations for working with client groups with special needs especially groups at risk (low-qualified persons, NEET)
Block 3: Advantages of using LMI	

You should cover the following items when explaining why LMI is important compared to other information sources:
• what are the advantages of using LMI:
  - discover alternative education and job opportunities (where you would not have thought about yourself);
  - provide a realistic image of study or job;
  - prepare yourself for application procedures, job interviews;
  - check if your preference is the right choice;
• try to take the time to find objective information before deciding. It will pay off to look up some data and help to avoid disappointments.
	This could be identical: it is important to explain what you can gain from LMI for your career

Block 4: How can I use LMI for different career questions? Key elements ** What kind of LMI do I need?**	

The following key issues should be raised in the dialogue between career professional and his client:
• how to do the basics:
  - what can you do with …. an occupational profile; unemployment statistics; data on school leavers (continued education, employment outcomes); wage information;
  - where can you find: job career paths; educational requirements for a job;
  - look out for try-outs, company visits, open doors, events, … to discover and try out;
  - information from family, friends, … employed in an occupation that is of interest to you, who took a course or have a degree that could be interesting for you as well (NB: subjective information, not always objective or complete as information source);
• when do I need LMI?
Example of structure for relating LMI to career questions (see table developed in the study)
	These issues should be retained, depending on the client's ability. Users with a migrant background, compared to native clients, will need more information on how the labour market works and other complementary information (e.g. on the social welfare system, on the system for education and training).

Suggested topics and tips based on study results All types of clients			Recommendations for working with client groups with special needs especially groups at risk (low-qualified persons, NEET)
Career question	**Relevant LMI**	**Sources of LMI**	
When do I need career information? How can I increase my chances on the labour market? How can I find out what education or training is suitable for me? How can I find out what type of occupation is suitable for me? How can you try out occupations, skills, etc.?			

Block 5:   Where can I learn more? Who can help me? Why is it good to look for support?

The following information should be shared with your client(s):
- making yourself familiar with LMI. It is a lifelong competence and something positive to rely on from time to time. During your school and job career, there will be several moments where LMI is useful;
  - what about the advice from my family, friends, colleagues, classmates; can I rely on the opinion or advice of family, friends, classmates, colleagues as well?
- interesting to combine self-service (use of online tools, other media) with personal career support. Ask help to find the right information, counselling service (this is a good thing to do, not a weakness) (Remark: indications should be adapted to context. Possibly include issues such as: what can a counsellor do for me and where can I find him/her; how can my teacher help me further);
- how can you learn to work with LMI; what do you need to know (knowledge); what task should you be able to do (skills)?
  - search, select, interpret LMI, draw conclusions;
- who can help you?
  - establish contact with a personal coach (someone who knows you and can help you during a certain period of time).

Here the focus should be on support and establishing good personal contact with counsellors or coaches.
It is important to stress not to rely solely on the advice of friends and family but also look for professional, impartial guidance.

Suggested topics and tips based on study results All types of clients	Recommendations for working with client groups with special needs especially groups at risk (low-qualified persons, NEET)
Block 6: National resources, good practices (EU, CN)	
The following information should be shared with your client(s): Where can you find LMI? • LMI can be found in many places. Also information from family, friends. It is always interesting to combine different sources, ask for second opinion; • large amount of information is available, make a short list, single point of entry most useful to you.	Refer to resources that target specific user groups, if these exist.
Block 7: Interaction/feedback mechanism	
This is an important point (empowerment of clients). It is possible to provide feedback if you find some information is not correct, not complete, not available, not accessible (language?) so it can be improved. If you are interested, you can join user panels that help to improve information provided, you can use possibilities to discuss career questions and LMI issues with other individuals, experts, practitioners.	Feedback will probably be provided more through practitioners than directly to LMI providers/toolkit owners.

Source: Cedefop.

List of abbreviations

BIZ	Berufsinformationzentrum [career information centres] (DE)
CCCP	common core curriculum provision
CIP	cognitive information processing
CISOK	Centar za informiranje I savjetovanje o karijeri *[*Centre for Information and Career Counselling*]* (HR)
CMS	career management skills
DLSE	differentiated lower secondary education
DOTS	decision learning; opportunity awareness; transition learning; self-awareness
ELGPN	European lifelong guidance policy network
EPT	employment protection of temporary workers
Eoppep	National Organisation for the Certification of Qualifications and Vocational Guidance (EL)
ICT	information and communication technologies
IER	Institute for Employment Research
LLG	lifelong guidance
LMI	labour market information
LMII	labour market information and intelligence
NACE	statistical classification of economic activities
NICE	network for innovation in career guidance and counselling in Europe
NGRF	national guidance research forum
NUTS	nomenclature of territorial units for statistics
OECD	Organisation for Economic Cooperation and Development
QAF	quality assurance framework
ROA	Research Centre for Education and the Labour Market (NL)
PES	public employment services
SBB	cooperation organisation for vocational education, training and the labour market
UKCES	UK Commission for Employment and Skills
UWV	Uitvoeringsinstituut Werknemersverzekeringen (Dutch public employment service)

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http://www.fldoe.org/academics/college-career-planning/educators-toolkit

ForeAmmatti:
http://www.foreammatti.fi/

Forum of labour market ministers: Labour market information working group: *Welcome to FLMM.LMI:*
http://www.flmm-lmi.org/english/View.asp?x=1

IBW Austria, Research and Development in VET:
   http://www.ibw.at/en

icould:
   http://icould.com

IER, University of Warwick: NGRF: *LMI learning module*:
   http://www.warwick.ac.uk/go/ngrf/lmimodule/

LEP Network:
   http://www.lepnetwork.net/

National Institute for career education and counselling
   http://www.nicec.org

Network for Innovation in Career Guidance and Counselling in Europe
   http://www.nice-network.eu/

NSP, National Registry of Occupations:
   http://www.nsp.cz/

O*NET Resource Center
   http://www.onetcenter.org

OECD indicators of employment protection
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UNIA, Interfederal Centre for Equal Opportunities: eDiv: formation en ligne sur
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Wikipedia, the free encyclopaedia: *Local government in England:*
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ANNEX 1
Literature review approach

The literature review focused on two main topics. The first considered policies and trends in career education and career guidance in general, and integration of labour market information therein more specifically. We analysed the publications and present the findings on policies and trends in an overview table, as illustrated below.

Policies and trends for integration of LMI into career guidance and training	Context	Main theme	Related themes	Conclusion	Type of report	Geographic focus	Year of publication	Link	Author
Publication 1									
Publication 2									
….									

