SIMOVET

2014-1-ES01-KA202-004679

OUTPUT 4

PILOT PROJECTS REPORT

Co-funded by the Erasmus+ Programme of the European Union

April 2016

Table of Contents

ABOUT THE SIMOVET PROJECT

In recent years, the European economy has suffered from the deepest recession in decades with very high unemployment rates, the loss of millions of jobs and with a young generation now outside of the labour market. Economic recovery has been very slow and patchy. The Annual Growth Survey shows that the EU needs to learn from the crisis and to address, decisively, the issue of its global competitiveness so that it emerges stronger and builds a smart, sustainable and inclusive economy delivering high levels of employment, productivity, competitiveness and social cohesion, in accordance with Europe 2020 Strategy.

Vocational education and training (VET) systems need to deliver the right mix of skills both to meet student needs and to match the requirements of the labour market. Skills mismatches in the labour market have been a growing concern in most Member States.

The project SIMOVET is has been designed to tackle the imbalance between the supply and demand of professional skilled workers in certain economic activities and sectors. It recognises that there is an oversupply of skills which manifests itself in high rates of unemployment in certain vocational training areas.

Even at the height of the economic crisis there was a persistent lack of skilled workers in certain sectors crucial to Europe's future and needed to sustain its economy which will come under renewed longer-term pressure due to the ageing society and the persistent skills mismatches in the labour market. The employment rates of certain professional categories remain very low and students and workers are still struggling to gain access to employment. The training agents, both decision makers and training providers, recognise that there is a lack of adequate information concerning the real needs of companies for adapting training to the work demands.

Due to imperfect information systems and structural rigidities, workers and businesses are not provided with the right level of skills for the labour-market, which damages competitiveness in European enterprises.

SIMOVET is a strategic partnership established to support the development, transfer and implementation of innovative smart information systems at local, regional, national and European level for reinforcing links between education training fields with the world of work.

APPROACH OF THE PILOT PROJECTS

Pilot projects have been implemented by all five partners in the existing information systems incorporating new information sources of business needs in terms of professionals and skills. Each region has focused on one or two specific areas to develop a case study on gathering information from companies through the use of quantitative methods and / or qualitative methods. The challenge has been to obtain truly relevant information to support decision-making in vocational training for further adaptation to the needs of companies.

Thanks to the evaluation of the best practices carried out in Output 2, through contrast with different VET agents and the expertise of the partnership, the partners of the project have identified the needs of VET decision makers and analysed which of the practices better suit these needs and gaps and how do they do so. The evaluation report provided a clear picture of the more transferable practices that could be implemented by the different regions.

With this as a starting point, the local/regional working groups of agents related to the vocational training system, assessed the usefulness of the methods and the information for the decision making process, and decided on the pilot project to be implemented.

Once the consortium has agreed on the methodologies to be tested within each pilot project, the partners had around one year to develop the project(s) in their region. Each participating region developed therefore a pilot project by applying the methodologies selected during the previous analysis of best practices.

The pilot projects developed are very different depending on what each partner already counted with and what it needed to incorporate in relation to the exchanged good practices: implementation of different statistical sources, use of foresight, specific surveys, evaluation of skills, qualitative assessments, econometric models, focus groups, etc.

The pilot projects implemented during the lifetime of the project are meant to be the start of a new working method in each region. The lessons learned with the pilot projects and assessments will be spread on the target audiences of SIMOVET: decision makers at regional/national/EU level regarding VET and final consumers.

Co-funded by the
Erasmus+ Programme
of the European Union

SIMOVET PILOT PROJECT

FOUNDATIONS FOR THE DESIGN AND IMPLEMENTATION OF A FORESIGHT MODEL IN LANBIDE-BASQUE EMPLOYMENT SERVICE

Authors

Eugenia Atin
Raquel Serrano

Rationale / Background

The Basque Country is one of the regions most affected by the ageing process. As a result of the ageing population in the Basque Country, in the coming years, a sharp decline in the labour force is expected, which means a lower supply of labour which may affect the competitiveness of the economy. At present, in the Basque Country there is any systematic research on which jobs and which job profiles may be more vulnerable to technological change or which new opportunities could arise to create new jobs and new activities.

Linked to the above, to the ignorance of the real demands of enterprises and the future of jobs in the Basque Country, experts indicate the lack of information for planning the training offer at the short, medium and long term. All the experts suggest that the incorporation of foresight systems should be a priority of the Basque Employment Service. Moreover, labour market forecasts and projections are needed, as we face a great future potential mismatch. This would allow us a capacity for improving the planning of the training to enhance employment opportunities and prevent future mismatches in the labour market.

The analysis of good practices regarding foresight gathered by the SIMOVET project has enabled the Basque Employment Service-Lanbide to determine the foundations for the implementation of its own foresight system in its Labour Market Observatory.

Description of the project

The pilot project developed under the SIMOVET's framework, has focused on analysing the different labour market foresight tools and their transferability to the Basque Employment Service identifying basic key factors for the implementation of a future labour market foresight model to provide information about gaps and opportunities for activity, occupations and skills to the systems of the training and employment area of which LANBIDE is a part: the life-long Integrated Guidance System and the Integrated Vocational Training System.

The main activities carried out under the pilot project were:

1) Identifying labour market foresight tools adapted to the requirements specified by Lanbide-Basque Employment Service.

2) Analysis of the potential of these tools through the study and interviews with those responsible.

3) Identification and description of the components of the future Lanbide foresight system.

Context and setting/ State of the art

The latest CEDEFOP forecasts predict a gradual return to job creation, as well as an acceleration in demand for high-level qualifications, where most future job opportunities will require medium-high or medium level of qualifications. From a quantitative analysis, there are two key factors: newly created jobs and job vacancies due to retirement. The demand for expansion may be more influenced by the evolution of the economy, but the demand for replacement, which is virtually unchanged, anticipates that around 103.5 million people will be replaced. From the "qualitative" analysis of the future adaptation of the supply and demand for skills in the EU, we can see that the percentage of people who perform jobs that require a high level of skills will undoubtedly increase. And this is the case at all skills levels since, even when contemplating a risk of over-qualification, it is anticipated that elementary positions that traditionally require low-level or no qualifications will increase their complexity.

Along the same lines, the Euskadi Strategic Agenda 2015 for vocational training assumes that employability is evolving into a much more complex type of professionalism that requires an increasingly higher level of qualification of people and a greater need for adjustment of the professional profiles to those demanded in productive sectors, in a scenario increasingly conditioned by the increasing competition around price and shortage of skilled labour due to the ageing of the working population. But what will be the job opportunities in the future, which sectors will generate more jobs and what skills will be needed to boost competitiveness of Basque companies and the employability of the working-age population in the Basque Country?

In a time of ageing and technological change, it is critical in the Basque Country to improve the tools for managing human capital, where mismatches between supply and demand in the labour market are forecasted. These mismatches occur due to a lack of knowledge about the future demands of companies for professionals and skills and a lack of information about the future of work and occupations to guide the planning of the training and the citizenship as a whole.

Foresight is important in order to plan the investment in human capital in the coming years, understood as an exercise of occupational projections and quantitative and qualitative forecasting of the production sectors. Labour market foresight allows clarifying which are the determinants of the changes in occupations, it allows to reflect on the most vulnerable jobs and professions due to the technological advances, as well as the need for generational replacement and the new activities and emerging occupations. It is also necessary to ensure some confidence and credibility in the projections. Foresight is important as well in order to adequately adapt the training offer, for example, initial vocational training requires between 7-8 years: identify the technologies that alter the activities and occupations, convert it into training, train teachers, new curriculum and finally training future and current workers.

Along these lines, the LANBIDE-Basque Employment Service Strategic Plan 2013-2016 establishes as one of its Strategic Objectives to improve knowledge and information flow about present and future needs for staff and qualifications, as well as the evolution of the productive sectors, to transmit them to the design of employment and training policies. The department of

Lanbide technical office, as the labour market observatory in the Basque Country, established the mission to contribute to the transparency of the labour market and decision-making in the planning of training for employment based on knowledge of the current and future demand in the labour market by exercising leadership in the collection, channelling and dissemination of relevant quantitative and qualitative information.

Thus, we have identified the opportunity for a foresight system/model specializing in occupational, sectoral, and skill-level opportunities (with territorial breakdown of results) and the relevance of the SIMOVET project, in the framework of the ERASMUS + Programme to analyse good practices of labour market foresight and discover the key components of the most interesting systems in order to establish the foundations of a future foresight model in Lanbide-Basque Employment Service. These foundations have also been developed under this pilot project.

Objectives of the pilot project

It focuses on analysing the different labour market foresight tools and their transferability to the Basque Employment Service identifying basic key factors for the implementation of a future labour market foresight model to provide information about gaps and opportunities for activity, occupations and skills to the systems of the training and employment area of which LANBIDE is a part: the life-long Integrated Guidance System and the Integrated Vocational Training System.

This pilot project specifically focuses on analysing good practices in other European environments of labour market analysis foresight tools that are better adapted to the particular information and knowledge needs for the future Lanbide foresight system:

- Obtaining early information on demand, supply and possible imbalances regarding qualified personnel in the Basque Country labour market (focus on occupations, qualification levels and economic sectors).
- Providing basic information on the workforce and training needs of active workers, for political decisions making and activities of the main players in the Basque labour market.
- Laying the foundations for a useful model for planning employment and training policies in the framework of the Public Employment Service, which is a dynamic and collaborative work tool, with both quantitative and qualitative informational outputs.

To achieve this objective, the pilot project has been developed along two lines of action:

- Study of the labour market foresight tools through strategic alliance with partners from Germany, UK and Czech Republic, and the adaptation of information and its components to sources, data available in the working environment of the Basque Country and future objectives in relation to the foresight system.
- Definition of key components and development of the foundations that would allow Lanbide to establish an employment foresight system in accordance with the above objectives.

With regard to the study scope of the pilot project- *Foundations for the design and implementation of a foresight model in Lanbide-Basque Employment Service*- as far as

analysing the tools and information available, it has focused on an understanding of the constituent elements of the tools, their objectives, key players (customers and information providers) basic components (sources, analysis, products, resources involved) and their evaluation regarding the adaptation of these tools and products/services (information and knowledge).

Regarding the definition of the foundations for the future development of a labour market foresight system, the scope of work has focused on describing the main components of the tool selected for its suitability for Lanbide's needs as a roadmap for its subsequent implementation, a description that has served as the basis for the *Technical specifications to support the design and implementation of an occupational-sectoral foresight system* in the Basque Employment Service.

Inspiring European approaches and practices

The database of good practices from the benchmarking performed in the first phase of the SIMOVET project included around 10 good practices related to the labour market foresight system, and specifically two good practices, gathered by the partners, which drew Prospektiker's attention due to their adaptation to the objectives and needs raised by Lanbide regarding the future foresight model to be developed by the Basque Employment Service.

These good practices pre-selected from the base were:

- National Labour Market Intelligence for VET: Working Futures and LMI for All.
- regio pro ("RegionaleBeschaftigungs- und Berufsprognosen") –Forecasting System for the Development of Employment and Qualifications

The background on labour market foresight in the Basque country dates back to a tool developed in the 1990s by the Basque Government Department of Economics, PROCUPA, which allowed the availability of a projections model (occupational, sectoral, skills levels) with results limited to the 1990s.

Since then several foresight studies have been developed by different entities usually with the aim of the future analysis of training needs or employment opportunities existing around strategic or emerging sectors, or those showing growth/positive evolution in recent years. These have been tackled through specific programmes of the Basque Employment Service aimed at financing diagnostic studies and training plans by clusters or business associations, sectoral expert panels focusing on a specific sector of opportunity or through various specific studies by other entities and bodies that tackle future analysis of the labour market prospects in the scope of their powers: studies by Confebask (Basque Business Confederation) BizkaiaTalent (initiative promoted by the Department of Economic Promotion of the Provincial Council of Bizkaia) CES Vasco (Basque Economic and Social Council) or those developed by consulting firms, etc. In any case, none of these initiatives has been stable over time presenting results with certain regularity or tackled the entire spectrum of the labour market, including all branches of activity, occupations, etc. That is, from the PROCUPA tool, none of the studies or experiences described can be considered a stable labour market foresight system for orienting the planning of the professional training offer or even active employment policies.

Moreover, from the good practices gathered by the project partners, there were two examples that met Lanbide's objectives. These were:

The Regio Pro Foresight System developed by IWAK, Practice-Oriented Research Institute attached to the University of Frankfurt which identifies and graphically displays the medium-term imbalances in relation to the needs of professionals and of education of almost all occupational groups. For Prospektiker and Lanbide the interest of this good practice lies in the availability of quantitative and qualitative information on the needs of the labour market with a 7-year horizon, which allows us to breakdown at the level of the German region of Hesse, the evolution of the main occupations of the labour market (past, current and future status), the evolution of employment and the forecasts and it easily displays the difference between supply and demand for a particular region or town with a view to planning the needs and workers, training policies, etc. The Regio Pro tool combines supply and demand providing information for 5 or 7 years' time on the labour market (the information is updated every two years) and from the forecasts two highly useful products are automatically generated in accordance with Lanbide's objectives for the future foresight system:

- A detailed report for each region analysed is published every two years.
- Website containing all forecasts for all regions and municipalities and for all occupations. The data is presented graphically.

The Working Futures model, developed by the UK Commission for Employment and Skills, corresponding to a national foresight model that seeks to establish what skills will be needed in the future and where supply problems may be encountered. It is the most detailed and comprehensive labour market foresight system in the UK, developing 10-year foresight for employment by industry, occupation, skill level, gender and employment status for the UK and for the English nations and regions. Its projections are designed to identify where future jobs will arise and to find out the implications of the skills for supply and demand. The model's results are presented in a series of reports: a main report and an executive summary, reports focusing on sectors and on Scotland, a technical report and a set of more detailed sectoral and regional analyses. These reports are widely used by different entities and public and private bodies related to the labour market, economic promotion and the education and vocational training systems in the UK.

Working group

To develop the pilot project we created an internal working group between the two partners of the Basque Country and the Basque Government Department of Economics, consisting of:

- Lanbide - Technical Office Area - Basque Employment Service: Javier Ramos, Maria Brenlla and Roberto Villate
- Prospektiker: Eugenia Atin and Raquel Serrano
- Basque Government Department of Economics: Alberto Alberdi and Natxo Jaca Michelena.

This internal working group is responsible for the internal analysis of the different foresight tools present and to hold meetings through interviews with those responsible for them, extracting relevant conclusions to potentially transfer them to Lanbide.

A Steering Committee has also been set up to assess the relevance, usefulness and transferability of good practices with agents from the Basque Government Departments of Employment, Economy and Education:

- Lanbide - Training for Employment Area
- Department of Education, Language Policy and Culture - Directorate of Universities
- Department of Education, Language Policy and Culture, Vocational Training, Agency for Quality and Evaluation
- Department of Tax and Finance, Department of Economy and Planning.

A round table discussion was held with these agents for the presentation of the pilot project SIMOVET, its objectives and actions, agreeing on the foresight challenges or information needs in relation to the labour market to plan the training offer and identify within the good practices of other European regions analysed, those of the greatest interest in order to transfer them to the Basque Country.

Methods and activities

The main activities carried out under the pilot project were:

1) Identifying labour market foresight tools adapted to the requirements specified by Lanbide-Basque Employment Service.
2) Analysis of the potential of these tools through the study and interviews with those responsible.
3) Identification and description of the components of the future Lanbide foresight system.

<u>PHASE 1: Identifying labour market foresight tools adapted to the requirements specified by Lanbide-Basque Employment Service.</u>

This phase is based on the best practices for research and analysis of the labour market, including over 25 experiences from the partners of the SIMOVET project from Germany, UK, Czech Republic and the Basque Country, to identify through the internal work group those related to labour market foresight and identify, within the those pre-selected, the ones more in line with the objectives of the Basque Employment Service regarding its future foresight model. To facilitate this work, the database was organized in objective-related fields, related to the policies, target public, content, activities and products, data sources, approach in the short, medium and long term, impact of the practice, and involvement of agents.

For this purpose the above internal working group first carried out an internal evaluation, according to the following criteria:

- Criteria 1: Transferability of the practice (if it is easy for the good practice to be

carried out in other regions, sectors or be developed by other agents)

- Criteria 2: Potential to affect policies (if it is likely to have a positive impact in the decision making process for VET planning)
- Criteria 3: Practicality (use of available resources; reasonable costs of economic, technical and/or human resources are needed for the practice to be implemented)
- Criteria 4: Innovation (whether the practice brings new methods, information sources, analysis technical resources or provides high added value on new knowledge about labour market needs)
- Criteria 5: Scope (balance of information in terms of consistency, relevance and frequency)
- Criteria 6: Impact on audience (the results in terms of products and services provided are well disseminated to different target groups; they are accessible, visual and public oriented)

The results of this preliminary assessment, carried out in March 2015 identified two good practices of interest to Lanbide regarding a future model of prospective labour market in the Basque Employment Service: The German foresight system *Regio Pro* and the British foresight model *Working Futures.* With this pre-selection they called the external contrast group (June 2015) to discuss the two experiences and the relevance and adequacy of the foresight information generated.

Regio Pro tool was very well evaluated. The systematic methodology that combines quantitative methods (econometric model) and qualitative (systematic contrast with social and business actors -especially the latter). The quantitative data is enriched with qualitative data to take into account regional specificities and developments per sector and the labour market. This model of social structuring and co- responsibility is worth highlighting using foresight to see the potential labour market mismatches in the future, with an average horizon of 5-7 years, and its scope: the territorial breakdown of productive activity and occupations. Moreover it integrates highly visual and user friendly tool for all audiences including young people who are deciding their career. The transferability to the Basque Country is valued by experts as average, being very interesting, but quite complex because it requires the cooperation of many experts to integrate the qualitative part. The stakeholders highlight the needs to replicate the econometric model (issues to integrate the diversity of statistical sources in the case of the Basque Country) and to develop in the Basque Country a model of contrast and consensus.

Working Futures model provides labour market intelligence that helps companies and individuals to make better decisions. It maximizes the impact of employment and skills policies as well as the behaviour of the employer to support employment and growth and ensures a base of internationally competitive skills. It is essential for employers, education and training providers and public agents but its transferability to the Basque Country has been evaluated by the experts as “low”. They highlight the cost of the system, the UK has developed a model of public-private co-financing, being unthinkable in the case of the Basque Country. The lack of a user interface is also regarded as a negative aspect for the transferability

<u>PHASE 2: Analysis of *Regio Pro* through the study and interviews with those responsible.</u>

After selecting the most interesting practice in June 2015, the study of the strategic keys and

components of the Regio Pro foresight system began.