A second theme has concentrated on the factors contributing to successful or unsuccessful approaches for the use and integration of LMI such as the organisational setup, the way target groups have been involved in developing or testing an initiative. Other factors were mapped during the literature review. Evaluation has been synthesised in an overview table.

Critical success factors and barriers for integration of LMI into career guidance and training	Context	Results discussed	Critical success factors identified	Critical barrier identified	Solutions and strategies to overcome barriers	Conclusion	Type of report	Geographic focus	Year of publication	Link	Author
Publication 12											
Publication 13											
…..											

Literature reviewed focused on integration of LMI in lifelong guidance; it was analysed in a two-step approach. First, relevant academic and grey literature sources were identified, including online sources. Then, items and materials were examined using a literature synthesis matrix included in the report.

The literature review matrix contains 54 references; most relate to countries where the case studies take place. For each document the following elements are included: title, author, context, main theme, critical success factors and barriers, solutions, conclusions, time and geographic focus. Because of the targeted approach not all of the studies used to prepare the inception report are retained; it is possible that an interesting source is still missing.

Information in this section is mainly drawn from the table, complemented by suggestions from the project experts.

The methodology allowed the most relevant material to be retained for further scrutiny, while permitting retention of broader literature. The main purpose was to identify existing LMI and lifelong guidance findings. We developed a question-and-answer structure to present the conclusions from literature. The questions refer to the research questions formulated in the inception report and the terms of reference for the study and progressive insight in the key elements of the study subject.

ANNEX 2
Country selection approach

Country clustering

The country clustering exercise serves the purpose of revealing groups of countries with similar characteristics in different dimensions. The overarching aim is to avoid including only or mainly countries with the same characteristics in our final case study selection and so ensure sufficient diversification among them.

We explore five distinct criteria relevant to the involvement of LMI in career guidance and education to decide on the particular dimensions for the EU-28 clustering exercise.

1. Labour market regime

In order to cluster EU-28 countries based on their labour market regime, we investigated two distinct relevant aspects:
(a) employment protection legislation;
(b) public expenditure in labour market policies.

For the current situation in employment protection legislation (EPL) in each country we employ OECD indicators for:
(a) employment protection for regular workers including collective dismissals (EPRC);
(b) employment protection of temporary workers (EPT).

These indicators measure the procedures and costs involved in individual or collective dismissal of workers, as well as the procedures involved in hiring workers on fixed-term or temporary work agency contract. Through these indicators we are able to capture the employment security dimension as well as aspects of labour regulation and flexibility within the countries.

Explanation of the EPRC and EPT indicators of employment protection legislation

EPRC is a synthetic indicator of regulations on (a) individual and (b) collective dismissals for workers with a regular contract:
(a) individual dismissal of workers with regular contracts incorporates three aspects of dismissal protection:
    (i) procedural inconveniences that employers have to face when initiating the dismissal process (such as notification and consultation requirements);
    (ii) notice periods and severance pay;
    (iii) difficulty of dismissal: the circumstances in which it is possible to dismiss

workers, as well as repercussions for the employer should a dismissal be deemed as unfair (e.g. compensation and reinstatement);

(b) additional costs for collective dismissals: most countries impose additional delays, costs or notification procedures when an employer dismisses a large number of workers at one time. Only additional costs which go beyond those applicable for individual dismissal are included in the measurements. As a consequence, the indicator does not reflect the overall strictness of regulation of collective dismissals, which is the sum of costs for individual dismissals and any additional cost of collective dismissals.

Accordingly, EPT is a synthetic indicator of regulations for temporary employment contracts. In this context regulation of temporary contracts includes regulation of fixed-term and temporary work agency contracts with respect to the types of work for which these contracts are allowed and their duration, as well as regulation governing the establishment and operation of temporary work agencies and requirements for agency workers to receive the same pay and/or conditions as equivalent workers in the user firm, which can increase the cost of using temporary agency workers relative to hiring workers on permanent contracts.

Source: OECD indicators of employment protection.
http://www.oecd.org/employment/emp/oecdindicatorsofemploymentprotection.htm [accessed 3.6.2016]

A close look into the differences in labour market regimes between EU-28 Member States in terms of strictness of employment protection legislation reveals the following subgroups ([43]):

(a) high EPRC and high EPT: Belgium, France, Italy, Luxembourg, Portugal and Slovenia;

(b) high EPRC but low EPT: Czech Republic, Germany, Latvia, the Netherlands and Sweden;

(c) low EPRC but high EPT: Estonia, Spain, Greece, Poland and Slovakia;

(d) low EPRC and low EPT: Denmark, Ireland, Hungary, Austria, Finland and the UK.

To look further into the labour market regime of each EU-28 Member State we examine their public expenditure in labour market policies (LMP). This expenditure covers the costs of public interventions targeting groups of people that experience difficulties within the labour market, such as the unemployed who are seeking to get back into work or economically inactive individuals who would

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([43]) The category in which we classify each EU-28 Member State is determined based on whether its respective index is higher or lower than the unweighted EU-28 average. No relevant data were available for Bulgaria, Croatia, Cyprus, Lithuania, Malta and Romania.

like to get into the labour market. Total public expenditure on LMP is divided into three types of intervention ([44]):

(a) LMP services cover the costs of publicly funded services for individuals that are seeking employment (such as guidance and counselling) as well as any potential expenditure of the public employment services (PES) that is not included in other LMP intervention types;

(b) LMP measures (also referred to as active interventions) cover activation measures aimed either at equipping people with the skills and/or work experience required to improve employability or at incentivising employers to create new jobs and hire unemployed or otherwise disadvantaged individuals. Such measures include training, job rotation and sharing, employment incentives, supported employment and rehabilitation, direct job creation and start-up incentives;

(c) LMP supports cover public spending for the maintenance and support of the out-of-work income of individuals (mainly unemployment benefits) as well as early retirement benefits.

From these intervention types we chose to focus on public spending in active labour market policies (ALMP) ([45]) over the more passive ones (unemployment and early retirement benefits); more specifically, we emphasise public expenditure on LMP services. This way, we are able to cluster EU-28 Member States based on their spending approach to labour market activation for which the use of LMI is most relevant (career guidance, counselling and other forms of assistance provided to individuals seeking employment). We utilise the public expenditure in LMP services of each country measured as a percentage of their respective gross domestic product (GDP) ([46]) ([47]), to reveal the following subgroups ([48]):

([44]) Eurostat statistics explained: *Labour market policy expenditure*:
http://ec.europa.eu/eurostat/statistics-explained/index.php/Labour_market_policy_expenditure [accessed 3.6.2016].

([45]) Public spending in active labour market policies (ALMP) covers the cost of LMP services and measures that correspond to categories 1 through 7 in the Eurostat labour market policy database.

([46]) Data are based on Eurostat labour market policy statistics for 2010 apart from Croatia for which we used the respective Eurostat statistics of 2012: http://ec.europa.eu/eurostat/web/labour-market/labour-market-policy/database [accessed 3.6.2016].

([47]) The use of OECD data on public expenditure in public employment services and administration was also considered. However, due to the fact that several EU-28 Member States (Bulgaria, Croatia, Cyprus, Latvia, Lithuania, Malta, and Romania)

(a) highest expenditure in LMP services: Denmark, Germany, France, the Netherlands and the UK;

(b) high expenditure in LMP services: Belgium and Sweden;

(c) moderate expenditure in LMP services: Czech Republic, Ireland, Spain, Malta, Austria, Portugal, Slovenia, Slovakia and Finland;

(d) modest expenditure in LMP services: Bulgaria, Estonia, Greece, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Poland and Romania.

2. Unemployment

Here we consider the unemployment rates of EU-28 Member States based on Eurostat 2013 statistics. Country cases in which the unemployment rate is higher than the (unweighted) EU-28 average are Bulgaria, Ireland, Greece, Spain, Croatia, Italy, Cyprus, Latvia, Lithuania, Portugal and Slovakia.

3. Continuing education and training (CVET)

For this criterion we examined two indices:

(a) continuing vocational training (CVT) which reflects the percentage of employees participating in CVT courses (Eurostat data from the fourth CVT survey in 2010 ([49]));

(b) lifelong learning ([50]) which refers to the percentage of people aged between 25 and 64 who stated that they received education or training in the four weeks preceding the 2013 EU labour force survey.

Segmentation of EU-28 Member States based on their performance in continuing education and training in terms of continuing vocational training and lifelong learning reveals four distinct country profiles ([51]):

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were not included in the relevant data set, Eurostat was selected as the preferable source of data.

([48]) The category in which we classify each EU-28 Member State is determined from the following taxonomy of public expenditure in LMP services expressed as a percentage of their respective GDP:
- modest expenditure in LMP services: up to 0.095%;
- moderate expenditure in LMP services: 0.095%-0.191%;
- high expenditure in LMP services: 0.191%-0.286%;
- Highest expenditure in LMP services: > 0.286%.

([49]) Data for Ireland are taken from the respective 2005 survey.

([50]) Information relates to all education or training whether or not relevant to the respondent's current or possible future job.

([51]) The category in which we classify each EU-28 Member State is determined by whether its respective index is higher or lower than the unweighted EU-28 average.

(a) low scores in both CVT and lifelong learning: Bulgaria, Greece, Croatia, Hungary, Latvia, Lithuania, Poland and Romania;

(b) high CVT ranking but low lifelong learning: Belgium, Czech Republic, Germany, Ireland, Italy, Cyprus, Malta, Portugal and Slovakia;

(c) Low CVT ranking but high lifelong learning: Estonia, Austria and the UK;

(d) high scores in both CVT and lifelong learning: Denmark, Spain, France, Luxembourg, the Netherlands, Slovenia, Finland and Sweden.

4. Education culture

We utilised the different education structures among EU-28 Member States as a signal of their education culture. According to the Eurydice network (European Commission, 2013) there are three main models in EU-28 Member States:

(a) single structure education: education is provided in a continuous way from the beginning to the end of compulsory schooling, with no transition between primary and lower secondary education, and with general education provided in common for all pupils;

(b) common core curriculum provision: after successful completion of primary education, all students progress to the lower secondary level where they follow the same general common core curriculum;

(c) differentiated lower secondary education: after successful completion of primary education, either at the beginning or during lower secondary education, students are required to follow distinct education pathways or specific types of schooling.

Using this typology the education culture for the EU-28 Member States can be clustered as follows:

(a) single structure education (SSE): Bulgaria, Denmark, Estonia, Croatia, Slovenia, Finland and Sweden;

(b) common core curriculum provision (CCCP): Belgium, Ireland, Greece, Spain, France, Italy, Cyprus, Malta, Poland, Portugal, Romania and the UK;

(c) differentiated lower secondary education (DLSE): Germany, Lithuania, Luxembourg, the Netherlands and Austria.

A special cluster here is the Czech Republic, Latvia, Hungary and Slovakia which are placed between the SSE and CCCP models, as compulsory education in these countries is organised in a single structure up to ages 14 to 16, but from ages 10 to 13, students are given the option (at certain stages in their school career) to enlist in different institutions which may provide both lower and upper secondary education.

5. Population structure

To capture the population structure of each country from a labour market perspective we used the old-age dependency ratio (OADR) which indicates the ratio between the total number of elderly people of an age when they are generally economically inactive (aged 65 and over) and the number of people of working age (15 to 64) based on data derived from 2013 Eurostat statistics.

Member States with a population structure characterised by a higher than average (within the EU-28) OADR are Belgium, Bulgaria, Denmark, Germany, Estonia, Greece, Spain, France, Croatia, Italy, Latvia, Lithuania, Austria, Portugal, Finland, Sweden and the UK.

The 'score' of each Member State in each of the above dimensions and its geographic position and country size are provided in Annex 1.

The following figure illustrates the 'score' of each EU-28 Member State within the dimensions relevant to the study: labour market regime (as measured through public expenditure in ALMP) and education culture (as captured through the different education structures across the EU). This helps show meaningful country clusters for the selection of diverse, yet representative cases for further study and field visits.