For this, the consulting team proceeded to develop a list of issues that needed to be resolved in order to analyse in more detail the adaptation and transferability of this labour market foresight tool to Lanbide. The study areas and issues that were raised were as follows:

BACKGROUND AND OBJECTIVES

- Background; Project's objectives; Agents involved: leadership and public and private stakeholders; Target audience: regional development agents, training centres ...; Horizon to 5 years: Why was this horizon chosen?; Time in the design and implementation of the observatory; Other aspects of coordination, project planning and schedule

DEVELOPMENT

Areas/ departments involved in the simulation model

- Profiles, areas or departments involved (Economics -> in relation to the econometric models for projections/ Education or work / education-> current and future workers/ Statistical departments /Other sectoral actors: health, economic development agents
- Identification of key information used in the service: major suppliers and relevance, accessibility of sources
- What kind of agreements are established by specific types and/ or by suppliers?: Agreements, contracts, types of compensation

Technical development: projection of future labour demand

- Macroeconomic Model (Replacement jobs demand and Expansion demand-macroeconomic forecasting model of economic activity/conversion to occupations and qualification level)
- Survey to experts: Identification of key actors and Questionnaire (experts are asked to evaluate specific areas of the labour market situation and future development of the region. Regularity, value of the results, ..)
- Other changes: technological and organizational impact and other sources included: qualitative or quantitative: Cedefop. Health Sector (detail of the contrast process of the projected results with the sectoral agents).

Technical development: projection of future supply of workers

- Components of the projection model of the future workforce: Labour market today: sectors, occupations, age; Demographic projections, mobility and migration, increased retirement age, the rate of female employment; Projections of education

Analysis

- Operations related to the analysis, Weighting factors; Using the expert survey

EXPLANATION OF THE OBSERVATORY

Interface

- What are the technological infrastructure resources (IT and communications) used in the development?; software, features and characteristics

Information services and products

- Information included and level of disaggregation of the projected employment evolution: By occupation: 2-3-4 digits?; By qualification: three levels or greater disaggregation?; By economic sector? 38?; By territories: regions, administrative districts
- Other labour market information and other products, services offered through the regio Pro project: different types of customers and user traffic

Financing

- Bodies and agents who finance the project

Organization

- Description of the maintenance activity, detailing the functional processes carried out in the whole operation; internal and external human resources used in the service. How many, time allocated, profiles, roles and responsibilities, needed profiles for the maintenance and annual cost of maintenance(apart from the personal costs)?

The consulting team conducted a field study to respond to these issues, in addition to holding meetings via Skype and various face-to-face meetings in Frankfurt with those responsible for Regio Pro on 28th October 2015, attended by:

- From the Basque Country team: Javier Ramos and Maria Brenlla (Lanbide) and Eugenia Atin and Raquel Serrano (Prospektiker)
- From the IWAK team: Sigrid Rand and Daniel Kahner (IWAK and SIMOVET partners) and Lars Lauery Oliver Nüchter (responsible for Regio Pro)

PHASE 3: Identification and description of the components of the future Lanbide foresight system.

With the results of Phase 2, Prospektiker in collaboration with Lanbide, through various meetings and clerical work, agreed the future components of the labour market foresight system and the roadmap to implement the tool in the Basque Employment Service:

STRATEGIC REFLECTION ON ORGANIZATION ISSUES:

Reach an agreement about how the process will work (steering committee between stakeholders as providers/consumers of forecast information). Activities:

- Analysis of regio-pro model led by IWAK identifying the objectives, key players and operating systems.

- Identification of key players for lanbide foresight system and creating an internal coordination group and a steering committee with external agents.
- Constitution of the Coordination Group and the Steering Committee: organization of meetings to define and agree on the basis for the design and operation of the system of labour market future projections (key procedures and main products related to the information to be provided -5 meetings).

FORESIGHT SYSTEM DESIGN:

Determination of the key elements of the labour market foresight system: information, sources, collection processes, analysis and dissemination. Activities:

1. Identification of information: a) Determine the information needed to meet the goals agreed at the previous step. Moreover, the comparative analysis of the Regio Pro system will help identify the information needs. b) Establish the information available (internal and external). c) Classify the information by area, key variables and indicators.

2. Identification of sources: Sources are clarified and structured as internal or external providers of information, defining the needs in terms of the relationship with suppliers agents (collaboration agreements,..).The need for obtaining new information which it is not available will be defined (companies surveys). At this point, the econometric model for economic forecast should be defined, as well as the potential providers

3. Information collection processes: Data entry, coding, keying, frequency for each source/information are clarified

4. Information analysis:

- Quantitative forecast: At this stage the needs of data analysis, functions and operations for generating knowledge are detailed. Specifically, the aim will be able to make quantitative projections of supply of labour in the labour market by sector and occupation (impacts on employment and changes in demand) and the potential number of jobs that will be demanded in the horizons that are defined within prospective targets (Regio pro model, with a biannual update ,makes projections to 7 years) .
- Qualitative contrast: Online surveys and regional working groups (Participants: regional labour market experts from each province (3-5 experts from each province)). The experts provide an evaluation of the results of the projections, information about new developments in economic sectors, occupations and qualifications and fields of actions for the development of future scenarios of the labour market.

5. Dissemination activities:

- To organize and classify the information according to their internal and external nature and they type of product / service that the system will provide: internal: specific indicators, opportunities for consultation…and external: presentation of information on the web platform, regular reports or specific ad hoc reports
- Programmes to analyse de information: internal platform (Data base, excel,..)

and external platform (web). It will detail the structure of the web platform in terms of display possibilities (display options for occupations, industries, sectors, geographical scope, access reports, other search options)

Results of the project- Outputs, Outcomes, Impact

Under the framework of the European project SIMOVET, a strategic alliance has been formed with partners from the Basque Country (Prospektiker), Germany (IWAK, Frankfurt University), United Kingdom (Exeter University) and Czech Republic (NVF) that have provided Lanbide with first-hand experiences conducted by labour market observatories regarding labour market foresight in order to estimate the future employment demand needs (in terms of occupations and skills), which would greatly improve planning of the vocational training for employment offer, attached to the Basque Employment Service, as well as career guidance and design of active employment policies.

Thus, through the good practices gathered in this area they have identified the opportunity for LANBIDE-Basque Employment Service to have a foresight system/model specializing in job, sectoral, and skill-level opportunities (with territorial breakdown of results). The analysis of the Regio Pro good practice selected may become the future foresight system of the Basque Employment Service with an adaptation to the requirements and conditions of our labour market, information sources and needs/objectives.

Through the study and several meetings held with those responsible the components of this system have been identified: Project's objectives; Agents involved, Target audience, potential horizon, aspects of coordination, areas/ departments involved in the simulation model, profiles, key information used (major suppliers, sources and agreements), technical development on projection of future labour demand (Macroeconomic Model and survey to experts) and on projection of future supply of workers (components of the projection model of the future workforce), operations related to the analysis, technological infrastructure resources, products and services and organizational and financial resources.

And this has allowed us to design the foundations for the implementation of a future foresight tool. While the proposal of this system/model within the SIMOVET project is linked to the support for the decision-making in planning vocational training, the importance of having foresight information should not be limited to training, but also extended to all employment policies, including planning of comprehensive and cross-cutting actions at the heart of the Basque Government.

The development of the roadmap for the articulation and implementation of a labour market foresight system in Lanbide, identifying the main activities to implement and key components of the future tool is the main result of this pilot project developed in the framework of SIMOVET.

Regarding the impact, the launch and implementation of the foresight system in the Basque Employment Service is expected to be carried out throughout 2016, according to the recent tender launched by Lanbide to hire a consultancy service to support the design and

implementation of a occupational-sectoral foresight system. The technical bases of the tender reflect the main elements defined under SIMOVET to be included in the future tool.

Once implemented, a foresight system arising from the need to develop labour market demand forecast at regional / local level, in a context of demographic change and general trends, allowing:

- To obtain early information on demand, supply and possible mismatches of the labour market regarding qualified workforce in the Basque Country, with a focus on occupations, skill levels and economic sectors.
    - A **vision and planning** tool for the decision making process on vocational training and a vision and planning tool for the decision making process on vocational training. Inclusive - It aims to create a collaborative workspace between the different agents involved.
    - A tool to generate **useful quantitative and qualitative information**. Effectiveness: It aims to be an opportunity to generate and manage quality information to increase levels of adaptation of vocational training to current and future market needs of the Basque labour market
    - A tool for **generating knowledge** about occupations and skills demanded. Anticipation for action: It aims to facilitate the implementation in the Basque Country of more effective vocational training policies by improving the transmission of relevant information between different levels of government and the private sector related to the labour market.
- To provide basic information on the workforce and qualified workers for political decision-making process and activities of the regional agents on labour markets. Addressed to policymakers, social agents as trade unions and business associations; department of education and vocational training, department of economics; services and employment agencies and agents related to the labour market

Human, technical and financial resources

For the *design and implementation of a foresight model in Lanbide-Basque Employment Service* the following technical and human resources and organizational, dissemination, monitoring and evaluation systems are seen to be necessary:

Human and economic resources:

- Human resources: Description of the profile of the jobs and the skills needed. A team of 2-3 analysts (1 macro-economist) specializing in labour market as technical staff and coordinator person in the foresight system.
- Economic Resources:

- Cost of the initial development and subsequent maintenance. It is estimated around 36.000 € for the economic forecasting (macro-economic model) and around 10.000-12.000 € for the development of the web platform and other dissemination expenses.

Technical resources: Technical resources are mainly located in the development and maintenance of web platform and defining its technical specifications and features about accessibility, visibility and usability of the platform.

Management system management: key responsibilities and operational processes (process analysis and product updates, meetings of the coordination group and steering committee, meetings contrast with labour market experts,..) as well as the model of relations and coordination with other areas.

Follow up and evaluation system: scorecard process and performance indicators.

Communication strategy for Prospective Labour market, including social networking strategy

Lessons learned

The Basque Country is one of the regions most affected by the ageing process. As a result of the ageing population in the Basque Country, in the coming years, a sharp decline in the labour force is expected, which means a lower supply of labour which may affect the competitiveness of the economy. Thus, in the short to medium term it is expected that the active population in the Basque Country will be reduced by more than 8%, however by 2020 the decline will be even greater. In 2025, 175,000 people will turn to retirement age.

Such a change in the demographic structure requires a profound transformation and restructuring of the organizational model of our society. It is necessary to forecast the needs for generational replacement which is easier to calculate considering the demographic factors which are difficult to modify and are less likely to change. Only by attending the need for replacement we could improve career guidance and prevent a future shortage of professionals.

Moreover, in recent decades we have witnessed a process of sectoral, occupational and skills change as a result of the effects of technical progress resulting in a decreased demand for more routine and automatable tasks and an increase in employment in those occupations which are more difficult to mechanise (professionals and technicians and service workers).

The nature of jobs as we know them today will change in the coming decades mainly due to the technology progress and there are many projections that suggest that the technological unemployment will accelerate when the Artificial Intelligence (AI) dominates computers and develops the ability to learn. Besides artificial intelligence, robotics, nanotechnology, 3D printing and the future Internet will replace jobs and create new opportunities for work.

Along these lines, taking into account the decrease of the labour force, the future mismatch of professionals could be not only quantitative but qualitative. At present, in the Basque Country we are not conducting any systematic research on which jobs and which job profiles may be

more vulnerable to technological change or which new opportunities could arise to create new jobs and new activities.

Linked to the above, to the ignorance of the real demands of enterprises and the future of jobs in the Basque Country, experts indicate the lack of information for planning the training offer at the short, medium and long term. Education and vocational training technicians suggest that we offer a snapshot of the professional families, and consider that they have a certain quality when referring to past and present yet people demand a plus, to know to what extent we should increase the skills in order to have a competitive advantage in the labour market: what I can do and what I can offer. Thus most jobseekers are people with middle-higher education, but this training doesn't allow them to enter the labour market: the question is what we can do from the point of view of career guidance.

The experts point out that the required information is the one that the career guidance services need to characterise the profiles of future jobs because there is an added difficulty at this point and this is the long time it takes to adapt the changes in the supply of initial vocational training, introduced from the skills (it would require 5-7 years). However a more rapid response can be provided from the recognition devices of skills and from continuous and occupational training. It should specialize in training for employment (occupational and ongoing) in adapting to needs and skills caused by technological changes in the short term.

All the agents suggest that the incorporation of foresight systems should be a priority of the Basque Employment service, not only in relation to the future of work but also about the consequences and implications of ageing in all areas: economic, social policies , educational ... One of the lessons learned is that the labour market foresight requires collaboration between different departments (employment, education, economy, industry, ..) and public and private institutions (universities, socioeconomic agents, companies).There should be an systematic approach, a specific tool to incorporate knowledge of the different fields of interest. Moreover, labour market forecasts and projections are needed, as we face a great future potential mismatch. This would allow us a capacity for improving the planning of the training to enhance employment opportunities and prevent future mismatches in the labour market.

Along these lines, the IWAK tool analysed, *Regio pro*, appears to be a foresight model with great potential to be adapted and used by Lanbide as a labour market foresight system. By analysing and learning about it, the Basque Employment Service has determined the basis for the implementation of a future foresight tool in its technical office that adapts to the objectives sort.

Follow up activities

Determining the *Foundations for the design and implementation of a foresight model in Lanbide-Basque Employment Service* through its participation in the SIMOVET project has led Lanbide to consider in the short-term the implementation of a foresight tool to be used in its labour market observatory.

Along these lines, in April 2016, Lanbide launched a tender to hire a consultancy service to support the design and implementation of a occupational-sectoral foresight system using the roadmap proposed in SIMOVET and with the aim of defining a foresight model that is implemented before the end of the year.

With this line of action the aim is, based on the analysis of the labour market and the information provided by the prospection and information system about gaps and opportunities of activity, occupations and skills, to provide relevant information to the other services of the organization, as well as the Department of Employment and the systems in the training and employment area of which LANBIDE is a part, such as the Integrated Life-Long Guidance System and Integrated Vocational Training System for the identification and/or proposal by them for new programmes and actions.

With these lines of action launched through the SIMOVET pilot project, the aim is, based on the analysis of the labour market and the information provided by the prospection and information system about gaps and opportunities of activity, occupations and skills, to provide relevant information to the other services of the organization, as well as the Department of Employment and the systems in the training and employment area of which LANBIDE is a part, such as the Integrated Life-Long Guidance System and Integrated Vocational Training System for the identification and/or proposal by them for new programmes and actions.

Within the scope of the contract, the foresight system should provide information with projections, for different biannual temporary scenarios, with a maximum 15-year horizon (2030), in the areas of:

- Quantitative projections of a minimum of 23 occupational groups.
- Quantitative projections of a minimum of 22 branches of activity.
- Quantitative projections of a minimum of 3 levels of qualification.

This foresight information must be derived from:

- A foresight (macroeconomic model) and systematic information gathering tool.
- A foresight tool to contrast between future labour supply and demand (regional models of labour supply and demand for expansion and replacement).
- A qualitative contrast model with specialized regional agents, of the econometric and population results obtained.
- A bilingual website with a tool to view supply and demand scenarios and breakdown of data by sectors, occupations and activities.

Description of the organisation and main interests regarding the project

Established in 1987, Prospektiker is an independent company, which specializes in foresight and prospective - strategic studies for the public and private sector. The company's main purpose is that of exploring the possible futures, which may emerge from the present situation.

Prospektiker was created 26 years ago as a structure for reflection and prospective analysis. Over the years, Prospektiker has developed different areas of knowledge based on our

experience in numerous studies of regional and local strategic foresight and prospective sector, management consulting, implementation and evaluation of public and private policies. Prospektiker has a close knowledge of the field of employment policy and social policy, as a result of our constant work with local government departments and regional economic and social development, local development agencies and other public entities in the field as well as their participation in European programmes and networks.

Prospektiker specialises in foresight and prospective - strategic studies for the public and private sector. In this field, Prospektiker is member of the following international organizations: Futuribles, Lipsor, The European Regional Foresight College, World Future Society and Destrée Institute. Related to the labour market some of the more relevant research studies conducted by Prospektiker have been the investigation about the future of work on cooperatives and other social business models, consequences of ageing society for the economy and the labour market, the gaps between the offer of qualified workers and the demand by different sectors (health, training, energy, environment, ICT), the obstacles to job creation, etc. In addition to its prospective activity, Prospektiker is the Spanish Node of The Millennium Project which is a global think tank founded in 1996 connecting international experts in corporations, universities, NGOs, UN agencies and governments via more than 40 nodes around the world in a participatory process, which explores, through foresight tools, how to face global challenges and build a better future. In this Millennium Project framework, Prospektiker has carried out an International Delphi Study about the Future Work/Technology 2050 Real-Time Delphi Study and is working on developing global scenarios on the future of the work.

Training, and more specifically VET, is one of the core strategies of Prospektiker and we have been working in this field throughout our 28 years' of experience. Our organisation has worked and currently works together with several of the 324 existing VET providers in the Basque Country, helping with the strategic planning of their vocational training offer. Prospektiker has helped different training agents through prospective techniques to develop innovative programmes more adapted to the future challenges affecting the labour market and to increase the employability of the students by focusing on strategic sectors and new sources of employment. We have worked together with training agents developing synergies with SMEs to generate opportunities for internships, first employment and promoting entrepreneurship among vocational training students. Other fields of work over the years include detecting organisational and resource (equipment and technology) needs to adapt the training centres to the new business demands.

Contact details

Eugenia Atin
Partner Consultant at Prospektiker
e.atin@prospektiker.es
Zamudio Technology Park
Edificio 207 A Bajo
48170 Zamudio (Bizkaia)
Tel.: + (34) 943 835 704; Fax: + (34) 944 522 787
http://www.prospektiker.es/

Co-funded by the
Erasmus+ Programme
of the European Union

SIMOVET PILOT PROJECT

EMPLOYABILITY OF GRADUATES IN ÚSTECKÝ REGION

Author: Zdenka Matoušková, Zdenka Šímová

Rationale / Background

Ústecký Region is one of the 14 Regions (NUTS 3) in the Czech Republic. Ústecký Region belongs to the larger Regions, is the seventh largest one and covers nearly 7% of the total area. Region is located in the north western part of the Czech Republic and shares the border with Germany (Saxony) which provides some job opportunities for the labour force from the Region especially in the tourism sector.