Clustering of the EU-28 Member States
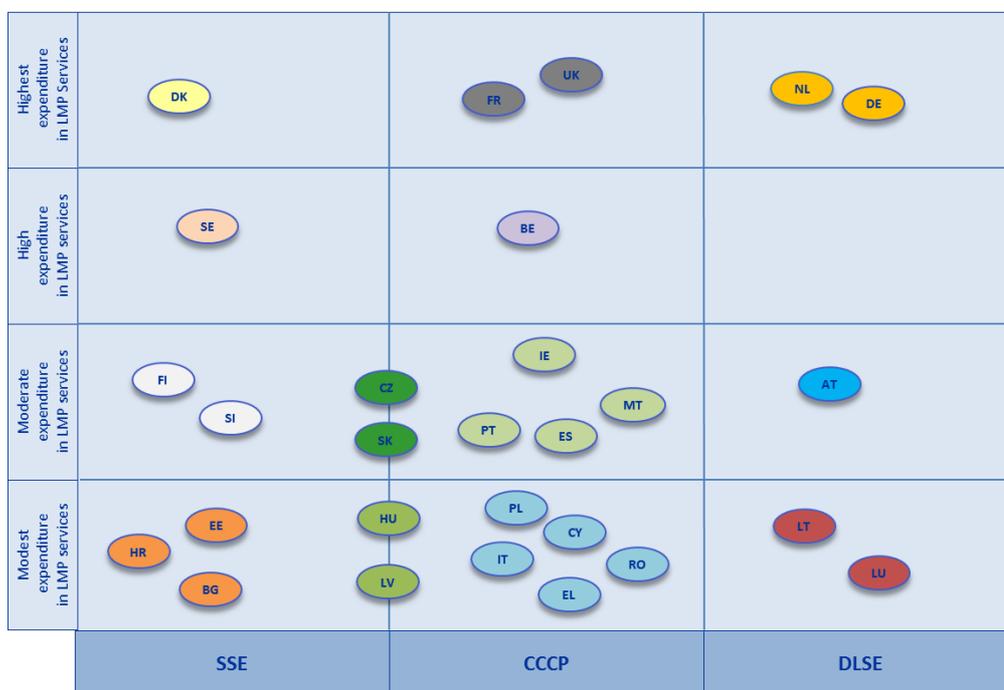
The horizontal axis categorises the countries under study based on the organisation of their national compulsory education system (single structure

education, common core curriculum provision and differentiated lower secondary education). The vertical axis identifies public expenditure on LMP services measured as a percent of GDP. The resulting matrix gives the following groups of countries:

(a) SSE – highest expenditure in LMP services: Denmark;

(b) SSE – high expenditure in LMP services: Sweden;

(c) SSE – moderate expenditure in LMP services: Slovenia and Finland;

(d) SSE – modest expenditure in LMP services: Bulgaria, Estonia and Croatia;

(e) CCCP – highest expenditure in LMP services: France and the UK;

(f) CCCP – high expenditure in LMP services: Belgium;

(g) CCCP – moderate expenditure in LMP services: Ireland, Spain, Malta and Portugal;

(h) CCCP – modest expenditure in LMP services: Greece, Italy, Cyprus, Poland and Romania;

(i) DLSE – highest expenditure in LMP services: Germany and the Netherlands;

(j) DLSE – moderate expenditure in LMP services: Austria;

(k) DLSE – modest expenditure in LMP services: Lithuania and Luxembourg;

(l) SSE/CCCP – moderate expenditure in LMP services: Czech Republic and Slovakia;

(m) SSE/CCCP – modest expenditure in LMP services: Latvia and Hungary.

Note: The outcomes of the clustering exercise were produced by smart country grouping based on LMI-relevant dimensions that were described earlier and are not based on statistical data analysis.

Good/interesting policies and practices

Following the clustering exercise, 12 case studies of good practices were selected to represent distinct approaches to LMI integration in career guidance and career education. Selection emphasised the following characteristics:

(a) cluster diversity based on both general and specific contextual information;

(b) national/regional coverage;

(c) good practices of LMI integration into supporting career development of individuals;

(d) balanced coverage of guiding and counselling practices in the context of employment services as well as career guidance and education.

The clustering exercise also ensured that general contextual information was considered in the selection process: labour market regime and outcomes, education/training culture, geographic diversity and population structure/trends.

Further selection criteria accounted for contextual information specifically related to the findings of the literature review and matrix:

(a) availability of a policy framework for career training and guidance;

(b) availability of strategies to integrate LMI into career training and guidance;

(c) availability of a policy framework for integration of LMI;

(d) availability of guidance and training for career support practitioners;

(e) adaptation towards special target groups (disadvantaged groups).

In selecting good practices to be translated into case studies we employed the following criteria:

(a) national or regional scope;

(b) good practical examples of cases where LMI was used as an effective lever to support and guide the career development of individuals;

(c) successful initiative measured through an evidence-based approach against criteria such as degree of embeddedness with the learning process, degree of mediation in the access to LMI;

(d) representative coverage of guidance practices in the context of education, vocational education and training, employment and unemployment, as well as in the context of the country clusters identified;

(e) prospect for transferability and replication.

We selected the following countries for the study focus: Denmark (SSE – highest expenditure in LMP services); Finland (SSE – moderate expenditure in LMP services); Estonia and Croatia (SSE – modest expenditure in LMP services); Belgium (CCCP – high expenditure in LMP services); the UK (CCCP – highest expenditure in LMP services); Germany and the Netherlands (DLSE – highest expenditure in LMP services); Austria (DLSE – moderate expenditure in LMP services); Greece (CCCP – modest expenditure in LMP services) and the Czech Republic (SSE/CCCP – moderate expenditure in LMP services). Along with these countries we include Canada as a benchmark to assist comparative analysis.

ANNEX 3
Interview and focus group guidelines

The following provides the guidelines for the interviews and the focus groups organised during the field visits.

Structure of the questionnaire for management level executives

Introduction

In December 2014 the European Centre for the Development of Vocational Training (Cedefop) launched a new study aiming to explore the ways in which labour market information and intelligence (LMI) can support and improve the career development of individuals.

In this context, your expertise and professional experience are valuable to us and we welcome your contribution to our study by allowing us to have an interview with you.

The questions included in this questionnaire are intended to be addressed during this interview and aimed at providing us with your personal point of view with respect to the integration and use of LMI in career guidance and education.

All information provided by the interviewees will be treated anonymously without identifying the source of the collected opinions. The information collected will be used as input to the final report for the project: 'Labour market information in lifelong guidance' AO/RPA/PMDFON/LMI in Guidance/007/14, which is commissioned by Cedefop.

Thank you in advance for your time and cooperation.

Profile of the interviewee's organisation
- Name of your organisation
- Type of your organisation (public, private, public-private partnership)
- Mission of your organisation
- In case of partnership: partners and roles

Profile of the interviewee
- Your position in the organisation
- Gender
- Years of professional experience
- Educational attainment/professional qualifications

Questions at the level of the organisation:
- What approach does your organisation employ towards the provision of career guidance services? Who are they aimed at?
- Does your organisation provide training to your practitioners? What type(s) of training do you typically provide them with (e.g. courses, seminars, etc.)? Do the training topics include the use of LMI?
- What is the role that ICT plays in the delivery of career guidance and education services? How does your organisation employ ICT in the services it provides?
- What kind of quality criteria are in place for the (labour market) information provided?
- What is the role of employers, local employer networks, sector federations in the provision of labour market information for your guidance activities?