Labour market is influenced by demography situation that is not favorable, the number of population decline continuously. This situation is caused by negative migration balance, especially young and well educated people leave the Region, as well as by negative natural demography development. Aging process that troubles the whole Czech Republic is visible also in Ústecký Region.

As a result of traditional sectors restructuring and lack of new investments in Ústecký Region, there is the highest unemployment rate in the long term. Unemployment is approximately 4-6 percentage points higher than the average. In the year 2014 the unemployment rate was 11%, there was 17 applicants per one vacancy. A negative trend is the high proportion of the long-term unemployed; more than 40% of the unemployed people are without a job for over a year.

The aim is to improve the quality of education at vocational schools, increase the relevance of education in relation to the needs of the corporate sector, and increase the number of students in technical and science-oriented universities.

Description of the project

The objective of the project was to create an information tool that will adequately complement the information sources currently available to the regional office of Ústecký Region and educational institutions located in the region. This new LMI will help to design and implement measures aimed at increasing the consistency between skills supply and demand on the regional labour market.

In the frame of the pilot project two on-line questionnaires were designed; one for graduates from Regional University and one for graduates from vocational education and training schools. The survey was conducted among the graduates from two faculties of Regional University and based on the data received the analysis on graduates employability was worked out. The monitoring of job vacancies in Ústecký region was the fourth product of the pilot project.

Context and setting

Ústecký Region formulated its vision in Regional Innovation Strategy as follows: "The Ústecký Region is economically growing and creates employment opportunities for educated people. Traditional sectors are modernising, increasing their added value and seeking new directions of development. There is an increasing number of companies that actively use knowledge and new technologies. This is made possible through the cooperation with a strengthened regional research and with research and development centres in the Czech Republic and Saxony". This vision can't be achieved without enhancing the quality of human resources. The low availability of technically trained, qualified and skilled labour force for companies and research organisations in the Region is one of the most significant barriers. The problem of shortage of technically trained, qualified and skilled labour force is reflected not only in innovation-oriented companies, but also in many companies in the manufacturing industry, and concerns not only highly skilled university graduates, but also technically educated secondary school graduates and skilled blue-collar workers. The lack of qualified applicants also affects the research and development facilities in the region.

The educational structure of the population is not a strong point of the Ústecký Region. There is one of the highest shares of persons with incomplete or only elementary education and those without any education, and one of the lowest shares of university graduates. Although the employment of university graduates in the Czech Republic has been growing, the dynamics of this trend in the Ústecký Region is lower than in most other Regions.

In this Region there are 96 secondary schools, 9 higher professional schools and 1 university. The number of students has been continuously decreasing in recent years because of negative demographic trends.

As part of the restructuring of the network of secondary and higher professional schools in the Ústecký Region, in recent years some schools have been merged, and a network of backbone schools has been created. The aim is to optimally serve the catchment areas, reduction in operating costs and improving the effectiveness of the investment costs.

The problem with the vocational education system in the Ústecký Region is the mismatch between its field specialisation and the labour market, or the demands of major companies on human resources. Schools are not always able to attract students in fields for which there is a demand in the labour market. The declining population in individual years leads to a relative increase in the capacity of more attractive schools (especially grammar schools and business schools). This is also one of the reasons for the lower interest in apprenticeship fields. The lower interest in studying vocational fields has led to the situation when some secondary vocational schools face a threat of closing.

The Regional University (UJEP) performs as the scientific, pedagogic and cultural & educational centre of the Ústecký Region. The University educates more than 10 thousands students not only from the Ústecký Region. The University has historically positioned itself in the field of humanities that is a bit in a contradiction with the industrial orientation of the Region. There are also detached facilities of other public universities, mostly technically oriented (for instance detached facilities of the Czech Technical University and Technical University of Ostrava).

Objectives of the pilot project

The objective of the project was to create an information tool that will adequately complement the information sources currently available to the regional office and to use them as a basis for the design and implementation of measures aimed at increasing the consistency between skills supply and demand on the regional labour market. The pilot project focused mainly on mapping mismatch between the level and the field of education graduates of secondary schools and universities. Creating an information tool should serve not only for the needs of the regional office, but also for the needs of schools as a basis for improving the quality of teaching, appropriate changes in the taught subjects to better meet requirements of employers. It could be used as a basis for popularizing the study of technical disciplines too.

Employers located in the region express their dissatisfaction with secondary technical school graduates who are according to their opinion insufficiently prepared for practical work for companies, both in terms of expertise and in terms of motivation. Poor quality (personal and professional) of graduates of technical fields is caused, among other things, by little interest in these fields and little motivation to pursue technical careers in manufacturing companies. The problem is also little consistency between the needs and requirements of companies on the one hand and educational programmes and the content of secondary technical school curricula on the other. Students at general secondary schools (grammar schools) do not envision their future careers in the technology sector and do not choose technical or science-oriented universities.

Employers express very similar opinion also in relation to the tertiary education graduates. The demand of the corporate sector (especially industry) in the region is not met by the offer of education in science and technology. The field specialisation of the University does not correspond to the focus of the local industry. The professional and personal profiles of many graduates do not meet the requirements of the private sector. There is a continued negative balance of migration of talented young people who leave to study outside the Ústecký Region, and many of them do not return after graduation. In addition, university graduates are not too interested in starting their own business.

Region and individual schools lack comprehensive overview of the number and structure of job vacancies suitable for graduates of vocational schools and colleges, as well as information whether graduates find employment consistent with the level and the field of their education. Information about the future demand for individual profession is also completely missing as well as the comprehensive information about real time job vacancies that is not available from one source but distributed among different specialized web pages including the web pages of labour offices.

To improve current situation, in the frame of the pilot project two questionnaires were prepared, one for tertiary education graduates from Regional University and one for secondary education graduates, aimed at receiving the answers to the questions dealing with different aspect of their position in the labour market. Integral part of this project was also conducting the survey among University graduates and analyses of the results as well as identification of job vacancies for them using three sources of job advertisements: labour office web page and two private job portals – jobs.cz and prace.cz.

Inspiring European approaches and practices

All practices gathered within SIMOVET were evaluated as LMI with a great potential to contribute to the identified challenges in Ústecký Region. Though, five out of all LMI were evaluated as the most inspiring and the most suitable for Ústecký Region. These selected LMI or their elements were adapted to the environment of Ústecký Region to improve existed LMI.

INFORMATION SYSTEM ABOUT TRANSITION FROM THE EDUCATIONAL SYSTEM INTO WORKING LIFE (Basque Country)

This practice is ran annually and developed in a census way, addressing by telephone all persons who obtain an university degree (three years after finishing the degree). The main information obtained in the project are:

- Evaluation of the university,
- Evaluation of the training received,
- Employment status of graduates,
- Work activity during the studies,
- Characterization of current employment,
- Characterization of unemployment: type and duration.

The information is available on the websites of the project partners.

EMPLOYERS SURVEY ON EMPLOYABILITY OF UNIVERSITY GRADUATES (Czech Republic)

The survey and analyses concentrate mainly on receiving answers to the following questions for each of the professions:

- Which professions are/will be of a high demand?
- Are there problems with the quality of applicants? What are their strong and weak points?
- Are there substantial regional differences?

The Survey can be used solely or in connection with results of questionnaire survey among graduates, analysis of job vacancies, and analysis of the Labour Force Survey data. The final report and data are presented to the faculty management at their meeting with study programme leaders and the interpretations and implications for the future faculty development were discussed.

STUDY ON THE ADEQUACY OF THE OFFER AND DEMAND OF PROFESSIONALS AND TRAINING NEEDS IN THE ENERGY SECTOR (Basque Country)

The Study covers the current situation and the evolution over the next 10 years in electric-manufacturers of electrical components and the distribution network industry and to qualifications awarded by the three Basque Universities and by the vocational centres of the three provinces in the Basque Country. This study was based on:

- Document analysis focused on the study of the growth forecasts and the occupational and educational structure,
- Statistical analysis of official data on employment in the sector and on students ,
- Interviews and email surveys of businesses ,
- Interviews with training agents,
- Student focus groups.

Three scenarios of the demands of professionals in the energy sector in 2018 were elaborated. Together with the results, a series of actions and strategies aimed at increasing the technical careers visibility among the youngsters, creating prestige of the professions, facilitating the approval of degrees and hiring foreign staff, retraining unemployed people into these professions, a greater business involvement in the training stage: scholarships, research grants, etc.

IDENTIFYING AND DETERMINING QUALIFICATION NEEDS (EQUIB) IN THE BREMEN REGION (Germany)

EQUIB uses three major sources for the generation of knowledge.

- Company panel. Data is generated via expert-interviews aimed at identifying current trends and developments in the demands for different qualifications within the companies.
- External experts. These experts provide professional advice about the topics for the interviews, the selection of the companies and of the representatives within the companies.
- Cooperation with other scientific actors. To enrich own results, input from other studies and knowledge generated by other researchers in similar fields and other regions are used.

Monitoring reports as the primary output of the project are published either twice or three times a year. Each of the reports has a specific topic and concentrates on either a specific sector with specific questions, themes of interests and addressing different problems now and in the future within these sectors, or addresses general topics such as demographic change or sustainable economy.

UK SCOTLAND´S SKILLS INVESTMENT PLANS (Great Britain)

The Skills Investment Plans (SIPs) and the Regional Skills Assessments (RSAs) is central to the Scottish Skills Planning Model. SIPs includes also Action plan setting out specific short-term and longer-term actions, partners and inception timescales. SIP also plays a role in simplifying the skills system – and making it more transparent. In Scotland, SIPs concentrate on tackling the following key questions:

- What is driving growth and change in the sector?
- How attractive is the sector (especially to young people)?
- Where are the skills gaps and skills shortages – and where do employers find it hard to recruit?
- What numbers and types of skills are coming out of the education system?
- What are the prevalent employer views of skills system (Quantity, Quality, Appropriate skills?)
- What is the importance of international talent attraction for the sector?
- What are the major themes in current employer recruitment practices?

Working group

Describe the profile of the working group and give the names of the members/ organisations of the working group

The working group was created in relation to the external evaluation group and to the content of the pilot project. Two members of the external evaluation group become the members of the working group representing carrier counsellors (Zuzana Freibergová) and initiative, coordination and conciliation entity involved in economic and social development of Ústecký Region (Gabriela Nekolová). Newly the working group includes a representative of the Regional University as the scientific, pedagogic and cultural & educational centre of the Ústecký Region and a representative of Regional Office whose duty is among others complex development of the Region including educational system development. This group also includes three representatives of the NTF. The total number of working group members are seven, following table illustrates the composition of the working group.

Members of working group

First name	Surname	Organisation
Gabriela	Nekolová	Economic and Social Council of Ústecký Region
Alexandra	Zdeňková	Regional Authority
Jiřina	Jílková	Jan Evangelista Purkyně University in Ústí nad Labem
Zuzana	Freibergová	Guidance Service Support Unit
Zdenka	Matoušková	National Training Fund
Marta	Sobková (Salavová)	National Training Fund
Zdenka	Šímová	National Training Fund

Work of this group was coordinated by National Training Fund and focused especially on the consultation of the individual steps of pilot project and serve as the focal point for dissemination of the project results. Each of the members actively participated in the discussion, contribute to preparing a new LMI and evaluate how the complexity of LMI system in region was improved. Two common sessions took place. The first one concentrated on achieving an agreement on key activities performed within the pilot project and the second one on the results discussion, i.e. questionnaires, survey results, job vacancies monitoring. In addition to these common sessions several discussions with individual members also took place. The main form of the sessions and individual discussion realize through Skype, e-mails and meetings.

Methods and activities

Description of all the steps/ activities developed

The pilot project uses two methods of LMI creating:

- Surveys
- Job vacancies monitoring

Surveys

Surveys among graduates represent very flexible tool that has the potential to bring unique information directly "from the ground" and give the feedback to the representatives of the education providers as well as to the representatives of authorities responsible for economic and social development of a region. The contents of the questionnaire can be adapted to the specific needs and condition of the individual schools/universities or even a selected educational programmes. The acquired information provided deeper insight into the strengths and weaknesses of education at the individual educational institutions and especially to what extent this education represents a good preparation for successful entrance to the labour market and if the graduates find easily a good job in the region. Survey implementation is quite challenging because of the necessity to contact the graduates, but the information gathered in this way cannot be replaced by other sources, especially if the surveys are conducted as sufficiently representative and at regular basis.

The aim of surveys is to find out if and where the graduates find their jobs, their experience and success in the labour market, the difficulties encountered during looking for a job and if they want to stay in the region or rather leave it. The graduates were defined as people who successfully ended their education no earlier than five years ago.

Surveys include both types of questions, i.e. closed ended questions and open ended questions and of course also contingency question, i.e. a question that is answered only if the respondent gives a particular response to a previous question. This type of question saves the time of respondents in a substantial way. The questionnaire consists of the following main sections:

- current position in the labour market,
- jobs opportunities,
- motivation to stay in the region,
- assessment of the preparedness for the entrance to the labour market,
- assessment of education quality.

Attention was also paid to the fact that the questionnaire should not be too long, because it reduces the willingness of respondents to complete the questionnaire and thus restrain the response rate. Therefore the compromise between the length of the questionnaire and the need of enough detailed information was looked for.

Questionnaire draft was discussed in the working group through email correspondence. The questionnaire in Word format was circulated to individual members of working group and each of them had the opportunity to consult the questioner´s focus and structure with other experts selected by each working group member. Individual comments were considered and incorporated into the questionnaire. Working group decided to use electronic method for survey data collection. This method has a low ongoing cost, however initial set-up costs are a bit higher because it is necessary to transform the word format of the questionnaire to the Lime Survey format.

Lime Survey format allows sending a link to the questionnaire to e-mail addresses of individual respondents and easy collection of responses. The condition is, of course, receiving the graduates' e-mail contacts.

The survey among university graduates was conducted as follows: A link to the Lime Survey questionnaire was sent to nearly three thousands e-mail addresses with an invitation to complete the questionnaire. Respondents were informed about the aim of this survey and ensured about the anonymity, i.e. that their answers will not be associated with their personal identity.

Response rate was continuously monitored and after a week a reminder was sent. Given that the survey was anonymous all respondents received this reminder with thanking to them who have already completed the questionnaire. Thanks to this procedure 37% response rate was reached. This high response rate reflects the interest of graduates to participate in improving the quality of education, but also to the development of the region.

Outputs from Lime Survey were processed using SPSS statistical software. In addition to basic statistical sorting and description of the data deeper connections were examined in order to reveal the strengths and weaknesses of education provided by the regional University. Analysis was based on combining answers to open and closed questions resulting in highly valid results. Results of the analysis were presented to the University and to the Regional Authority for further use. It is possible to repeat the survey periodically and to extent it to other schools as well.

Job vacancies monitoring

Complex monitoring of job vacancies was based on the previous National Training Fund´s experience in this field. After research and evaluation National Training Fund (NTF) has chosen three sources for monitoring of job vacancies in the Czech Republic – two web portals of the same private provider LMC (jobs.cz, prace.cz) and the Labour Office database published on its web portal. The online job vacancies were exported from LMC database on the basis of an agreement between NTF and LMC. The LMC web portals are the most important.

For this pilot project the data exported from these three web portals in spring 2014 and spring 2015 were used. One wave of data collection comprises download of the entire database of vacancies registered by the Labour Offices in all regions of the Czech Republic (data from the central Labour Office available daily on the portal of the Ministry of Labour and Social Affairs) and at the same time the database of vacancies available online on job portals www.jobs.cz and www.prace.cz. During job vacancies collections following five steps have to be made:

- *Collecting and mapping data sources about job vacancies and their structure, import to SPSS, merging databases*:

It is necessary to understand the structure of internal system of labour offices, make correct mapping of their XML database to MS Excel (XML files are available daily on the portal of the LO). Mapping is a special term for import of XML data to MS Excel, it is import of structured data. It is known as

"mapping" because the data has own hierarchical structure and during the import it is possible to choose only some items or parts of its structure.

The private portals use their own system of categories. Therefore the databases differ in categories (not only in field of occupation but in the coding of names of regions for example). Firstly every database had to be prepared separately because it had different structure. The same set of variables with similar coding had to be prepared before the databases were merged. The data are usually described by ID, name of the job position, place (of work), number of employees required, wage/salary, required qualification or level of education, etc.

The databases were checked: if they covered the same time period and "active" job offers (older job offers were removed), national offers (sometimes web portals comprise job vacancies placed in foreign countries) and unique job offers. Preparation phase was mostly conducted in MS Excel, merging in SPSS. In this phase the databases are reduced by 15-20 %.

- *Reducing overlaps:*

The next step after ensuring database comparability was the elimination of overlaps. It is based on testing of right combination of factors for duplicated item identification. The database of web portals excludes job vacancies of the Labour Offices but some employers insert the same vacancy several times. In this phase the databases were reduced by 10-15%.

- *Matching individual job vacancy with occupational classification (ISCO-08):*

In the case of data recorded by the Labour Offices - information on job classification (ISCO-08) is included in the original database. Job vacancies in the private portals are classified only by user categories (choice depends on a person who fills in the form). Therefore, we linked job vacancies with ISCO codes by own methods. The methodology is based on word content analyses of job vacancies and matching it with ISCO classification. It includes creation of special words and phrases ("key words") linked to ISCO. These are searched in titles of job vacancies by SPSS. Key words are not always "words" in fact, just parts of words – e.g. "analys". It is used instead of many other variations (analyst, analyses, etc.). There is a threat of incorrect matching if words are too short, e.g. SQL (OK for IT specialists in SQL programming) x HR (two letters „human resources", may be part of another Czech and English words which could lead to wrong ISCO code, e.g. Hradec Králové region).

The list of key words is based on words in job advertisements, in classification, and other background materials. It was designed for automatic matching of job vacancies with ISCO classification and it was tested many times to avoid pitfalls of Czech grammar.

- *Set weight of cases – to quantify number of needed workers*

The labour offices keep records about number of workers demanded for one job vacancy advertisement. On the contrary, internet job offers don't provide the information about the number of workers needed for the advertised position. Therefore, the data from web portals needs to be weighted; otherwise the results refer to the number of job vacancies, and not to the number of employees needed. Several weights were tested in order to solve this problem. The median weight

gained from real records from labour offices on the 1-digit level was approved as the best constant for its ability to smooth out seasonal and structural fluctuations in demand for labour.

- *Computations and analysis of demand for labour force*

The SPSS programming/syntax was used for computations and analytical outputs. The 4-digit ISCO level was available for qualitative analyses, the 3-digit level for quantitative overviews, e.g. Top 25 most demanded jobs, or distribution of major occupational groups by ISCO within public and private sources.

The database was used for analysis (i) trends in labour demand between two periods, (ii) regional comparisons, position of Ústecký Region, (iii) occupational structure of job vacancies by ISCO 3-digits or 4-digits, (iv) information on occupations demanded – related to the fields of education, (v) top list – the top 30 of demanded occupations.

Results of the project- Outputs, Outcomes, Impact

Outputs, outcomes, impact

In the frame of the pilot project four following outputs were created:

- Questionnaire for graduates from the regional University,
- Analysis of the results obtained by surveys among graduates from the regional University,
- Questionnaire for graduates from secondary vocational schools,
- Monitoring of job vacancies.

Questionnaires elaborated within the pilot project represent an appropriate tool for obtaining information on the graduates' position in the labour market, which is missing in the regional LMI. Educational institutions and institutions responsible for comprehensive socio-economic development of the region have readily available information about unemployment of graduates, which is collected by labour offices, but no detailed information about the extent to which knowledge and skills acquired studying at various educational institutions correspond to the knowledge and skills demanded at the labour market. This information helps schools and regional authority to assess the content of the education provided in terms of compliance with the demand for knowledge and skills in the labour market and to consider possible changes, not only in initial vocational education programmes, but also in the courses of further professional training provided by individual educational institutions.

In order to utilize the information obtained from the surveys in the manner indicated in the previous paragraph, it is necessary to receive questioners completely filled in by such a number of respondents that mirrors a representative sample of all graduates. It must be also followed by processing of further in-depth study on the survey findings. In the frame of the pilot project, the survey was conducted among the graduates from two out of eight regional University faculties: graduates from Faculty of Education and the Faculty of Production Technology and Management. Although an unusually high response rate was achieved, the survey results cannot be generalized to graduates from the entire Regional University, because the focus of individual faculties differs in a substantial way and therefore

the compliance between the education outcomes and labour market demands can differ as well. Survey conducted among graduates of all faculties, i.e. also the Faculty of Social and Economic Studies, Faculty of Art and Design, Faculty of the Environment, Faculty of Philosophy, Faculty of Science and Faculty of Health Study would allow comparison among faculties from the point of view of graduates´ satisfaction with their education and their position in the labour market.

Elaborated questionnaires represent a very useful tool also for other faculties and universities in all regions of the Czech Republic. However it is clear that certain questions have to be modified in relation to the field of education provided by individual educational institution. A questionnaire for graduates of secondary vocational schools was only piloted on a limited number of graduates because it was not possible to obtain e-mail addresses. However, the Regional Authority and schools providing vocational education and training show an interest in the use of questionnaire.

The monitoring of job vacancies is the other output of the project. This tool allows getting a detailed overview of the structure of job vacancies from various aspects. Development of job vacancies between the year 2014 and 2015 in comparison with other regions of the Czech Republic was analysed.

Analysis of job vacancies from another aspect was based on the year 2015 data only and the situation in Ústecký Region was compared to that in other regions. In order to ensure inter-comparability, because each region is characterised by different number of population and resultant labour markets divergence, data from the Labour Force Survey was used also. The situation in the regions is compared by relative indicators only. A detailed analysis has been prepared especially for the professional class of specialists (ISCO2, 3 digits), as their availability is very important for the shift of regional economy to a knowledge-based economy. The list of top 30 professions the regional employers are looking for was elaborated as a part of the analysis.

This analysis represents a complementary information product to the products region uses in planning comprehensive development of the region. This information can be used especially in solving the unemployment, which in the Ústecký Region is higher than the national average in the long term. The information can be used especially in counselling, in formation retraining courses, in guidance for young people who are deciding about their professional path. Although vacancies are changing over time, it is clear that graduates of technical vocational schools find an appropriate job more easily than graduates of other schools. The fourth industrial revolution even further strengthens the demand for technically skilled labour force.

New information products represent an opportunity to improve the matching between education and training provided in the region, whether initial or continuing, and requirements of the labour market.

Human, technical and financial resources

Please describe the human resources needed to carry out the project as well as the costs and the technical specifications if any.

Processing of the pilot projects was provided by the NTF experts who are experienced in the questionnaire elaborating and survey conducting. They have extensive experience in the questions formulation so that they are not biased or even leading the respondents towards a specific answer.

Questions should flow logically from one to the next, must be formulated with the knowledge of the matter, i.e. knowledge of the educational system and individual field of education. It is necessary that respondents trust in the quality of the questionnaire. All these factors affect the respondents´ willingness to participate in the survey which is very important for achieving the best response rate. Designed questionnaire should always be consulted with the customer, so it is necessary to create a working group composed of relevant institution representatives.

Knowledge how to transform the questionnaire to Lime Survey application is also necessary. This application enables to publish on-line surveys, collect responses, create statistics, and export the resulting data to Excel. Ability to test carefully if all filters function properly is also needed. It is important to ensure that respondents receive a correct set of questions.

Monitoring of job vacancies is highly demanding on specific knowledge dealing with

- Collecting and mapping data sources about job vacancies and their structure, import to SPSS, merging databases,
- Reducing overlaps,
- Matching individual job vacancy with occupational classification (ISCO-08),
- Set weight of cases – to quantify number of needed workers,
- Computations and analysis of demand for labour force.

Filled questionnaires and complex database of job vacancies is the only prerequisite for subsequent analysis that represent the real information product. Working out these analyses requires knowledge of basic statistical methods and ability to work with Excel for calculation of individual indicators, graph creation and of course ability to work with Word for preparing the report.

For creation of the proposed LMI it is essential to have computers with appropriate software including the Lime Survey installed that is a free and open source online survey application.

For processing of the pilot project all allocated days were used and were supplemented by other necessary days. The overall intensity was of 30 days.

Lessons learned

Please describe the problems encountered when implementing the project.
What would you do differently if you were to do it all over again?

Implementing project did not encounter any problem. Thus there is no reason to change the process of implementation. If the part of the pilot project would be also conducting the survey among graduates of secondary vocational education schools it would be necessary to enlarge the working group by the representatives of the secondary schools. Experience from survey among graduates of the regional University shows some difficulties in gathering the contacts can be expected.

Follow up activities

Please explain the action plan, what is going to happen from now on?

Created LMI was forwarded to users in the Ústecký Region. The users will decide on the extension of survey among graduates from other faculties of the regional University and on conducting the survey among graduates of vocational schools.

The National Training Fund will continue to use the experience and know how gained in this project, experience in conducting on-line surveys and in monitoring and analysis of labour market demand.

Description of the organisation and main interests regarding the project

Please describe the organisation

The National Training Fund (NVF) is an independent non-governmental public benefit organisation founded with the support of the Ministry of Labour and Social Affairs of the Czech Republic and the European Commission in 1994. The main objectives were and still are supporting human resource development, lifelong learning, employment and social development in the Czech Republic. NVF employs about 15 professionals (mostly university graduates incl. Ph.D. level).

Analytical works focus especially on: (a) labour market situation – flexicurity approach; (b) quality of human resources in the CR in terms of international comparison; (c) vocational education and continuing training; (d) forecasting of labour market skill needs; (e) evaluation of human resources development policies and programmes; (f) development of human resources for innovation; (g) employability of graduates; (h) the fourth industrial revolution and the changes in the labour market.

Since its origin, NVF has been co-operating very closely with central governmental bodies (Ministry of Labour and Social Affairs, Ministry of Education, Youth and Sports, Ministry of Industry and Trade, Ministry of Finance and others) along with regions, universities, research institutes and companies. In the international scale, the most important partners are the European Commission, OECD, European Centre for the Development of Vocational Training (Cedefop), Center European Initiative (CEI). Experts of NVF are actively involved in the work of many international networks at European level: SkillsNet, ReferNet, Euroguidance, EUNEC, Regional Labour Market Monitoring Network, and EU Skills Panorama.

The experts of NVF participated in drafting strategic documents at national level, especially the **Human Resources Development Strategy of the CR** (Czech Government) and the Life Long Learning Strategy of the CR (Ministry of Education). NVF was also a part of the Centre for the Czech Republic Competitiveness Research (long term research project) which produced periodical analytic publications based on a large set of indicators including international comparisons. NVF participates in regular research and development policy evaluation and in up-dating the national policy documents in this field. It cooperated also with the Ministry of Education in preparing operational programmes for EU programming period 2014-2020.

Contact details

Name: Zdenka Matoušková

Position and Organisation: Analyst

Email: matouskova@nvf.cz

Co-funded by the
Erasmus+ Programme
of the European Union

SIMOVET PILOT PROJECT

COOPERATION WITH VET-COACHES AS STRATEGY TO IMPLEMENT PROFESSIONAL TRAININGS FOR UNSKILLED WORKERS IN HESSE BASED ON TARGETED LMI – SUPPORTING THE INITIATIVE PROABSCHLUSS

Author

Daniel Kahnert

Rationale / Background

The initiative ProAbschluss has been identified as an innovative and promising approach, due to its focus on unskilled personnel as an important target group and further education as an important tool within the Hessian strategic approach to secure supply of skilled professionals now and in the future.

Particularly interesting in the context of SIMOVET is the group of professional VET-coaches. This group of VET and labour market experts is seen as

a) important intermediaries in the complex field of different labour market actors and

b) experts with highly relevant knowledge on VET and labour market issues on a local and regional level.

The VET-coaches and their work in the context of the ProAbschluss initiative therefore serve a dual purpose in the SIMOVET context:

Description of the project

SIMOVET supports communication, exchange and networking of VET-coaches, a unique group of labour market and VET-experts, with workshops, best practice exchange and a structured approach to information and knowledge exchange between the coaches and IWAK. The VET-coaches have built a working group of members from the whole federal state of Hesse. The working group consists of VET-coaches with heterogeneous institutional backgrounds, operating in the different regions and municipalities in Hesse. Their goal is to promote professional trainings for unskilled employees. This goal follows the general strategy to provide and secure skilled labour in Hesse. In addition, the VET-coaches have unique and valuable labour market and VET-related knowledge, which can help to improve existing LMI products of IWAK. The activities in SIMOVET seek to establish a bi-directional exchange of expert knowledge between the coaches and IWAK.

1. The ProAbschluss approach in Hesse and the work of the VET-coaches on a regional and local level represent a best-practice example for other European research partners as well as policy-makers to study and learn from.

2. The VET-coaches and their specific knowledge and experience are a valuable contribution to improve existing labour market information tools and in consequence improve their contribution and relevance for decision-making processes in contexts of labour market and VET policy. They are also an important target group and consumers of already existing as well as specifically designed LMI tools by IWAK. Their feedback and need information is a valuable source for improvement of those tools.

Context and setting

The Hessian Ministry of Social Affairs and Integration (HMSI) is a central actor in regional labour market policies in Hesse. Its department III is responsible for work-related issues, especially labour market policy, labour market integration and professional training of employees.

The Hessian Ministry of Social Affairs and Integration (HMSI) in cooperation with the Hessian Ministry of Economy, Transport, Urban and Regional Development (HMWEVL) has launched a coordinated labour market strategy, the “Gesamtkonzept Fachkräftesicherung Hessen” (general concept for securing skilled workers in Hesse). This coordinated strategy is based on a resolution by the Hessian cabinet made in 2012. In this resolution, the respective ministries in Hesse were commissioned to develop such a general concept including all programs and initiatives by the Hessian state government as well as recommendations made by the commission for skilled workers Hesse (“Fachkräftekommission”).

Several strategic fields were identified in the strategy. One the major fields of action is professional education (initial and further).

Two big topics are part of this strategic field. The first is the initial professional education. Primary goals liked to this theme are to ensure that as many as possible young people in Hesse receive a high quality professional education and that the transition from the education phase to a job goes as smooth as possible. This includes the transition from school to an apprentice position as well as the transition to a first work position. These early goals are especially important to decrease the risks of future problems for young people trying to hold foot in the labour market.

The second topic is concerning professional training for employees. Primary goals here are on the one hand to have unskilled workers gain a professional education, which enhances their employability and their long-term career perspectives. On the other hand, an important goal is to have already skilled workers improve and update their skills and qualifications for current and future needs in their jobs and the industry. These goals are especially important for the economic competitiveness of Hesse now and in the future as well as for the employees to maintain their status as skilled professionals with a high employability.

One of the big target groups of the second topic in this strategic field are unskilled workers.

When looking at unskilled workers, two different groups of employees are covered by this term. The first group is those workers that do not have a formal vocational education at all and never completed a relevant professional training officially approved by for example a trade or industry chamber. The second group consists of workers that have such an education but now work in an industry or a job, in which that education is not relevant. Workers in the second group although often very well trained in a certain occupation typically do jobs with fairly low skill requirements, but often have better career chances due to their better general education and the sheer fact that they obtained an official certificate. Nevertheless, workers in both groups are labelled unskilled.

The initiative ProAbschluss specifically targets the group of unskilled workers and establishes a cooperation of VET-Coaches as important strategic actors in the field with unique knowledge of the labour market and its regional actors involved.

Objectives of the pilot project

Citing from the SIMOVET external evaluation report by IWAK which was conducted in cooperation with external experts who assessed selected good practices and expressed their views on strengths and opportunities these practices provide: "

Following these conclusions, the pilot planned by IWAK will pursue the strategy to build communication bridges between regional and local actors from different institutional contexts and establish a platform for information exchange and cooperation among these actors. IWAK will take on the role of an initiator and coordinator, providing strategic support for these actors. The goal will be to specifically support local VET professionals aligning specific, individual training needs of regional employers with existing offers and programs within the same region in terms of themes and structure."

This general objective of the pilot project is translated into a cooperation with VET-coaches to expand the exchange of labour market knowledge on both sides, the coaches and IWAK. This will lead to an improvement of the work of both sides, based on a better knowledge about the field, its actors, mechanism and exchange of success-factors.

The VET-coaches have great knowledge and experience in working with different stakeholders under difficult conditions in the labour market, with the goal to convince employers and employees to get involved in VET activities. Thus, they are intermediate actors between the groups of VET-providers, employers, political actors, employees and labour market observatories such as IWAK. Their position and correspondingly their knowledge in VET-related issues is regarded as especially valuable and unique. This makes them an interesting target group for cooperation projects and therefore, for the pilot project of SIMOVET.

The VET-coaches on the other hand are also consumers of LMI-products of IWAK. They are provided with labour market data, reports on a regional and sectoral level, projections on skills developments in Hesse, sector specific information and are brought together in workshops for the purpose of exchange of good practices and success-factors in their work. IWAK has an interest to provide the coaches with as useful and targeted information as possible. To achieve this objective, a bi-directional exchange of

need information as well as possible solutions for both sides of the cooperation is what SIMOVET is stimulating through the pilot project.

Inspiring European approaches and practices

One of the biggest lessons learned from the good practice examples gathered in the SIMOVET project is the relevance of expert knowledge for successful labour market actions. Almost all successful examples are based around gathering and processing expert knowledge in one way or another and making it available for decision makers, practitioners and other labour market and VET-related stakeholders. Different types of expert knowledge, gathered from different sources, with different methods for different purposes is what all-together forms labour market intelligence (LMI). LMI is the resource that the successful practices effectively gather, process, provide and in some cases communicate in cooperation with networks of labour market actors.

This is shown is many of the SIMOVET GP's in different ways:

UK: Construction Industry Training Board (CITB), the Industry Training Board for Construction and a partner in the Sector Skills Council for the construction industry

The case of CITB shows the importance of expert knowledge on skills, skill needs, developments and strategies in an industrial sector. With the help of the CITB, targeted exchange of need information and solution provision can be achieved between employers and VET-providers. In addition, it provides guidance for professionals who seek to build a career in that industry. The service is very much based on expert knowledge gained from industry members and representatives of companies and organisations within the industry who are organised in a body of 700 experts. Having access to such a pool of insider knowledge and experience, is extremely valuable in the described case. This is the reason, why this good practice was inspiring for our own case. Systematically accessing a body of expert knowledge from insiders in the field was the approach we wanted to follow for our case.

UK: Skill Needs in the Green Economy and the role of the Observatoire Régional des Métiers PACA (Provence-Alpes-Cote D'Azur)

The case of the work of the Regional Training Institute of the Environment and Sustainable Development (IRFEDD) portraits the importance of knowledge flows through networks of different labour market actors. When trying to find out about new skill needs in a region, which arise from economic developments such as new sectors or industries gaining importance, it is essential to incorporate a large diversity of views and knowledge about the topic into the research about these needs.

Different actors from different institutional contexts have different kinds of knowledge and experience and therefor might have different opinions on what current trends are and which skills will be needed in the futures. They also have different reasons for coming to their conclusions.

An important task is not only to obtain all the different views and opinion but also to bring together the different actors and initiate exchange among them. Only then effective strategies can be developed to address skill needs and secure jobs of the future.

The case of IRFEDD is a prime example for this strategy as one of the core elements of the initiative is bringing together and building a network of regional public actors, consular chambers, industry clusters as well as resource and information centres.

This was inspiring for our case as a coordinated approach to incorporate diverse views and sources of knowledge was developed here, including key actors in the field. In our case, approaching the VET-coaches was identified as a strategy to gain access to views and knowledge informed by various sources in different contexts and with multiple interests and needs.

Working group

The working group consists of VET-coaches from the different regions in the state of Hesse. The coaches usually act on a regional and local level and are loosely organised in three subgroups, a northern Hesse group, one for middle Hesse and another for the southern part of the state. The degree of cooperation within these groups is varying. This is partly due to the institutional background the different individual coaches and the subgroups have. In the northern and middle part of the state, many of the coaches have a common institutional background, coming from the industry and trades chambers. Other coaches do not share this background, originally coming from private VET-providers or counselling firms or other labour market related organisations. Involved organisations include:

- Berami berufliche Integration e.V.
- BZ Bildungszentrum Kassel e.V.
- c/o VHS Rheingau Taunus e.V.
- Eigenvertrieb Volkhochschule
- FRESKO e.V.
- GAB
- Gesellschaft für Wirtschaftskunde e.V.
- GWAB mbH
- Handwerkskammer Frankfurt Rhein-Main
- IHK Darmstadt Service GmbH
- IHK Frankfurt
- Kreishandwerkschaft Hersfeld-Rothenburg
- Qualifizierungsoffensive Landkreis Fulda
- Team Ausbildung
- Technologie und Innovationszentrum Gießen GmbH (TIG)
- Vogelsberg Consult GmbH
- Wirtschaftsförderung und Regionalmanagement Waldeck-Frankenberg GmbH
- Wirtschaftsförderung Wetterau GmbH
- Zaug GmbH

For the various meetings and workshops as well as other project activities, not all coaches took part in all activities. Some of the activities were regionally organised while others were voluntary and simply did not appeal to all coaches.