Questions at the level of the identified initiative
- What is the employment policy followed with respect to career guidance and education practitioners. What qualifications do you typically look for/require?

- Which labour market information is provided and to which groups?
- How could the initiative/practice be transferred and used in other contexts and other countries?
- Which are the critical success factors and the critical barriers for integrating LMI? Are there identified good practices?
- Was the initiative inspired by some other practice or theoretical approach?

Questions at a general policy level
- Have you encountered any factors facilitating or impeding the use of labour market information in your professional experience? Please elaborate.
- How is the provision of LMI linked to policies in employment and education and how is it networked with employers and communities?
- Are there any areas where the use of LMI needs improvement? How could such improvement be achieved?
- Is there a need for new type(s) of labour market information? Please explain.
- Are there any needs in terms of labour market information development that relevant new policies and programmes should address?

Structure of the questionnaire for practitioners

Introduction

In December 2014 the European Centre for the Development of Vocational Training (Cedefop) launched a new study aiming to explore the ways in which labour market information and intelligence (LMI) can support and improve the career development of individuals.

In this context, your expertise and professional experience are valuable to us and we welcome your contribution to our study by allowing us to have an interview with you.

 The questions included in this questionnaire are intended to be addressed during this interview and aimed at providing us with your personal point of view with respect to the integration and use of LMI in career guidance and education.

All information provided by the interviewees will be treated anonymously without identifying the source of the collected opinions. The information collected will be used as input to the final report for the project: 'Labour market information in lifelong guidance' AO/RPA/PMDFON/LMI in Guidance/007/14, which is commissioned by Cedefop.

Thank you in advance for your time and cooperation.

Profile of the interviewee's organisation
- Name of your organisation
- Size of your organisation in terms of personnel
- Type of your organisation (public, private, public-private partnership)
- Mission of your organisation

Profile of the interviewee
- Your position in the organisation
- Gender
- Years of professional experience
- Educational attainment/professional qualifications

Questions about the identification of LMI
- How do you use LMI in each of the career guidance activities you develop? What type(s) of labour market information do you typically use for career guidance and education?
- What methodologies and tools do you typically employ in your practice? Do you employ any ICT tools in your practice that are based on ICT, either for personal use or for the support of your clients? What about social media?
- Are there differences in the approach you adopt towards LMI usage across different target groups?

Questions about the assessment of LMI
- Have you identified any factors that either facilitate or impede the use of labour market information in your practice (e.g. time to develop work, resources, client pressure, methodologies…)? Please elaborate.
- What kind of quality criteria are in place for the (labour market) information provided?
- How important is LMI in the process of career decision-making for your clients and how do you ensure that?
- With which criteria does your organisation assess the effectiveness of the currently available labour market information in career guidance and education?

Questions about the identification of barriers and facilitators of LMI and future possibilities
- Is the labour market information currently used the right type; how could it be improved/complemented or presented and made available in a better way (supports, language, structure…) for both the practitioner and the client?
- What methods could be employed in order to foster access to LMI (training, tools, channels, etc.)?
- Do you understand the labour market information that is available and is it readily usable in the specific activities you develop?
- What skills and competences do practitioners require for the effective use of LMI in the provision of career guidance and counselling?
- Have you received any training in the use of LMI? If so, did the training help you improve your practice? Do you plan to participate in any relevant training in the future?

Structure of the questionnaire for users

Introduction

In December 2014 the European Centre for the Development of Vocational Training (Cedefop) launched a new study aiming to explore the ways in which labour market information and intelligence (LMI) can support and improve the career development of individuals.

In this context, your personal experience is valuable to us and we welcome your contribution to our study by allowing us to have an interview with you.

The questions included in this questionnaire are intended to be addressed during this interview and aimed at providing us with your personal point of view with respect to the integration and use of LMI in career guidance and education.

All information provided by the interviewees will be treated anonymously without identifying the source of the collected opinions. The information collected will be used as input to the final report for the project: 'Labour market information in lifelong guidance' AO/RPA/PMDFON/LMI in Guidance/007/14, which is commissioned by Cedefop.

Thank you in advance for your time and cooperation.

Profile of the interviewee
- Gender
- Age
- Educational attainment
- Employment Status
- Business sectors of interest

We would like to base our discussion on one of your past experiences with respect to the use of labour market information. For this purpose please try to answer the following questions having in mind a specific case in which you used labour market information.

Searching for LMI
- What kind of labour market information did you use during you counselling/advice or while using a tool? With what purpose? How has it helped you?
- What sources / tools did you use to find the information that you were looking for? Were any of them based on ICT?
- What are for you quality criteria for (labour market) information provided?
- Did you encounter any difficulties in finding or using the labour market information you wanted? How did you overcome them?
- Was there any kind of additional information that you think would have greatly helped in making your decision but you could not find or access?
- Did any career practitioner and/or trainer help you in the process? If so what was his/her involvement? Did he use or suggest you use any ICT tools? Overall, would you say that you were satisfied with his/her services? What do you think he/she could have done better to help you?
- In retrospect, how useful or meaningful has the LMI been in helping to make a decision?
- Did LMI help you become more autonomous in accessing and using information related to the job market?

Structure of the focus group discussion guide

Adaptations to customise the discussion topics of each focus group will be made when required by the context of the field visit.

Introduction

In December 2014 the European Centre for the Development of Vocational Training (Cedefop) launched a new study aiming to explore the ways in which labour market information and intelligence (LMI) can support and improve the career development of individuals.

The main outcomes of the study will be recommendations to policy-makers, producers of LMI as well as practitioners on how to deepen the role of LMI in career guidance and education and enhance its quality.

The study will also produce a dedicated tool to support the guidance and career education activities of employment services, training providers and schools as well as a self-help tool designed for individuals interested in employing LMI for making important career decisions.

All information provided during the focus group will be treated anonymously without identifying the source of the collected opinions. The information collected will be used as input to the final report for the project: 'Labour market information in lifelong guidance' AO/RPA/PMDFON/LMI in Guidance/007/14, which is commissioned by Cedefop.

In this context, we welcome your contribution to this study and would like to thank you for accepting to participate in the focus group.