Methods and activities

As the main goal of the project was to implement a structure for regular exchange of information and knowledge to improve the cooperation of the coaches, the cooperation with other local and regional labour market-, VET- and political actors and the cooperation of the coaches with IWAK, the most important task in the project was communicating with the coaches and the other actors. Initiating communication, implementing communication paths and channels, identifying relevant actors, involving them in networking and exchange as well as strategic planning for further actions as well as moderating and bridging different views and opinions were very important tasks at the beginning of the project.

Much of these tasks was done at meetings and workshops, but also by communicating with single actors and asking their needs for support or their views on developments.

One of the biggest workshops in the initiative was organised by IWAK in Frankfurt and was designed as a reflection workshop for the coaches where they were asked to express their challenges, needs, strategies, success factors and in which way they would like to improve their work, what kind of support they need and how satisfied they are with the current LMI provided by IWAK. The second goal of the workshop was to have the coaches express their knowledge about the field of professional training for low and unskilled workers, what they experience in their work and what they feel needs to be done to have more employers and employees involved in training activities.

This workshop was organised in a cooperative effort with SIMOVET. During the workshop, working groups of 5-10 coaches were set-up. Each of the working groups discussed the challenges, needs, strategies, success factors and in which way they would like to improve their work, what kind of support they need and how satisfied they are with the current LMI provided by IWAK. The results were documented and later presented to all participants and further discussed. During a second part of the workshop, LMI products of IWAK were presented, such as regio pro and the regional dossiers of ProAbschluss and their value for the coaches as well as current deficits were discussed.

The workshop also was a vital action for initiating further communication and cooperation activities of regional groups of coaches and other labour market and VET stakeholders. I was seen as very productive and fruitful and opened the door for similar or scaled down activities in the different regions in Hesse.

Another important action, inspired by the outputs of SIMOVET was the gathering of good practices. The VET-coaches individually develop different strategies in their everyday work, which until now were neither systematically described, nor shared among peer-networks. As the gathering and analysis of god and successful practices has proven a fruitful approach in SIMOVET, this approach was also used in the ProAbschluss initiative with the VET-coaches.

The problem many of the coaches face is the low acceptance towards training means for unskilled personnel and a low interest and willingness to get involved in such activities. Thus, large part of the work is to convince employers as well as individual employees that such involvement is beneficial for both sides. The individual coaches follow very different approaches to be successful with this task. This was one of the major outcomes of the big reflection workshop. Gathering successful practices and strategies for approaching employees and informing them about the benefits of training their unskilled workers was the logical follow-up action.

The coaches were asked to compile small reports of their successful strategies. The structured reports were then shared among the coaches. This action was very well received and viewed upon as very valuable information provision.

The third major action is closely connected to one of the key outputs of the cooperation with the VET-coaches: IWAK compiles regional dossiers for all municipalities in Hesse with detailed information on a large number of labour market and VET-related figures as well as qualitative information specifically targeted at the VET-coaches.

These dossiers will be updated every year during the life span of the ProAbschluss initiative. Although not a direct output of the SIMOVET project, SIMOVET supported the development and improvement of the dossiers by systematically incorporating input and knowledge provided by the coaches in the communication and cooperation efforts during workshops, meetings and talks with them.

Results of the project- Outputs, Outcomes, Impact

One of the major tangible outputs of the work done by IWAK in the initiative ProAbschluss are the regional dossiers. These dossiers provide targeted LMI for the VET-coaches as well as many other interested actors in the field.

There are 26 municipalities in Hesse and for each municipality an individual dossier is compiled. The focus of the dossiers is what is called “Nachqualifizierung” in German and could be literally translated with later training. What this term refers to is the provision training of unskilled people who are already in a job, but could improve not only their skills and qualifications, but also their work quality and at the same time decrease the danger of getting unemployed and especially staying unemployed once having lost their job.

What the dossiers offer is a detailed regional analysis of supply and demand for such trainings. Based on labour market data from regio pro, official labour market statistics by the public employment agency in Hesse as well as qualitative data gained from various expert sources, key industries are identified. Quantitative criteria for the identification of key industries for professional trainings of unskilled workers are the number and share of unskilled workers in the industry, the current lacks of supply of skilled professionals in the industry and projected future lacks. Qualitative indicators are provided by experts from VET-providers and the VET-coaches. Both group’s knowledge and judgement of the current situation as well as future developments are systematically assessed in specific studies.

With all the information above a demand analysis is conducted, that includes detailed figures for each identified key sector and the corresponding occupations in the region.

The supply side of professional trainings for unskilled employees includes best practice examples previously gathered from the coaches as well as a detailed description of other already existing practices, offers, actors, providers, networks and key stakeholders in the region. The main goal of this section is to improve transparency and make clear which actions and activities are available and who is or could be involved in further activities. Building these network structures and making them transparent is one of most important tasks where SIMOVET and its actions supported the work in the ProAbschluss initiative.

A similar approach is pursued with a general dossier for Hesse. These dossiers also receive yearly updates and include detailed information for the whole state of Hesse on demand and supply for professional training for unskilled workers. What is different is the general dossiers for Hesse is that much more basic information about the purpose and effects of trainings is included as well a detailed overview on actors and organisations involved. Good practice examples from other states in Germany with similar approaches are also included. Last but not least, the Hesse dossiers include expert opinions on strategies to better implement trainings for unskilled professionals in Hesse and thus, also serve a strategic and political purpose.

The impact of the dossiers is not yet fully assessable. However, what the dossiers clearly manage to achieve is raise the awareness for the topic of professional trainings for unskilled employees on the side of the employers, greatly supporting the work of the VET-coaches by providing concrete numbers on demands and thus, possible fields of action and increasing transparency in the field by providing contact information for further VET-actors in the field. The dossiers also incorporate qualitative expert knowledge of the VET-coaches on both, the supply and the demand side. They therefore enrich the portfolio of LMI products of IWAK with a unique type of data, which otherwise would not be incorporated. Their knowledge is especially valuable, as the coaches are closely cooperating with many employers in their regions and know very well how to address them with what kind of information and what kind of ways. This is a great addition, as the group of employers and companies is traditionally hard to reach with LMI products.

It is yet to assess whether the dossiers and the other outputs and efforts of the project in general and especially SIMOVET lead to an increase in training activities. The total life span of the initiative is longer than 5 years, therefore the current stadium rather the beginning than a more advanced stage. Nevertheless, the progress, which could already be achieved with the networking efforts, by bringing together the regional VET- and labour market actors, with the regional dossiers and other activities are clearly visible.

Human, technical and financial resources

The resources needed to carry out the project are mostly human resources. While the whole initiative ProAbschluss is a large project with many people ant many resources involved, the cooperation with the VET-coaches, as the part of the initiative that was supported by SIMOVET, needs fewer resources.

Overall, 40 working day were available for the project activities. Setting up the working group and initiating activities like workshops, interviews and meetings as well as conducting those were the key activities IWAK involved in with the SIMOVET project. In addition, information material and reports were written and the work was documented in this pilot project description.

The project configuration at IWAK did allow SIMOVET to engage in the ProAbschluss initiative in a joint approach with other researchers at the institute, funded by the initiative. This configuration allowed many synergies, led to a well working cooperation and fuelled the cooperation and coordination of the coaches efforts of SIMOVET within the initiative substantially. This will have to be kept in mind when planning a similar approach in a different setting without such synergies available.

As communication-based cooperation was the largest part of the work, no special technical specifications or technical resources were needed for the project that would exceed the usual standards of IWAK. This is true for both, hardware and software solutions, which also helped to keep the costs of the project reasonable.

Lessons learned

The implementation of a targeted cooperation with a specific group of labour market experts was intended to be a great addition to the labour market monitoring activities of IWAK. The goal was (and still is) to support the VET-coaches, learn about their specific information needs and provide them with better information. O the other hand, IWAK wanted to establish a mechanism of bidirectional information exchange, as the VET-coaches are viewed upon as very valuable agents in the labour market in Hesse. This is due to their unique position as intermediaries between employers, employees, VET-providers and industry organisations like crafts and trade chambers.

While the project turned out to be a success and a communication and exchange of valuable labour market intelligence could be installed, some challenges occurred on the way and some are still to be worked upon. One the other hand some crucial success-factors could also be identified and will be applied to future initiatives and activities with the coaches and other stakeholders.

One of the bigger challenges was to reach the coaches and convince them, that involving in joint activities such a workshops and information exchange will be fruitful for both sides. It was very important to explain, in which ways their work will benefit from the cooperation and how the project's activities will provide support.

An important success factor to overcome the scepticism was to set up workshops and addressing the coaches as an important *group* of actors. Most of the coaches did not have a sense of belonging to a specific group in the beginning. Realising that they shared similar problems and needs in terms of support and information and providing the coaches a setting to express those also helped to develop solutions for these needs. The coaches were also directly involved in the working process with helped to overcome the scepticism and a widespread feeling of being largely unsupported until then.

Another challenge was to organise a group of different actors spread over whole state. Due to large distances and very different time schedules, most activities did not involve coaches from all regions at once. This was also due to regional-specific differences in the work of the different coaches.

This challenge was addressed by organising regional or local activities with regional subgroups. This way, many of the coaches could be involved and the regional network building among them could also be improved. This is also an important lesson to learn from such an activity. It is very difficult to work with actors widely spread, as all meetings and workshops always mean a large effort for some actors within the group. This can also lead to some of the participants losing interest in the activities.

Another lesson learned is that other actors could have been included better and earlier in the communication and cooperation efforts, especially the private VET-providers and the chambers as the most relevant actors for the standards for the contents and official certification of training activities. These actors were not systematically included in all activities from the beginning. This caused some issues later in project as they did not know about some of the activities of the coaches, had other views and ideas that were then more difficult to incorporate and in general would also have to be convinced that participating in the initiative is important and fruitful for all parties involved.

This experience teaches us that it is very important in such efforts, where building networks for cooperation is the main goal, all possible actors should be addressed and involved from the very beginning. Involving them later is much more challenging and causes numerous issues to be solved.

Follow up activities

Most notable follow-up activities in the short-run will be regional expert-days and trainings for trainers. The regional expert days will build on the now more established regional network structures and will bring together regional experts from all relevant institutional backgrounds. The goal of the expert days is not only exchange and information, like in the earlier stages of the project, but to develop and actually implement concrete strategies to increase and improve activities in training of unskilled workers. IWAK has gained great experience with such formats in the regio pro project, were initiating, coordinating and supporting regional strategic implementation processes was one of the biggest success factors for the acceptance of the project and its relevance. This experience and the lessons learned will now be transferred to the ProAbschluss initiative. The expert days will be a series of events in the regions, hosted by IWAK, where the strategic implementation of the work of the coaches and the cooperation of the different actors will reach a higher level of structure, coordination and professionalism.

The trainings for the trainers will target the group of the VET-coaches. The goal of the trainings will be to increase the counselling competences of the coaches and further professionalise their work. These activities will be coordinated by “Weiterbildung Hessen”, the main organisation under which many of the Hessian VET-providers are organised. Content of the trainings will be specific issues that occur to the coaches in their everyday work, which have previously been enquired about at the workshops.

Further follow-up activities will be regular meetings in the regional networks, which now have a more stable structure as well as updates of the regional dossiers based on up-to-date LMI from the different sources named above and targeted towards the needs of the VET-coaches and cooperating actors.

Description of the organisation and main interests regarding the project

IWAK is a practice-oriented research institute of Goethe University Frankfurt am Main. It focusses on regional labour markets, enterprises and qualifications. IWAK supports decision-makers from politics, associations, administrations and enterprises in optimising the functioning of regional and local labour markets. In addition, it helps to improve qualifications of employees and operational procedures of enterprises. For this purpose, IWAK provides information as well as scientific consultation, monitoring and evaluation.

The initiative “ProAbschluss” is a targeted approach to train unskilled workers and have them reach a certified professional degree. One of the components of the initiative is the work of the VET-coaches who serve as experts for the employers and build bridges to VET-providers and other VET and labour market actors. IWAK has the role of a coordinator and research partner for the VET-coaches.

SIMOVET was an important driver for the cooperation with the coaches as one of the important tasks of IWAK within the initiative, which led to reflection and exchange workshops, helped refining and improving the communication paths and methods as well as incorporating the specific knowledge of the coaches systematically into the institutes monitoring approach. This could be achieved with regional workshops, gathering of good practice approaches and extracting success factors from the work of the coaches.

Contact details

Name: Daniel Kahnert

Position and Organisation: Researcher IWAK Frankfurt, Germany

Email: kahnert@soz.uni-frankfurt.de

Co-funded by the
Erasmus+ Programme
of the European Union

SIMOVET PILOT PROJECT

DATA ANALYTICS SKILLS ESCALATOR

Dr Andrew Dean

Rationale / Background

Based on evidence of need identified by SIMOVET, Innovation Exeter plans to establish a 'data analytics skills escalator' which will enable enterprises in the Heart of the South West[1] to refine this 'new oil' and fuel the region's growth and success. The principal objectives and elements of our proposed Data Analytics Skills Escalator are:

- **Develop an apprenticeship pathway in Data Analytics** - Exeter College and Exeter University are committed to working together to build a flexible pathway Apprenticeship pathway, leading to qualifications up to degree level, for students who prefer to learn while earning.
- Raise young peoples' awareness, interest and attainment in data analytics study and careers - Working with employers and public bodies we will raise awareness of the role that data analytics plays across a wide range of careers by: educating teachers and guidance professionals; and by recruiting young people as role-models and ambassadors.
- Establish an Institute for Technology in Digital Skills - From 2017, Government will be offering colleges the opportunity to set up Institutes for Technology, providing specialist higher level professional and technical education for their area.
- Establish a Centre for Data-Science - There is a need to enhance the data literacy skills of natural and social scientists, as well as humanities graduates.
- Boost employability and graduate retention - Industry needs people who combine technical skills with good communication, team-working and business skills; staff who can transform data into insight and commercial value.

[1] Covering Somerset, Devon, Plymouth and Torbay.

Description of the project

The SIMOVET work in the UK has taken the form of a two-year Pilot Project seeking to explore the labour market needs in the Heart of the South West Region. Using an identified priority sector we have then sought to utilise lessons from partners in SIMOVET to design an appropriate programme of activity.

The sector identified was that of data analytics/big data and the project worked with a steering group (the Innovation Exeter Steering Board) to identify a model to take forward skills development and VET design to underpin the growth of the sector.

The project has been highly successful and has led to a number of workshops and events with commercial partners and interviews with the public sector and educational institutions. More importantly the Innovation Exeter developments have included the establishment of the Skills Escalator as one of its key ambitions. The Skills Escalator model may be transferable to other sectors.

Context and setting

In data terms, the Heart of the South West LEP area is below NUTS 1 but not small enough to be a Nuts 2 area (typically Local Authorities), large for a LEP, it covers 10,878km^2. Whilst 91% of the LEP area is considered rural, over 40%[2] of the population live in cities and urban areas, with particular concentrations in, Plymouth, Exeter, Torbay and Taunton. The cities and urban areas play a crucial role in driving economic development, forming a growth corridor along strategic transport routes, and bringing together plans for employment, housing and infrastructure. Part of this growth is seeing the development of two new towns in Devon, supplying over 11,000 new homes.[3]

The Heart of the South West LEP want to ensure that market towns, coastal and rural areas are economically successful in their own right and build on our rural strengths. The LEP is home to 13,000 commercial farm holdings, representing 50% of the farms in the South West of England. The farms form an integral part of a wider rural economy with close links to food and drink and tourism. Likewise, fisheries are an integral part of our coastal communities, with the ports of Brixham and Plymouth being the largest ports in England in terms of value and volume of catch respectively.

The LEP region has a richly mixed economy with world class advanced manufacturing ranging from aerospace in Yeovil to a high tech, electronic and photonic cluster in Torbay. The marine manufacturing and research sector is centred on Plymouth and supported by collaborative working with neighbouring and nearby regions (Cornwall, Dorset and Solent). The region hosts a number of internationally recognised businesses such as Agusta Westland, Flybe, Honeywell Aerospace, Babcock Marine, the Met Office, Princess Yachts International, Yeo Valley Organics, EDF Energy and IBM.

The majority (75%[4]) of Heart of the SW businesses, particularly in rural areas, are SMEs with fewer than five employees, providing an entrepreneurial heartland rich in diversity and potential to grow.

The region also has world class knowledge base includes three universities; Exeter, Plymouth and University of St Mark and St John, two medical schools, ten FE colleges and specialist research centres such as the UK Met Office, the Rothamsted Research centre at North Wyke, Plymouth Marine Laboratory and the World Research centre for Greenpeace based at the University of Exeter. Indeed, Exeter's concentration of climate and environmental science experts provided more contributors to the UN IPCC report than any other city on Earth; the Russell Group University has world-leading expertise in agritech, water security, mathematical modelling and advanced materials.

Together with the potential arrival of Europe's most powerful supercomputer at the Met Office and expertise in big data analysis, Exeter is emerging as a cutting edge place for enviro-technology and modelling. The Marine Institute at Plymouth University is one of the biggest in Europe. To realise high growth in its knowledge economy, capitalise on doorstep opportunities, while addressing the comparatively low productivity and wages of its main employment sectors; the key challenge for the Heart of the South West LEP is to secure higher value employment across the area, ensuring conditions for growth are in place.

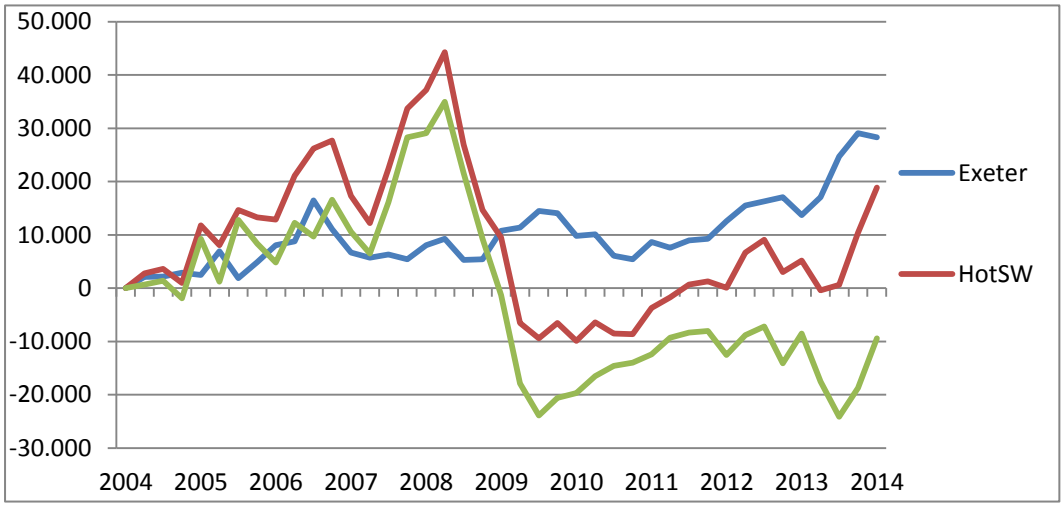
2 ONS LA Urban Rural Classification – including large market towns as rural

3 Modified from Heart of the South West LEPS's Strategic Economic Plan (2014)

4 UK Business: Activity, Size and Location, 2012, ONS

Exeter is a remarkable success and is driving employment growth across the Heart of the South West (HotSW) LEP area. Over the last decade, the number of 16 to 64 year olds employed in Exeter rose by 30,000, while across the whole of the HotSW LEP area it rose by just 20,000.

Figure 1: Cumulative change in employment, 16 to 64 year olds, workplace based

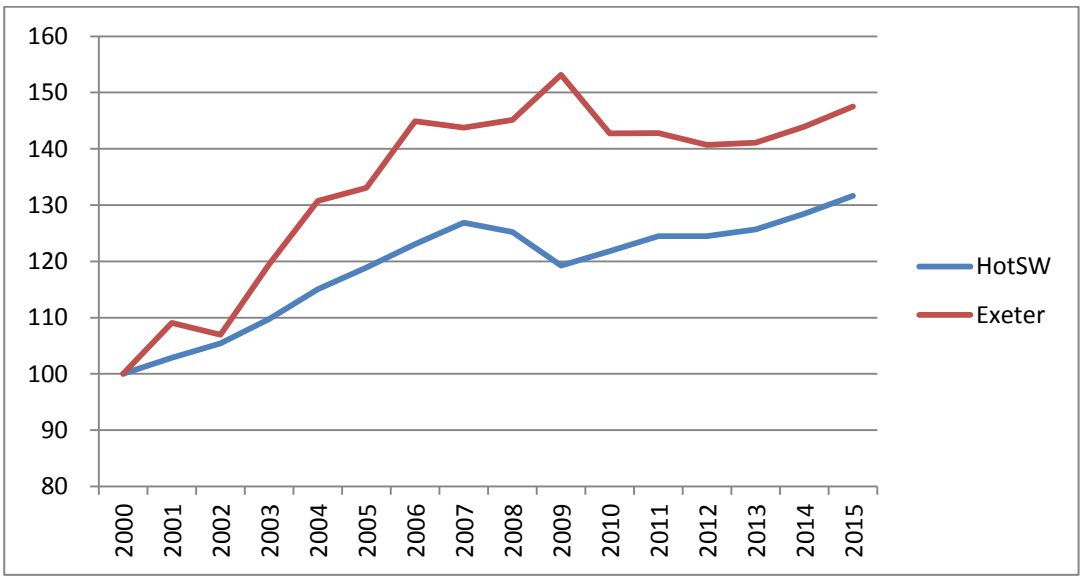


Source: Annual Population Survey

Exeter's travel-to-work area is growing, to the extent that 37,000 people (equivalent to 45% of all employees) now commute to the city each day to take advantage of the growth in productive and highly-skilled employment.

The resulting growth in output is impressive. Between 2000 and 2015, the Exeter's GVA grew by 48%, a figure fifty percent faster than the output growth found across HotSW as a whole.

Figure 2: GVA Growth Estimates, Indexed, 2000 = 100 (constant 2009 prices)



Source: Oxford Economics

Output per full-time employee in the city is now nearly 25% higher than the surrounding area. In other words, the data suggests that the benefits of agglomeration – the better exchange of goods, ideas and people – are starting to draw enterprises to Exeter, to the benefit of the whole region.

Objectives of the pilot project

The principal objectives and elements of our proposed Data Analytics Skills Escalator are described below.

Raise young peoples' awareness, interest and attainment in data analytics study and careers

Learning identities (e.g. that 'maths is boring') are formed early. We are realistic. We know that a data analytics cluster will recruit talent from across the country. However, we want to build a skills escalator that: engages young people; gets them excited about the use of data analytics from an early age; and which offers clearly defined routes to related employment in the city.

Working with employers and public bodies , we will raise awareness of the role that data analytics plays across a wide range of careers by: educating teachers and guidance professionals; generating opportunities for employer visits and placements; engaging parents; delivering master-classes and sand-pit sessions; and by recruiting young people as role-models and ambassadors.

We will find ways of enriching the maths and ICT curriculum, linking with the Exeter City Futures initiative to generate projects that open access to data and which excite young people by focusing their learning on addressing real-world problems . We will extend existing initiatives such as summer schools, student mentoring and projects that link students to university research groups. We will innovate, working with the Met Office and others to make learning fun through techniques such as gamification. And we need to address the fact that women remain seriously under-represented in this area of study and work, accounting for only 15% of Computer Science undergraduates and 18% of the IT workforce.

Establish an Institute for Technology in Digital Skills

From 2017, Government will be offering colleges the opportunity to set up Institutes for Technology, providing specialist higher level professional and technical education for their area. Although the decision on the focus of the Institute of Technology for our area will follow area-based reviews of further education , we are clear in our wish for a focus on digital technologies and data analytics.

In advance of this, Exeter College will enhance its provision ICT and Mathematics, making the delivery high quality vocational training in this area a strategic priority. We will expand our existing range of provision, up to an HND / Foundation Degrees.

We will provide enhanced workforce training, delivering bespoke provision to employers in response to demand and will demonstrate excellence in teaching by recruiting teachers who are dual professionals and exemplars in relevant pedagogy and use of technology in learning.

We will also address the fact that at present no curriculum exists in further education for the delivery of qualifications in Data Analytics. We will address this working with employers to create new curriculum materials and by adapting and re-purposing existing ICT and Mathematics modules.

Develop an apprenticeship pathway in Data Analytics

Exeter College and Exeter University are committed to working together to build a flexible pathway Apprenticeship pathway, leading to qualifications up to degree level, for students who prefer to learn while earning.

Exeter College will expand its existing IT user and IT practitioner Apprenticeship pathways, as well as introducing a new digital pathway to allow progression to Higher Apprenticeships across a wide range of job roles such as IT Technical Support, Software Developer, Web Developer, Database Administrator, Telecoms Engineer and Network Planner. We will also introduce a new Data Analytics Apprenticeship based on an entirely new curriculum, developed with local employers.

From September 2016, the University of Exeter will be the first Russell Group University to offer Degree Apprenticeships in Digital and Technology Solutions. These Apprenticeships will integrate academic learning with practical on-the-job training within a holistic programme meeting employers' specific needs. Degree Apprenticeships will deliver the competences needed to perform a variety of IT Professional roles, including: Software Engineer; IT Business Analyst; Cyber Security Analyst; and Data Analyst. Funded by Government and employers , this is also an exciting opportunity to challenge the view that Apprenticeships are for the less able and to attract a cohort of extremely capable students excited by the prospect of gaining an Exeter Degree free from debt as well as earning while learning.

Establish a Centre for Data-Science

The University of Exeter performs well in Computer Science and Mathematics undergraduate study, but we recognise that we need to do more to expand and align the study of these subjects with the skills needs of the growing data analytics sector. There is also a need to enhance the data literacy skills of natural and social scientists, as well as humanities graduates.

We will therefore establish a Centre for Data Science at the University. The focus for this centre will be broad, including business and research support, alongside a focus on expanding the breadth and the flexibility of the University's taught programmes. Through establishing a Centre for Data Science, the University of Exeter will create new modules and programmes, enabling:

- Undergraduates studying relevant subjects (e.g. in Mathematics or Computer) to opt into modules and acquire degrees 'with Data Science';
- Undergraduates studying a wider range of subjects (e.g. Geography, Politics and Economics) to undertake a limited number of modules to acquire a BSc 'with proficiency in Data Analytics'.
- Students to follow a 4 year MSci in Data Science by selecting a requisite number of data intensive modules during their first three years of study, followed by additional specialist modules in their fourth year with an industrial placement or group project.
- Professionals and graduates with relevant experience to attain an MSc in data science studied for either FT/PT or on a modular basis (see section on continuing professional development).
- New modules will be developed covering topics such as machine learning, text mining, mobile data, databases, image analysis, data visualisation and programming.

Boost employability and graduate retention

Industry needs people who combine technical skills (such as coding and statistics) with good communication, team-working and business nous; staff who can transform data into insight and commercial value. Enabling students and graduates to gain work experience within multi-disciplinary teams has enormous benefits. It improves individuals' employability and their understanding of career opportunities available to them, while enabling enterprises who benefit from the students work, to review potential employees at reduced cost and risk.

We want to ensure that the people whose talents we build have the opportunity to remain in the area, using their skills to benefit local companies. To achieve this, we propose to extend the range and level of support we can provide for Internships, Student Placements and Graduate Business Partnerships. In particular, we propose to create a new 'Professional Pathway – Data Analyst' which will enable graduates with data science backgrounds to work on task-focused projects with local business.

Raise business awareness of the value of data

Having the ability to identify, capture and use data, as part of wider focus on raising productivity, is a growing concern for a large number of businesses. All manner of enterprises could make smarter decisions by managing information more effectively. Our Data Analytics Skills Escalator therefore needs to engage small enterprises from all sectors, not just those for whom data analytics is core business.

We will therefore reach out to all business managers and leaders, helping them to better understand, explore and exploit the potential of their data though tasters and short Masterclass such as 'Drive Sales and Generate Insights through Analytics'. We will build on our existing partnership with the Devon & Cornwall Business Council , engaging a wider range of business networks and leadership groups and extending the volume and variety of such events. We will ensure that businesses whose interest is sparked by such events are assisted to identify the right solution for them, be this an accredited short course, Graduate Placement, Apprentice or, for business leaders, a place on Exeter University 4 day MBA module on 'Practical Insights into Data Analytics' .

Deliver training to data professionals

Employers need to be able up-skill and re-skill staff already in work; to enable them to remain at the leading edge of a dynamic industry in which knowledge and skills are rapidly out-of-date. Our escalator therefore needs to include flexible short-courses and programmes that allow professionals update their skills in response to specific needs.

The University of Exeter will develop and deliver a suite of 'short and fat' CPD modules, condensed to run in short periods over consecutive days, followed by tutorials and an exam in the following few weeks. Modules will be accredited, enabling participants to gain an MSc, should they desire.

Exeter College and University will both work flexibly, designing bespoke CPD programmes in response to individual companies or groups of companies and are working with HotSW LEP to secure partial funding for a CPD offering.

Provide high-end analytical talent and support to business

The Centre for Data Science will be a focus for doctoral training and the development of a cohort of analysts with high-level specialist skills. It will be responsible for supporting the development of a data analytics cluster within the City and Science Park and will recruit staff whose remit is to solve problems experienced by others, in academia and industry. The Centre's staff will work with business through the Impact Lab, which we will develop as a focus for a vibrant and creative culture, where innovators and entrepreneurs mix with scientific experts and students.

In collaboration with business, we will initiate and take forward joint projects, working to secure innovation, research and development funding where required, such Knowledge Transfer Partnerships, CASE Studentships, Doctoral Training Partnerships and research grants.

Inspiring European approaches and practices

There is a wide range of relevant practice within the case studies identified by Simovet partners. No single practice offers a 'magic bullet' and is transferable to the UK context in its entirety. The UK Steering Group has identified a very specific project, out of which fall very some specific needs. The fact that Big Data is an emerging sector, in which there are not a great number of employers solely dedicated to this activity (at least not locally) means that quantitative data may be difficult to generate and a qualitative approach is required.

The challenge of identifying the extent to which there is a need for Big Data Analytic skills across all industries, i.e. to resolve the issue about whether this is a sector or an underpinning technology / skills need across all industries, also needs to be resolved and will need to inform the analytic approach adopted.

The steering group considered that though no single practice could be simply adopted and transferred to the UK context, a more detailed enquiry into the practices set out above was required. This led to elements of the practices being combine with the bespoke new approach set out to meet the needs of the steering group as part of a new composite approach adopted.

What is clear is that challenge facing UK partners – of identifying employer needs; the extent to which these have common or different elements; the extent to which there is sufficient demand to create new areas of provision (e.g. to build a national college); understanding how training that meets employer needs can be inserted into fixed national curriculums (e.g. school age maths programmes); finding new more relevant ways of teaching through curriculum enrichment and the employment of dual professionals – these are challenges that will be facing regional authorities seeking to develop training offers to support the growth of niche clusters and sectors across Europe.

We anticipate, therefore, that our review and adaptation of existing EU instruments and our pilot in the UK will result in additional transferable lessons and approaches of wider value. Steering group discussions led to the LMI practices listed above being identified as being of interest for further exploration. Elements of these practices were combined to and piloted locally. The rationale for the selection of each is provided below.

1. **Employers Survey on Employability of University Graduates (Czech Republic)**

This LMI practice led to the adjustment of educational programmes, their content and delivery methods and provided a basis for the development of the faculty of sports study offering. It is clear that a successful Digital Skills Escalator will need to improve and re-focus areas of the maths and ICT curriculum and to deliver it in

new ways. For example, it is a requirement of a National College that it employs dual professionals, i.e. teachers who spend much of their time in industry or industry employees do the teaching.

The need in the UK context is to source detailed LMI to inform the content of educational programmes at a variety of levels. It is therefore relevant to the UK context, where there is no planned approach. The need to get faculty and departments on board, to adjust their practice is a clear requirement. The approach taken to achieve this is of clear interest.

Although the LMI practice is in another sector (sports), the overall approach was relevant and of interest and informed the work done internally within the University of Exeter o build a consensus concerning not only what was needed but the approach to be taken..

2. EQUIB (Germany)

This LMI practice involves the in-depth analysis of skills demands in specific industries in Bremmen. This addresses the needs of Innovation Exeter, which is faced with the task of understanding the specific skills demands of the Big Data sector and how these vary by sub-sector.

The approach taken is qualitative, involving interviews with labour market experts. We took this approach, both with labour market experts and also with employers in companies engaged in Big Data analysis. An analysis of the questionnaires, of generic questions and how industry specific questions were adapted to local context and lessons about the number of surveys required to generate robust results and extent to which coherent demands / training needs emerge from employers, and lessons about how to enquire into future skills needs, given that employers may not be clear on these themselves were helpful.

The qualitative questions, which focused on understanding what skills are missing and needed now and in the future, were transferable both to employers and also to other national / sectoral contexts for the work on the Skills Escalator.

3. Tknika Innovation Model (Spain)

The Thnika Innovation model is designed for use by those seeking to adjust the training profile of training centres to the new demands created by changing professional profiles / competencies arising from technological change. There is considerable debate within the field of 'Big Data' about the extent to which it is a 'sector' or an 'underpinning technology' that needs to be understood and used by many different types of staff in many different sectors. This debate remains, and will probably continue to remain, unresolved. What is clear is that big data is becoming more and more central to boardroom decision making across all types of enterprises and staff in those enterprises seeking to inform decision or to generate data required to inform decision, need to improve their understanding of what 'robust' data is, how to generate, understand and present it. This is clearly changing the occupational profile of staff in many industries.

The focus of the Thnika Innovation model - on analysis of technological change and impact of this technological change on different professional profiles and competencies, and then taking this right through to the creation of new training / pedagogic materials adapted to future demands - is highly relevant to the needs of the UK pilot. Needed to develop an approach that allows us to do this very thing. We recognised that there is a need to update the skills of our trainers in a variety of educational institutions, ensuring these are consistent with latest developments and approaches in big data analytics.

The approach, focused on modernisation of the training system, was helpful and contained elements of practice that were highly transferable.

4. Prospective studies on economic sectors (Spain)

The focus is on the identification on new and emerging occupations, the competencies attached to these and the training needs arising from these competencies. This reflects the requirement at the local level, albeit within a very specific occupation.

The approach involves data analysis, interviews and meetings and the use employer surveys. We anticipate using these approaches, apart from the fact that the narrow nature of the sector, is likely to limit the scope that exists for generating large-scale quantitative findings. A review of many elements of this practice (e.g. the survey questions / interview questions asked of employer added value in informing the local approach.

A number of questions were to be transferable. Lessons learnt, e.g. about sample sizes, helped inform the approach taken locally.

5. **Adequacy of the offer and demand of professionals in the energy sector (Spain)**

This practice involves foresight research to identify training needs now and in the future in the energy sector. The rapid growth and development of the big data sector is such that we need to include a foresight element in the work conducted in the UK and to identify underpinning / generic competencies (e.g. mathematics skills required to write algorithms) and to differentiate these from short-term employer requirements.

The methodology used to develop scenarios of future demand, from the quantitative and qualitative perspective, was useful. Of particular interest was the approach taken to set up encounter spaces between companies in the sector and vocational training centres, the methods used and how these enabled the better orientation of the training offer, were adapted to both present and future needs. The approach was considered early on by the steering group as being likely to be highly transferable in the longer-term, but not during the set up phase of the project.

6. Sectoral Expert Panel In The Labour Market In The Basque Country (Basque Country)

This practice involves the identification of specific job requirements, the development of qualifications associated with these and the adaptation of Lanbide's training offer to accommodate delivery of the new provision. This addresses our own local needs. The approach involves interviews with experts, surveys of companies and round table sessions. All of these approaches proved relevant to our work in the UK, where we needed to consult with experts (e.g. researchers e-skills or the national digital college), employers, and staff from the training providers. We did not, though,o deliver online surveys.

The relevance of this sector panel approach will continue to be transferable on an onging basis, to make sure that the escalator remains up to date / responsive to needs.