Discussion topics (to be adapted based on the thematic scope and participants of the focus groups)
- Definition of labour market information
- Methodologies and tools used for the integration of LMI in career guidance and education
- Factors facilitating or impeding the use of labour market information
- Efficacy of currently available labour market information and how to improve it
- Quality criteria for LMI in guidance
- Areas where the use of LMI needs improvement and ways to achieve this in the future
- The contribution of policy-makers and relevant programmes at national and EU level
- The role of employers, local employer networks, sector federations
- New policy needs in terms of labour market development
- The role of ICT in the delivery of career guidance and education services and modes of improvement
- Methods for fostering access of individuals to LMI (training, tools, channels, etc.)
- The perspective of the LMI end-user
- Skills and competences for the effective use of LMI both by practitioners and end-users

Structure of the focus group discussion guide for the moderators

Indicative introduction

Thank you for agreeing to participate in our focus group. We are very interested to hear your valuable opinion and views with respect to the integration and use of LMI in career guidance and education.

The information you give us will be completely confidential, and we will not associate your name with anything you say in the duration of the focus group.

Should you have any questions now, in the duration or even after the focus group, you can always contact me or any other study team member.

Indicative steps leading to the start for the discussion

1. Welcome
   Introduce yourself and the note taker and proceed to review the following:
   - Who we are and what we're trying to do
   - What will be done with this information
   - Why we asked them to participate
2. Explanation of the process
   Ask the group if anyone has participated in a focus group before and proceed to provide some general information with respect to:
   - Focus Groups
     - The role of the focus group is not necessarily to achieve a consensus, but instead the collection of information on LMI integration in career guidance
     - The goal is for us to learn from the positive and/or negative experiences/views of focus group participants.
     - In our study, both questionnaires and focus group discussions are employed. The reason for employing both of these tools is to obtain more in-depth information that will allow us to understand the context behind the answers given during the interviews and help us explore the discussion topics of interest in more detail.
   - Logistics
     - Duration of the focus group discussion
     - Refreshments
   - Ground rules
     - Participation is welcomed from everyone
     - Information provided in the duration of the focus group discussion must be kept confidential
     - Side conversations should be avoided

- Cell phones should be turned off if possible
3. Turn on the recording device
4. Enquire for potential questions before the beginning of the discussion
5. Introduction of focus group participants
6. Start of the discussion

Discussion topics (to be adapted based on the scope and participants of each focus group)
As above

ANNEX 4
Lifelong guidance practices inventory

Type of LMI initiative described	Host organisation	Funding of practice/initiative	Target group	Type of information provided	Guidance activities related to the use or dissemination of LMI	Cooperation (in production and dissemination of information)	LMI data collection and integration	Practitioner qualification
Biwi (AT) aims to:	• connect education and the labour market • provide practical insight to individuals, schools and businesses into the professional world • assist in finding the right education and/or career path. https://www.wko.at/Content.Node/Biwi/BiWi Berufsinformationszentrum.html							
Career guidance and information centre	Styrian Association for Education and Economics (http://stvg.at/)	Vienna Chamber of Commerce and Industry	• Main: students between 13 and 17 • Individual clients of all age groups • Parents • Teachers • Companies • Schools	• Information about career and education paths • Information for selecting and applying for an apprenticeship • Information on professions and industries	• Individual counselling • Collective counselling • Self-guidance • Class visits from schools • Practical work experience • Workshops and demonstrations of jobs	• Companies • Professionals • Social partners	• Descriptions of professions created by companies and professionals • Self-assessment tools	• No set training path • Strong business background • Team spirit • Open-mindedness • Lifelong learning mentality
Beroepenhuis (BE) aims to:	• improve familiarisation with less-known vocational and technical professions • introduce individuals to the world of work • provide labour market information on professions connected to vacancies which are hard to fill http://www.beroepenhuis.be/							
Exhibition hall on occupations	Beroepenhuis, City of Ghent, Belgium (www.beroepenhuis.be)	The main funding for the services provided come from: • entrance fees • public authorities • sponsors	• Students between 11 and 14 Students with special needs • Students with immigration background,	• Presentations about the world of work • Guided visits to the occupation exhibition • Sector workshops	Guided visits with short group discussion at the end	• 11 sector federations • Trade unions • Centres for student guidance • All education networks	• General information on the world of work • Occupational information • Beroepenhuis works with	The counsellors have a background in social studies (bachelor) or pedagogic studies (master) and/or a teaching

Type of LMI initiative described	Host organisation	Funding of practice/initiative	Target group	Type of information provided	Guidance activities related to the use or dissemination of LMI	Cooperation (in production and dissemination of information)	LMI data collection and integration	Practitioner qualification
		• sectors introduced in Beroepenhuis	non-native speakers • Parents of these students • Teachers and persons working in the centres for student guidance • Future teachers	• Didactic materials supporting pre- and post-integration at school • Database referring to other relevant labour market information or career guidance and career education tools • Occupation fairs • Labour market education for secondary schools		• Public employment service VDAB • Syntra (training centre for entrepreneurial competences) • City of Ghent • Province of Oost-Vlaanderen • Unizo (SME employer federation) • Jes Gent (organisation for youth and city)	occupational profiles provided by the sector federations which formulate the quality of the LMI provided • Information on skills and competences • Database referring to other relevant LMI	degree. The team members are supported by a wider team of trainees, temporary workers and volunteers. There is a training programme for students and temporary workers assisting in the guidance activities. After a period of observation and providing guidance under supervision, they can support the fixed team in the guidance activities.
CISOK (HR) focuses on:		• providing tailor-made services for lifelong career guidance to all citizens from elementary and high schools students and their parents to unemployed person and jobseekers, and career counsellors • services based on the needs of the region/ location http://www.cisok.hr/						
Career guidance office	Croatian Employment Service (CES) (http://www.hzz.h	Collaboration between local municipalities and chambers,	• Students at all education levels and their parents	• Employment opportunities, labour market situation (e.g.	• Individual and group counselling • Individual	Collaboration with: • local municipalities	• Several online tools have been developed by	• Master degree in humanity or social sciences • One year on-

Type of LMI initiative described	Host organisation	Funding of practice/initiative	Target group	Type of information provided	Guidance activities related to the use or dissemination of LMI	Cooperation (in production and dissemination of information)	LMI data collection and integration	Practitioner qualification
	r)	universities, adult education institutions, schools and NGOs	• Unemployed and job-seekers • Career counsellors • Main target group: young people aged 15 to 24	statistics on employment/ unemployment) Description of professions • Education opportunities	informing and counselling services for persons with disabilities	and chambers, • universities, • adult education institutions, • schools and • NGOs	CES • LMIS – Labour market information system (employment/u nemployment and wage rates) • ALMIS – advanced labour market information system (labour market trends, employment opportunities and possibilities) • Statistic online of CES • Self-assessment questionnaire personality traits associated with work • 'My choice' computer game for vocational guidance (information on professions,	the-job training under the supervision of a 'mentor'