Working group

The work has been coordinated through the Innovation Exeter Steering Group. Innovation Exeter is a programme being developed by a partnership of key players in the region (Exeter City, East Devon, and Teignbridge District Councils, Devon County Council, the Met Office, the University of Exeter, Exeter College and the Royal Devon and Exeter Hospital Foundation Trust) with a common goal to drive business growth and create higher paid employment through innovation, developing existing and potential business clusters. It builds on the area`s strengths including the knowledge economy in environment, data science and health and education/training creating a culture where skills development and application is core. Innovation Exeter has six themes to support transformational growth. Highlights are:

1. An active and supportive innovation infrastructure - including a proactive Science Park and Innovation Centre, business support services and access to investment funds for tech businesses, supporting a thriving start-up and entrepreneurship culture and encouraging scale up of businesses.
2. Research to support innovation:
    - A high-profile national and international (visitor) research Institute to tackle cross disciplinary problems critical for the UK economy and well-being building on key themes such as the environment and health where the area has acknowledged strengths attracting widespread specialist interest and engagement.
    - A centre for data science – building research and skills in data science to realise the potential of regional strengths in environment and health etc. to drive innovation.

3. Innovation and data exploitation is at the heart of Innovation Exeter. Key elements are:
    - An environment catalyst to establish the South West as a magnet to facilitate wider UK economic growth using environmental data. This will include open innovation (MetLabs), interactive training and innovation (Impact Lab).
    - Establishing the city and the wider area as the ideal test bed and laboratory for evaluating the problems and challenges facing urban areas and their interdependent hinterland.

4. Strategic skills to support innovation - establish Exeter and the surrounding region as a skills escalator. Data analytics will be a central theme and are essential to our ambitions. Skills in this are in short supply across the whole UK economy. There will be an expansion of apprenticeships (particularly at level III and higher) and technical and professional qualifications to improve the availability, recruitment and retention of affordable skilled staff and develop higher skills across the workforce.
5. Local environment to support transformational growth and innovation: coordinated housing, transport and local infrastructure development to support new ways of working, attract and retain skilled people, whilst retaining affordability and addressing aspirational needs.
6. Establishing Innovation Exeter as a strong supportive partnership including a proactive Board and Chair, an aligned investment strategy, a high profile brand and the delivery of an effective place based strategy. Transformational growth

Innovation Exeter will build on the already successful private- public sector partnership in the area to develop and realise this exciting economic opportunity. Working across administrative and other boundaries it will maximise business, investment and employment growth for the benefit of the area.

Methods and activities

The Innovation Exeter Forum, which brings together the leaders of educational, public and private institutions from across the city, has committed to making Exeter a centre of excellence for data analytics. As discussed in our country report, in order to achieve this vision, Innovation Exeter has committed to creating a 'Data Analytics Skills Escalator'.

The case for focusing of data analytics as an area of fast growing and changing skills is articulated in a wide range of research and policy documents.

According to IBM, 90% of the data in the world today has been created in the last two years. Businesses are increasingly collecting and analysing data to enhance their productivity. Policy makers are considering how best to use data to transform public service delivery. Researchers are using data to advance scientific research and engineering. The potential value of data is far reaching. However, the capacity to understand digital data has become critical to competitive advantage to the extent that e-skills recently termed big data 'the 'new oil' that will fuel our economy in the coming decades'. However, all this data is useless, unless we have the skills to turn it into insight and action. The aim of data analytics skills escalator is to deliver these skills.

On the back of the support offered by Innovation Exeter and other strategic bodies such as the Heart of the South West LEP, the University of Exeter and Exeter College have been working to shape the content of the skills escalator. From the outset, we have been clear that:

- the content of the escalator needs to be informed by a clear understanding of business needs and the scale of potential demand;
- the escalator will require considerable investment and must be shaped to meet industry needs.
- there is a clear need to establish, with as much confidence as possible, the size of the potential market as well as the focus of the provision.

Consultation with the main sub-regional forums was essential. These focused on getting support, gaining feedback and getting the data analytics skills escalator on the agenda and included:

- HotSW LEP – Future Economy Group
- HotSW LEP – People Leadership Group
- HotSW LEP - Business Leadership Group
- HE / FE Forum (focused on a joint approach to ESIF Funding)
- Exeter & Heart of Devon Employment & Skills Board
- Exeter City Council – Scrutiny Panel
- South West Tech Forum

Below is a summary of our workplan:

Approach	**Literature Review**
Why	To understand industry needs. Many findings of national research are unlikely to differ from local findings. Expense of surveys conducted locally. Limited sample sizes locally would be likely to make local findings unreliable.
What	A review of the existing research literature on: - Employment trends in big data analysis - Skills gaps and skills shortages - Vacancies analysis (using burning glass technologies)
Lessons	Led to the development of the approaches taken in interviews with stakeholders and commercial partners
Limitations	Need for more local intelligence
Where	Documentation and Strategic Approach taken

Approach	**Longitudinal review of trends in uptake and attainment in maths and computer science / ICT, from age 11 (Key Stage 2) to University qualifications.**
Why	• To provide the context for the work. • To review historic growth / decline in volumes emerging from current provision, that may speak of perceptions of the relevance of that provision and the adequacy of the supply of skills into the labour market through the existing system. • To provide a benchmark against which to assess future uptake / success.
What	Analysis of attainment in maths and science at age 11, 15, 18 and 21. Analysis of update in maths and ICT at age 18 and 21. Analysis by individual educational institute (schools, colleges, universities) Longitudinal analysis.
Lessons	This analysis identified considerable variations in the performance of individual schools in tests taken at age 15, which are suggestive of variations in teaching practice. It established extremely rapid improvement in performance in one school (St James) when designated a specialist maths school, suggesting that radical improvements are possible when maths is made a specialist focus and new initiatives (e.g. Sparx) and curriculum enrichment activities follow. It supported the case for building the extension of such initiatives in the data escalator model. This analysis was also incorporated into the Evidence Base for the Exeter & Heart of Devon Skills Strategy and was used to support the adoption of data analytics as a strategic priority for the Exeter & Heard of Devon Employment & Skills Board.
Limitations	Says nothing about the content of future VET
Where	Exeter & Heart of Devon Skills Strategy Evidence Base Presentations to strategic forums Used as evidence in making the case for resources

Approach	**Supply Side Interviews**
Why	Perceptions of supply side are important. They work closely with demand side and are able to provide distilled insights into demand side requirements. It is important to understand perceptions of existing provision (strengths / weaknesses) as well as delivery constraints and aspirations
What	Interviews with: - University of Exeter college of Engineering Maths & Physical Sciences Marketing staff, Teaching Staff and Strategic Leadership (Alan Edmondson, Rebecca Adams, Simon McGinnes, Pete Vukusic) - University of Exeter Business School – Teaching staff and strategic leadership (Stuart Robinson & Nicholas Forsans) - University of Exeter Q Step Centre (Susan Banducci) - University of Exeter Post-Graduate Education (Rachel Torr) - Employability Office (Paul Blackmore) - Exeter College, strategic leadership, subject / curriculum leadership, business engagement (Jenny Leach, Mike Blakely, Lucinda Sanders) Also need to talk with: EBP / Schools / Careers SW
Lessons	Extremely valuable in gathering perceptions of what is needed. Important in gaining insights into what staff wish to deliver. Important in gaining insights into students expressed wishes / needs and the extent to which demand for new courses / modules is perceived.
Limitations	Tends to be short-term in view Can be informed by prevailing practice / institutional interests / funding availability.
Where	Interview notes

Approach	**Employers face-to-face interviews**
Why	To capture intelligence and commercial needs/forecasts
What	Employer Interviews Conducted with more immediate stakeholders • Andromeda Capital • Disney Corporation • NTT Telecom • Blur Group • Black Swan • Coalition • South West Water • Met Office
Lessons	Important to gather commercial needs and what particular problems they are anticipating to help design future VET and other educational need
Limitations	Worked well
Where	At Employers – incorporated in approach and new developments

Approach	**Employer Workshops**
Why	

What	2 x Workshops with 16+ employers
Lessons	Important to gather commercial needs and what particular problems they are anticipating to help design future VET and other educational need
Limitations	Workshops worked well – kept uite short and focussed aas breakfast meetings – 8:30 – 10:30
Where	Science Park Centre, Exeter

Results of the project- Outputs, Outcomes, Impact

Established a Degree Apprenticeship in Digital & Technology Solutions (recruiting for Sept 2016 start)

- **Agreed funding to establish a Centre for Data Science, offering:**
- **MSC in Data Science (from 2017)**
    - **CPD offering, involving modules of masters programmes and bespoke short-course provision**
    - **Agreement to set up a 'Met Office Academy' with Exeter College**
- **Delivering masterclasses with Devon & Cornwall Business Council**
- **Big Data agreed as a 'smart specialisation' priority for ERDF investment (bid yet to be written)**
- **'Open call' agreed for Higher Level Skills delivery under ESF programme.**

The Data Analytics Skills Escalator will take time to. Its success depends on our working together and aligning their existing resources and taking advantage of additional flexibilities on offer as a result of 'skills devolution'. However, our collective vision and combined efforts will also provide a focus for drawing additional funds to the area.

Human, technical and financial resources

The human and technical resources have been allocated to the project are dominated by two elements:

1. The commitment by the by the UK partner – the University of Exeter to lead the work and the contribution in time of people not costed within SIMOVET from IIB and other elements of the University
2. The time of stakeholders, partners in the Steering Group and commercial partners in helping to inform the evidence base and helping to identify the genuine need (demand side analysis)

The project has not been technologically challenging though it has required the analysis of data sets from national government and from local/regional forecasting tools such as Working Futures and Oxford Economics.

The below section describes the main funding sources that propose to use to make our aspiration a reality. A distinction is made between the capital and revenue funding requirements.

Capital

1. Global Environmental Futures Campus

   A capital grant of £6m from the Regional Growth Fund has been secured for the building of theGlobal Environmental Futures Campus. Matched funding has been identified, primarily in the form of innovation, research and business activities conducted within the building.

2. Institute for Technology

   The development of a world class Institute for Technology focused on data analytics may be possible, following the area review of further education to be completed in 2017. If this is agreed, it will result in the creation of a major new facility within the city.

3. Centre for Data Science

   The capital requirement for a Centre for Data Science at the University of Exeter is limited, as, in the first instance, it will be located within existing buildings at the University. Some refurbishment, co-location and ICT costs may be incurred.

Revenue

1. Raise young peoples' awareness, interest and attainment in data analytics

   There is much that can be done to take this activity forwards through the better alignment of existing efforts and operations. However, additional funding will be required and will be sought from the following sources:

   - University of Exeter, widening participation funds
   - EU sources, such as Erasmus +
   - Domestic grants, such as the UfI Charitable Trust
   - HEFCE Catalyst funding?

2. Establish an Institute for Technology in Digital Skills

The funding arrangements for Institutes for Technology have yet to be announced by Government. It is likely that the funding will be primarily for capital costs.

3. Develop an apprenticeship pathway in Data Analytics

   The expansion of higher level apprenticeships is a priority for Government. As a result, Apprenticeship delivery is well funded.

   Resources are required for the development of new modules, recruitment of staff to deliver apprenticeships and for marketing activities. The University of Exeter and Exeter College have been working with HotSW LEP towards a bid for European Social Funding (ESF) to pay for some of the development costs, particularly the development of content. HEFCE Catalyst funding may also be required to underpin this development.

4. Establish a Centre for Data-Science

   Funding is required for recruitment of staff, development of modules, marketing and student recruitment, particularly in the early stages. Funding for innovation and development of new approaches / exemplars, based on working with industry and data sharing (e.g. through the Exeter City Futures initiative) is also needed. This will be sought through an HE Catalyst bid, with the University of Exeter also part-funding development costs.

5. Boost employability and graduate retention

   Graduate retention is a priority within the Heart of the South West LEP's European funding strategy. We anticipate bidding for ESF funding to enhance resources already dedicated to enhancing student and graduate employability.

6. Raise business awareness of the value of data

   This activity will be primarily funded by businesses. We are lobbying the Heart of the South West LEP to create a voucher programme to allow businesses to recover 50% of their course costs.

7. Training for data professionals

   As above. We are proposing that any voucher programme should part funding CPD course costs focused on data analytics. HEFCE Catalyst funding may be sought for development of new modules.

8. High-end analytical talent and support to business

   A variety of funds will be to foster high-end analytical talent and to ensure that this is oriented to support businesses. A number of sources are readily available for appropriate projects, such as Knowledge Transfer Partnership funding, while others must be sought on a case by case basis. The University of Exeter will be working with partners to ensure that innovation

support for Data Analytics is a priority for European Regional Development Funding and will seek a grant from this source. PHDs may be partially funded for appropriate projects through research councils.

Funding overview

Activity	***Funding Source***
Raising young peoples' awareness and interest in data analytics	• University of Exeter, widening participation funds • EU sources, such as Erasmus + • Domestic grants, such as the UfI Charitable Trust • HEFCE Catalyst Funding
Apprenticeship pathway - Data Analytics	• European Social funding • University of Exeter • Apprenticeship funding / Business
Institute for Technology	• Institute for Technology funding (tbc)
Centre for Data Science	• HEFCE Catalyst funding • University of Exeter
Boost employability and graduate retention	• European Social Funds • Widening Participation funding • Business
Raise business awareness of the value of data	• Vouchers (ERDF funded)
Training for data professionals	• Vouchers (ERDF funded) • HEFCE Catalyst for module development
High-end analytical talent and support to business	• European Regional Development Funding • Research Councils • Knowledge Transfer Partnerships • HEFCE Catalyst Funding?

Lessons learned

The main problems in implementing the project have been in relation to the need for quick policy support and backing and the need to engage a large number of organisations from a variety of backgrounds and settings all of whom are used to working to differing deadlines and timescales.

The Steering Group is composed of the right organisations needed to make the Pilot a success but they are handicapped by a rapidly evolving devolution agenda that is resulting in changes to the way they operate at strategic levels and consequently changes to what they prioritise. This has been unavoidable as the changes have been driven from central government.

The objectives set for the Skills Escalator are very challenging and demanding and go far beyond what can be resourced through SIMOVET. It may have been simpler to have a more limited set of aims and objectives, but that would not have offered the major long term impacts that the Skills Escalator offers.

The challenge for our escalator is to enable a variety of 'problem owners' - in business, government or research - to access the skills that they need to address the full range of problems that they face.

Follow up activities

The working group is a long-term group that will continue to coordinate and advise the Skills Escalator as well as a broad scope of innovation and research-led activities that will continue for the foreseeable future. The work has informed a raft of developments, including a new Satellite Applications Centre of Excellence to be launched in April 2016 and a series of bids to ERDF in the HotSW sub-region seeking to build both infrastructure and skills/capabilities. Importantly the work has been incorporated and costed within the Innovation Exeter Business Plan.

<u>Plans for the future</u>

- Working on an ERASMUS+ Application (Strategic Partnership)
- Positioning for a Institute of Technology focused on data analytics
- Submission of ERDF bids to establish an 'Impact Lab'
- ESF Higher Level Skills Funding
- HEFCE Catalyst bid to be submitted (to share good practice with UK HEIs)

"Data science and analytics underpins many of the comparative advantages of Exeter, like environmental sciences, Agri-Tech research, biological systems and healthcare studies and analysis" (KPMG – Innovation Exeter report)

Description of the organisation and main interests regarding the project

The Marchmont Employment and Skills Observatory is an internationally recognised centre specialising in economic and employment analysis, research and insight. It provides critical support to Local Enterprise Partnerships, the European Commission and private and public sector audiences. It also supports the University of Exeter in the delivery of its strategic objectives as a core part of the Innovation Impact and business Directorate.

Innovation, Impact and Business (IIB) leads the University of Exeter's collaborations with external partners, helping academics to make an impact in the World and driving place-based innovation. IIB identifies and supports opportunities for collaboration with partners and draws on the University's education, research and physical assets to generate income and impact from these relationships.

Marchmont and IIB's interest in the project relates primarily to the impact the project has been able to have in driving new developments in vocational education and training provision in a new and developing speciality sector for the region: data analytics.

SIMOVET has been pivotal in enabling the University and other members of the Steering Group to carry out the underpinning work to:

- Profile the sector
- Identify business need through interviews and workshops with commercial stakeholders
- Examine employment and skills trends
- Forecast employment and skills needs
- Support policy formation through strategy papers at Steering Group and University of Exeter Senior Management Team level

This has led to the creation of the Skills escalator model for data analytics – a model that could well be transferable to other sectors. It has also informed the creation of a currently unique University offer in the UK – a degree apprenticeship in data Analytics.

Stakeholders have used the information generated by SIMOVET to influence their own developments including the new Met Office Academy being set up by Exeter College and the Met Office and the decision taken by the Heart of the South West LEP (HotSW LEP) to establish a regional ERDF programme specifically within this sector.

Contact details

Ben Neild
Manager
Impact Innovation and Business
University of Exeter
b.neild@exeter.ac.uk

Co-funded by the
Erasmus+ Programme
of the European Union

SIMOVET PILOT PROJECT

BASES TO DESIGN A TRAINING AND JOB SEEKING GUIDANCE SYSTEM BASED ON ASSESSMENT AND MONITORING OF SKILLS FOR LANBIDE-BASQUE EMPLOYMENT SERVICE

Javier Ramos
Maria Brella

Rationale / Background

The Lanbide technical department, as the Basque Country's labour market observatory, has set itself the assignment of contributing to the transparency of the labour market and decision-making on planning training for employment based on knowledge of current and future demand from the labour market by means of taking the helm compiling, channelling and broadcasting the relevant quantitative and qualitative information and creating skills-based knowledge networks.

Two key aspects are missing in the current information system that have been identified by the regional working group:

- Information on skills for the current and future labour market.
- A tool that helps to assess and measure the skills.

Both aspects are closely linked to developing instruments to guide people to become more employable based on trustworthy information regarding their current skills and demands for skills from the labour market.

Project description

In the Basque Country, a pilot project has been carried out which focuses on analysing the different tools that already exist and how they can be applied to the Basque Employment Service to improve information available on appropriate, updated skills required by the labour market and currently held by people coming into Lanbide, both unemployed and workers.

In order to meet this aim, the pilot project has been developed along two lines of action:

- Internal competence assessment tool analysis that will allow Lanbide to improve the skills of its target population (unemployed people and workers) to adapt to changing technologies opportunities in the labour market.
- Analysis of tools to obtain information (qualitative and big data) on how skills demanded in different occupations and work sectors are changing and adaptation of this available information to the Basque Country's working environment.

Context and setting

In the Basque Country, radical importance is being given to improving tools to manage human capital in a time of ageing and technological change, where we might foresee an imbalance between offer and demand in the labour market, plus a lack of knowledge regarding current demand for skills from companies and information on the future of work and occupations to guide planning for training and the general public.