Type of LMI initiative described	Host organisation	Funding of practice/initiative	Target group	Type of information provided	Guidance activities related to the use or dissemination of LMI	Cooperation (in production and dissemination of information)	LMI data collection and integration	Practitioner qualification
							self-assessment tests)	
Infoabsolvent (CZ) portal		• is designed as a self-assistance mechanism and is publicly accessible since 2010 • assists students at all education levels and adults in addressing various issues during the course of education and training and making critical career choices and decisions • supports counsellors to enhance the quality of their practice and teachers as a valuable information resource and a career orientation tool in the classroom www.infoabsolvent.cz						
LMI portal for all end-users	National Institute for Education (http://www.nuv.cz/)	Initially developed under the VIP career project and further enriched under the *VIP careers II* career counselling project. Since 2008, it has been developed and is operated by the National Institute for Education.	• Students of all education levels • Career counsellors • Teachers	• Types of schools and their education programmes • Description of professions (necessary skills, job profiles, employment and unemployment status and forecasts) • Information on education and professional paths 'adjusted' to the needs of students with disabilities • Suggestions on how to proceed when faced with various	• Self-guidance • Career guidance courses at school curricula • Individual consultation through phone and face-to-face meetings in the information and guidance centres	• School and school counsellors, • Regional/local labour offices • Sector councils • Education institutions • National Institute of Education • Ministry of Labour and Social Affairs • Czech Statistical Office	• NUV experts collect relative information from various sources • Business representatives in sector councils • Surveys concerning skills needs and occupational requirements	• All school counsellors must follow training courses developed by NUV • The career counsellor profession was included in the national register of occupations (2012)

Type of LMI initiative described	Host organisation	Funding of practice/initiative	Target group	Type of information provided	Guidance activities related to the use or dissemination of LMI	Cooperation (in production and dissemination of information)	LMI data collection and integration	Practitioner qualification
				barriers and/or key decision points in the course of study and beyond • Self-awareness tests				
eGuidance (DK): an online guidance service	• supporting young people's upper secondary and higher education choices • supporting the career management and skill development of all citizens https://www.ug.dk/evejledning							
Electronic guidance service for all end-users	Division for Guidance of the Ministry of Children, Education and Gender Equality (http://eng.uvm.dk/)	The service is integrated within the national guidance web portal education guide and operated by the National Agency for IT and Learning	• Individuals of all age groups • Parents	• Information about education and training opportunities at all levels • Information about jobs and professions • Information about labour market conditions and statistics • Information about study programmes taught in English	• Individual guidance provided through telephone, SMS, chat, email and social media • Collective guidance provided through digital meetings, webinars, chat and social media	• Ministry of Employment • Ministry of Children, Education and Gender Equality • Statistics Denmark • Danish Ministry of Science, Innovation and Higher Education	LMI is collected by the Ministry of Employment and Statistics Denmark and is integrated into the nation guidance web portal	• One-year modular common training programme at diploma level • One-year Master of Education programme in guidance counselling • Option to prove qualifications through assessment and recognition of prior learning
LMI for all (UK) An online LMI data portal	• makes careers LMI data available from one portal • data organised around the standard occupational classification (SOC) system • LMI available to application and websites that can bring data to life for a range of audiences • aimed at supporting those making career decisions							

Type of LMI initiative described	Host organisation	Funding of practice/initiative	Target group	Type of information provided	Guidance activities related to the use or dissemination of LMI	Cooperation (in production and dissemination of information)	LMI data collection and integration	Practitioner qualification
• provides information available for a range of indictors, including employment forecast data http://www.lmiforall.org.uk								
LMI portal (based on open data source used to support the creation of end-users' customised websites)	Prospects Ltd. One of 11 prime contractors for the Skills Funding Agency, National Careers Service (NCS) (www.prospects.co.uk)	• Owned by the UK Commission for Employment and Skills (UKCES) • Jointly developed by the Institute for Employment Research at the University of Warwick, Pontydysgu and RayCom	• Career development practitioners • Public sector providers including schools, colleges, VET providers, higher education institutions and public employment services • Private and third sector organisations	Information provided on the platform includes: • employment levels by occupation (current and future projections) • replacement demand • average pay and earnings by occupation and hours worked • skills, knowledge, abilities and interests • unemployment rates • occupational descriptions • vacancies • graduate entry routes into occupations • geographic patterns of employment	Individuals and organisations (public, private and/or third sectors) can develop career tools to access the data using the *LMI for all* API, data are freely available	• UK Commission for Employment and Skills (UKCES) • Office for National Statistics • Higher Education Statistics Agency	Draws data from numerous robust national databases; organised by occupational category indexed by job title	• Qualification in career guidance (QCG), followed by specified S/NVQ level 4 units in first year of employment • Diploma in career guidance (DCG) Parts I and II, followed by specified S/NVQ level 4 units in first year of employment • S/NVQ (Scottish/national vocational qualification) level 4 in advice and guidance. This replaced S/NVQ in guidance in August 2001 but registrants

Type of LMI initiative described	Host organisation	Funding of practice/initiative	Target group	Type of information provided	Guidance activities related to the use or dissemination of LMI	Cooperation (in production and dissemination of information)	LMI data collection and integration	Practitioner qualification
				• travel to work distances				for S/NVQ in guidance have three years in which to complete their award
Pathfinder (EE) Online portal	• providing information on career planning, work and education possibilities in Estonia and abroad • career counselling, psychological, socio-pedagogical, special education counselling and speech therapy • guidance offered to children and young adults aged 15 to 26 http://www.rajaleidja.ee							
• LMI portal for all end-users • Career guidance office	Foundation Innove, agency for lifelong guidance (http://www.innove.ee/en)	Foundation Innove, agency for lifelong guidance (http://www.innove.ee/en): initial funding for the project came from the Social Fund of the European Union.	• Students at the lower and upper secondary school (age 15-19) and their parents • 18-24-year-old adults who dropped out of the education system (early school leavers) • Career specialists, and teachers	• Labour market situation and prognosis, • Skills and personal qualities • Description of professions (job placement, salary, law, vacation, work environment and health, working abroad)	• Group counselling and guidance at the Pathfinder centres and at schools • Organisation of lectures, workshops, presentations and interactive games	• Schools and teachers • Local/ regional stakeholders (employers, public authorities)	• Ministry of Economic Affairs and Communications • Ministry of Social Affairs • Estonian employment fund	• Occupational qualification standard level 6 and 7 • Bachelor degree (mostly in pedagogy and social sciences) • Further training upon employment
TET-tori (FI) Online portal that aims at:	• improving pupils' knowledge about professions and working life • assisting them in getting most benefiting from their 'introduction-to-work-life' period http://peda.net/veraja/tori							
LMI portal for all end-users	Finnish Institute for Educational Research (https://ktl.jyu.fi/e	Finnish Institute for Educational Research (https://ktl.jyu.fi/e	• Secondary education students (and parents) • Employers	For students: • work practice vacancies • information on companies,	Individuals on their own or during career guidance at	• Local/regional companies • Trade unions • Public authorities at	• National Board of Education (educational and training needs	• Master degree • Completed pedagogical studies (teaching

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Type of LMI initiative described	Host organisation	Funding of practice/initiative	Target group	Type of information provided	Guidance activities related to the use or dissemination of LMI	Cooperation (in production and dissemination of information)	LMI data collection and integration	Practitioner qualification
	n)	n): initially started and was supported by companies and education providers in central Finland.	• Practitioners of career counselling	workplaces and professions • information on study options • sharing experience of work practice For companies: • product promotion, professions, job opportunities • information on PPO opportunities	school	national, regional and local levels	forecasts) • Ministry of Employment and the Economy (descriptions of professions and occupational fields) • Online service *ForeAmmatti* (labour market forecast) • National help line Jobline: (general information on employment and economic development) • Career tool AVO (self-assessment tools)	qualification) • Certificate of specialist training in guidance and counselling (60 ECTS) • Annual in-service training
Berufsinformationzenter BIZ (DE) **Occupations-based career information centre which:**			• operates a career information office for all • develops and provides career guidance and education services for students and adults www.arbeitsagentur.de					
Career guidance office	Employment Agency (www.arbeitsagentur.de)	Employment Agency (www.arbeitsagentur.de)	• Students (vocational, general, higher education) • Young people up to age 25	• Comprehensive occupation-based labour market information for study and work	• Individual and group career guidance and career education • Contracts with	• BIZ is department of Employment Agency • Local BIZ offices	Guidance is based on LMI tools produced by the Employment Agency:	• Bachelor • Specialised bachelor (by EA higher institute) or master

Type of LMI initiative described	Host organisation	Funding of practice/initiative	Target group	Type of information provided	Guidance activities related to the use or dissemination of LMI	Cooperation (in production and dissemination of information)	LMI data collection and integration	Practitioner qualification
			• Adults • Foreign students • Parents • Teachers • Employment counsellors	choice • Career guidance and career education • Print and online information • Information adapted according to target group • Job fairs, exhibitions, workshops	schools for obligatory guidance provision • Daily free access to the BIZ office	collaborate with local partners, e.g. social service, employers	• occupation-based LMI tools • labour market monitor and labour market forecast (one year, national, regional)	• Specialised training provided by Employment Agency • Experience as employment counsellor
Interactive guidance portal for adolescents and youngsters (GR). Portal which:				• assists teenagers and young people aged 12 to 25 in assessing their professional interests and values through specific self-assessment tools and in highlighting their competences, achievements and talents through the e-portfolio development tool • informs them on the educational opportunities, on professions and on labour market status and trends http://www.eoppep.gr/teens/				
LMI portal for all end-users	National Organization for the Certification of Qualifications and Vocational Guidance (Eoppep) (http://www.eoppep.gr)	National Organisation for the Certification of Qualifications and Vocational Guidance (Eoppep) (http://www.eoppep.gr)	• Adolescents and young people up to age 25 • Adults • Career counsellors	• Tests on professional skills and interests, on professional values, on key factors affecting professional orientation • Personal skills dossier development tool • Videos on	• Individual use of the portal by clients • Use of the portal by career counsellors during their interaction with teenagers and parents	• Institute of Educational Policy • Ministry of Labour, Social Security and Welfare • Ministry of Culture, Education and Religious Affairs • Manpower Employment Organisation	Eoppep experts consult various information sources, collect information on the labour market and prepare the materials for the portals	Qualifications framework for career counsellors is under development

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				professions, thematic information on the labour market and various education paths		(OAED) • Social stakeholders, such as the General Confederation of Greek Workers (GSEE), the Hellenic Federation of Enterprises (SEV), the network of Greek universities, various chambers of commerce		
Professions in the picture (Beroepeninbeeld.nl) (NL) website which:			• supports young people, parents and teachers/school counsellors/mentors within the framework of career orientation and guidance • provides information for professions at higher and academic education levels on the world of work (labour market and professions) and on corresponding internships in the country http://www.beroepeninbeeld.nl/					
LMI portal for all end-users	SBB Stichting Samenwerking Beroepsonderwijs Bedrijfsleven (https://www.s-bb.nl)	• LOB subsidy (Ministry of Education, Culture and Science) • SBB contribution	• 16 to 21 year-olds • Teachers, school counsellors and mentors	• Descriptions, illustrative videos and training information for each profession at higher and academic education	• Individuals on their own • Teachers through a dedicated website with information and lesson material on guiding pupils' search	• LOB (career orientation and development) • Ministry of Education, Culture and Science	LMI data come from various sources (education and employment sector, public and private) in the Netherlands	Bachelor degree in human resource management and the option of career counsellor specialisation. Most of the career counsellors are

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				levels • Labour market information for each profession • Labour market information also available at regional level, at higher and academic education levels • Corresponding internships and labour market opportunities • Labour market information (job opportunities, internships opportunities), looking four to five years ahead	on Beroepeninbeeld can support individuals during class lessons on career orientation			poorly skilled in career management. A school counsellor or pupil tutor training often includes a short training. Mentors also perform tasks in career guidance and they have generally received even less training than school counsellors and pupil tutors.

CEDEFOP

Labour market information and guidance

This study analyses the role of labour market information (LMI) in career guidance and career education, including the main challenges. It examines relevant national cases and highlights the fundamental role of guidance in enabling citizens to use LMI successfully to make decisions about learning and their careers. Important policy messages are extracted, dealing with stakeholder cooperation, quality of LMI, appropriate use of LMI in schools and employment services, new technologies and the skills of practitioners and teaching staff.

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