Over the last few decades, we have seen a process of change in terms of sectors, occupations and qualifications, as a consequence of technical progress, resulting in a drop in demand for more routine, automated tasks and an increase in employment in occupations that are more difficult to mechanise (professionals and technicians and service workers). The nature of work will continue changing over the next few decades, mainly due to the advance of technology, and numerous forecasts state that technological unemployment will accelerate, affecting people with lower qualifications. So, taking into account the drop in active population, the future imbalance of professionals could be not only quantitative but particularly qualitative, related to a lack and skills required by the future labour market.

Along these lines, the LANBIDE 2013-2016 Strategic Plan sets one of its Strategic Targets as improving knowledge and information flow on present and future needs for personnel and qualifications, as well as the evolution of production sectors, to transfer them to employment and training policy designs.

The Lanbide technical department, as the Basque Country labour market observatory, has set itself the assignment of contributing to the transparency of the labour market and decision-making on planning training for employment based on knowledge of current and future demand from the labour market by means of taking the helm compiling, channelling and broadcasting the relevant quantitative and qualitative information and creating skills-based knowledge networks.

Despite incorporating qualitative and quantitative information, this model is considered to be incomplete and improvable. So, from a content perspective, two key aspects are missing that have been verified and agreed upon in the regional working group:

- Having information on skills for the current and future labour market. Knowledge on demands from companies in terms of skills in real time, their needs and what they are going to require in the short-medium term: skills, knowledge, attitudes.
- Having a tool that helps to assess and measure the skills of anyone turning to the Basque employment service for guidance, based on detecting training needs that can be turned into coherent, realistic training proposals, making these people more employable.

Both aspects are closely linked to developing instruments to guide people to become more employable based on trustworthy information regarding their current skills and demands for skills from the labour market.

Objectives of the pilot project

It focuses on analysing the different tools that already exist and how they can be applied to the Basque Employment Service to improve information available on appropriate, updated skills required by the labour market and currently held by people coming into Lanbide, both unemployed and workers.

In order to meet this aim, the pilot project has been developed along two lines of action:

- Internal competence assessment tool analysis that will allow Lanbide to improve the skills of its target population (unemployed people and workers) to adapt to changing technologies opportunities in the labour market.
- Analysis of tools to obtain information (qualitative and big data) on how skills demanded in different occupations and work sectors are changing and adaptation of this available information to the Basque Country's working environment.

In relation to the pilot project study scope - *Bases to design a skills-based training and job seeking guidance system for LANBIDE-Basque Employment Service* - regarding analysis of the tools and the available information, this has focussed on understanding the component parts of the tools, their aims, the key agents (clients and information providers), basic components (sources, analysis, products, resources involved) analysing the feasibility of transferring these tools or their final products (information) and practical issues related to their future implementation in the Basque Employment Service.

Within this scope, the project's specific aims have focussed on analysing five tools

- Two information tools on the skills required by the labour market, selected from the SIMOVET project best practice base:
    - Scotland’s Skills Investment Plans
    - Wollybi.
- Three skills assessment tools:
    - Openmet,
    - Gaituz,
    - Accenture Foundation

Inspiring European approaches and practices

The most interesting best practices derived from the first phase benchmarking, used as a reference for the pilot, are related to the use of sector-based skills boards and big data to monitor and analyse skills demanded by companies and how they evolve into professional profiles and economic activities.

In relation to this latter line of action proposed as part of the pilot, we should mention that so far, knowledge on the demand from companies has been tackled using surveys whose cost and need for updating mean that it is not possible to go into detail on the skills requested or using specific studies from a more qualitative sector that provided a snapshot at a certain time. Improvements to monitoring and analysing skills will make it possible to match not only current workers but also the unemployed population to market needs thereby guaranteeing that companies are competitive. It would allow planning of vocational training for employment, including occupational, continuous training and devices to acknowledge skills, adapted to these needs.

The Wollybi Observatory, developed by the University of Milan is a digital Observatory focussed on analysing the Italian labour market with over 750,000 vacancies analysed over the internet, constantly updated by offering a complete view of Italian labour market trends. The interest for Lanbide lies in the fact that it would make it possible to tackle the lack of information on the real demand for skills from companies (what they are looking for - quantitatively and qualitatively) without resorting to traditional surveys whose cost, need for updating and predefinition of concepts do not provide such great results. So it would be less expensive, with real time data and a greater wealth of contents that have not been previously predefined and that can be very important to monitor cross-discipline skills.

Sector-based Skills Boards- Scotland's Skills Investment Plans – are developed by a specific skills body depending on the Scottish Government. Lanbide found this interesting both due to the existence of a specific department focussed on developing skills and because they clearly set the sector's qualification needs and highlight priorities in terms of skills to be tackled. SIPS are used as part of a planning model to understand and rationalise the demand for skills from businesses and put together a response to improve matches with the employer's needs, even cases requiring a fast response to new circumstances - a new, emerging sub-sector / group of skills or perhaps in response to envisaged creation or loss of a significant number of jobs.

In addition to these two European best practices, another three tools have been identified that are run nationwide in relation to measuring and assessing skills. They were:

- **Openmet**: The tool was developed by a private Appraisal and Human Resources management consultancy; its skills measurement tool demonstrates workers' skills by means of self-assessment and assessment of the people around them. This means that people's skills can be adapted dynamically to the organisation's needs. In the 360º assessment option, each person is assessed by all the key people in their workplace in addition to self-assessment of their own skills. This tool might be of interest for Lanbide due to its potential for internal knowledge that can be used as a basis for creating its own skills dictionary for the people using its services, revolving around 4 major skills areas: Results Management Skills, Social Skills, Management Skills and Personnel Management Skills.

ñ

- **Gaituz**: This is an internal computer application developed by the Basque Government Department of Education to get a tool that fully demonstrates a person's proven training path independently of how they have acquired their skills. It is interesting for Lanbide because it is an integrated app that optimises person-based guidance and detection of training needs that can be turned into coherent, realistic training offers. It thereby shapes a professional profile understood to be a set of professional skills, that can be identified in the production system and acknowledged and appreciated in the labour market. In addition, one of the device's aims is to motivate life-long learning.

- **Accenture Foundation**: The Accenture Foundation has developed a programme to improve job opportunities among society's most vulnerable sectors using an active participation model among all social agents involved: private companies, public administration and the service sector. The interesting part of the programme for Lanbide is that it has tools and self-assessment tools to measure skills levels objectively, as well as specific training needs to develop necessary skills. The programme has developed an online application that helps advisers to automate and manage registering candidates and their assessments, as well as identifying skills the candidate lacks for their chosen job. The programme is both a training tool to develop the skills most in demand and an assessment tool for current skills, monitoring how they evolve.

Working group

In order to develop the pilot project, an internal working group has been set up among the two partners from the Basque Country, made up of:

- Lanbide - Technical department -Basque Employment Service: Javier Ramos, Maria Brella and Roberto Villate
- Prospektiker: Eugenia Atin Raquel Serrano

This internal working group has taken responsibility for internal analysis of existing skills-based work tools and running interviews with the people in charge of them, drawing the relevant conclusions in terms of their potential transfer to Lanbide. In addition, this internal working group has joined interviews and visits as well as the assessment (Milan-Wollybi and Accenture), the director of Active Employment Policies at Lanbide- Gotzone Sagarduy and the director of Vocational Training for Employment at Lanbide- Juan Ibarretxe.

A Steering Committee has also been set up to assess the relevance, use and transferability of the best practices with agents from the Basque Government departments of Employment, Economy and Education.

- Lanbide –Area of Training for Employment
- Department of Education, Linguistic Policy and Culture - University Management
- Department of Education, Linguistic Policy and Culture, Vocational Training Board, Quality and Assessment Agency

- Department of Economy and Inland Revenue, Economy and Planning Board.

A round table discussion was held with these agents to present the SIMOVET project, its aims and actions, agree on the challenges or needs for information from the labour market to plan the training offer and look at best practices from other European regions analysed to identify any that might be of greater interest for transfer to the Basque Country.

Methods and activities

The main activities carried out within the pilot project were:

4) Identifying guidance tools for employability based on assessment/monitoring skills.
5) Analysing the potential of these tools through the study and interviews with the people in charge of them.
6) Technical assessment of their transferability, identifying needs for adaptation to Lanbide.
7) Assessing their use and relevance related to Lanbide's strategic aims to improve the knowledge and information flow on present and future needs for personnel and qualifications.
8) Developing a proposal to articulate and implement the most appropriate tools and products over the next few years in Lanbide.

These activities have been developed to analyse the five practices of interest that were identified. However, regarding both the weight of the field work and the interest aroused, we are going to mention the main components analysed in two of the practices:

Accenture Foundation as a skills assessment tool and Wollybi as a *big data* skills observatory.

1) **Accenture Foundation Tool:**
   Background: The tool is developed under the Emplea+ Programme, a work-based skills development programme. Emplea+ is a project created for the Service Sector to improve careers guidance and job seeking for people at risk of social exclusion including participation from 7 benchmark social entities: Secretariado Gitano, Cáritas, Fundación ONCE, FSC Inserta, Fundación Èxit, Spanish Red Cross and Fundación Tomillo. Finding out each person's cross-discipline skills is essential to find and hold on to a job. The Emplea+ programme helps to develop these skills among vulnerable collectives objectively, efficiently and attractively and promotes learning the most necessary skills among the different collectives.

   Aims: This consists of a measurement and training tool to develop the most requested skills.

Methodology: The method is based on measuring and training regarding cross-discipline skills really requested by the labour market for a particular job. It has tools for measurement and objective self-assessment of skills levels, and specific training materials for skills development.

Components: Includes:

- Social assessment or assessment of social aspects that might make a person employable: This helps to identify externals aspects concerning economy, health, socio-family, environment, etc. that represent added difficulties for finding a job.
    - Obstacles. Factors that represent obstacles or that have a particularly limiting effect on access to employment.
    - Conditioning factors. Factors about the person that represent added difficulties in terms of finding them a job that are not tied to knowledge.
        - Economic, regarding basic needs.
        - Regarding health, addictions, physical and psychological well-being, disability and inability to work.
        - Socio-Family, responsibility for others, support from your environment.
        - Personal, availability, gender, age, religious and cultural practices.
        - Environmental, housing conditions, access to public transport, workplace...
        - Professional, career, time in education and qualifications.
        - Others, motivation for the job, knowledge of Spanish, personal image, locus of control and guidance in the environment
    - Prior elements. Factors that cannot be considered as conditioning conceptually as some of them are on the limit of technical skills or basic skills. They are treated as conditioning factors.
- Basic skills assessment or assessment of the 5 essential skills to find and hold on to any type of job. This refers to a skills dictionary, describing 5 basic skills and 15 cross-discipline skills.
    - Basic Skills
        - 1. Self-confidence
        - 2. Self-control
        - 3. Communication
        - 4. Compliance with rules and tasks
        - 5. Mathematical reasoning
    - Cross-discipline skills
        - 1. Flexibility
        - 2. Willing to learn
        - 3. Technology-focussed
        - 4. Interpersonal skills
        - 5. Teamwork
        - 6. Client-focussed
        - 7. Work quality
        - 8. Tolerance of frustration
        - 9. Initiative and decision-making

- 10. Own organisation
- 11. Success focussed
- 12. Problem analysis and solving
- 13. Creativity and innovation
- 14. People management
- 15. Negotiation

- Professional assessment, with the critical skills that define success for the 20 profiles most requested by NGOs and selected partners. When compared to the candidate's skills assessment, these pre-set professional profiles help to establish gaps that can be filled with training. These analysed profiles were:
    - Tele-operator
    - Tele-sales
    - Assistant waiter
    - Auxiliary secretary
    - Receptionist
    - Kitchen assistant
    - Domestic cleaner
    - Corporate cleaner
    - Data entry
    - Junior programmer
    - Technical data analyst
    - Store assistant
    - Shop assistant
    - Chamber maid
    - Domestic carer
    - Institutional carer
    - Fork lift truck driver
    - Cashier
    - Production worker
    - Gardener

Benefits of the tool: Emplea+ employability application

- This allows the adviser to automate and order the registry of candidates and their assessment as well as identify the skills gap with the target position.
- Auto-assessment tool for the 5 basic skills. Allows candidates to measure their own skills independently. It connects the results with the Emplea+ application forming part of the candidate's assessment. Consequently, it makes it easier for the careers adviser to appraise the candidate
- This helps to develop the first levels of the 5 basic skills:
    - Self-control
    - Self-confidence
    - Compliance with rules and tasks
    - Communication
    - Mathematical reasoning

2) Wollybi Big Data skills observatory (Visit to the Observatory in Milan and meeting:

Background: Developed by the University of Milan, this is a digital Observatory focussed on analysing the Italian labour market with over 750,000 vacant jobs analysed over the internet and constantly updated by offering a complete view of Italian labour market trends.

Aims: The idea is to make the most of the large quantity of data on the Net (**Big Data**) in order to compile a list of occupations that the market is seeking and the skills, knowledge and attitudes that companies require from candidates, managing to define a high quality skills dictionary).

Methodology: Three main source groups were used: specialist websites, employment agencies and the press.

Components:

- The source selection process: they have developed a statistical model to select sources, from websites, focussed on analysing:
    - Cover / importance - study of the most used and popular work exchanges
    - Integrity - they check how these websites are structured and that they include all the information they need tied to job offers (for example, date on which the offer was published)
    - Technical feasibility - they analyse whether there is a download limit
- Agreements with employment sites: Once the websites had been identified, contact was made with them to sign a joint working agreement, usually based on using this data for non commercial purposes Wollybi is in contact with Monster and Infojobs.
- The information is compiled in several ways:
    - Directly through the sources by means of supplying files (structured data) periodically.
    - Scraping the websites and then collecting the necessary data, although this requires periodic adjustments to adapt to changes in the structure and content of the websites.
- Data classification: They use standard classifications for occupations and activities (CNO occupations, NACE industry and NUT territory). For the education level, a classification is carried out in accordance with local rules. Skills are represented by a classification that is continuously updated over time, based on real observations.
- Data structuring: a standard data model is used that is shaped by their experience, including the following elements:
    - Professional profile
    - Job description
    - Territory
    - Type of contract
    - Occupation
    - Industry
    - Level of education
    - Presentation / Expiry date

  - Source
  - Skills
- Transformation and quality of the data: After the data compilation phase, it is processed to ensure reliability, integrity and quality (avoiding overlap of offers, use of common classifications, standard formats). The criteria can be changed depending on needs and emerging evidence working from real data.
- Analysis and generation of knowledge: they use automated algorithms to extract textual data. In some cases there is no structured data that corresponds to the real data model and they use an automatic learning focus where the information can be extracted directly from the job offer, using supervised automatic learning algorithms.
- Information display: the web gives access to information through a direct interface with two proposed topics: Job seeking and skills related to my job or by accessing the information fields for Territory, Occupation and Skill. Through the web, it is also possible to access the labour market analysis reports or request ad-hoc information.
- Analytical reports (ad hoc reports)

Benefits of the tool: Wollybi

- Whilst we know about the offer for workers (unemployment, profiles, skills, etc.), we do not usually have enough information on the demand from companies (what they are looking for quantitatively and qualitatively) and this tends to involve resorting to surveys (price, update, predefinition of concepts, etc.). On the web, on the other hand, on employment websites (less expensive, real time data, greater wealth of contents - not previously pre-defined - important for cross-discipline skills).
- Job vacancies are used to provide information for political decision-makers as well as other key players from the labour market depending on the needs expressed directly by companies regarding the most requested occupations and skills.
- In particular, the section corresponding to skills is highly innovative thanks to a structure that uses a bottom-up focus particularly looking at its classification system: it is thereby possible to study the most requested skills per territory and per occupation, with a high level of break-down.

Results of the project- Outputs, Outcomes, Impact

1) <u>Results of the analysis on skills assessment tools and foreseeable impact of developing this type of application internally at Lanbide.</u>

   Despite the fact that Lanbide-Basque Employment Service has not yet developed an internal tool to measure skills, the analysis carried out on the Openmet and Accenture Foundation proposals demonstrates that its implementation in other organisations would offer very positive results in terms of putting together guidance and training offers with a

view to improving the employability of people using Lanbide services. The main benefits were assessed to be as follows:

- They provide objective methodology for measuring the current skills level and its potential development for all professionals taking part in the mediation process.
- They reduce the subjectivity of the appraisal process. They provide objective tools to measure and improve generic/cross discipline skills with a view to increasing employability. They allow skills to be measured automatically and systematically.
- They have an automated system to launch a large volume of assessments by means of electronic surveys and analyse the results immediately with the powerful Business Intelligence environment
- They connect skills with labour market needs. They improve users' employability through clear guidelines based on guidance regarding their skills to adapt their profiles better to labour market needs.
- This leads to designing both an mediation system and an adapted training system. It moves towards "future employment" meaning that before the training ends, we can inform a company that a certain candidate will fit their company profile.
- They implicate users in the whole job seeking process as they are tools permitting self-assessment.
- They reinforce a fundamental part of the guidance process and adapt to the different types of groups and levels of skills from the outset. They easily generate automatic Word and PDF reports.
- They provide a common language and collaboration between key entities in careers guidance and finding a job.

2) <u>Results of the analysis on skills assessment tools and foreseeable impact of developing a *big data* skills observatory internally.</u>

The estimated foreseeable benefits that would add value to the current Lanbide labour market observatory, by means of monitoring skills using *big-data* tools, were as follows:

- They provide knowledge on demands for skills, through the needs directly expressed by the companies and their behaviour (evolution of profiles and skills) in real time.
- They make it possible to take in and process large volumes of data to provide detailed knowledge of skills demanded by the labour market, proving highly useful for anyone who has to make operative decisions in active employment and training policies, whilst increasing the intelligence and efficiency of the measures and strategies adopted.
- They provide the most informed view possible, able to react quickly to any change in profile and activity sector. In order to get total knowledge of the labour market, the observatories should obtain information from internal and external sources. The aim is to understand the behaviour and predict its future actions.
- The registry and the basis for these observatories is broad in terms of number of offers and the wealth of contents regarding skills (in addition to territorial data, by jobs); it is very dynamic and costs less to update.
- Job vacancies are used to provide information for political decision-makers as well as other key players from the labour market depending on the needs expressed directly by the companies regarding the most requested occupations and skills.

- The interface is a very visual tool to guide citizens, without requiring any specific knowledge in terms of analysing labour market indicators.

In relation to the sector-based skills boards, the following aspects have been identified that add value to Lanbide's current labour market observatory:

- The model represents the adjustment required to adapt the training system to labour market needs given that it provides information for planning and provision of skills that satisfies the economic demand.
- The structure of a competent organisation in terms of skills allows them to make fast changes in the training system adapted to these investment plans.
- It is interesting that, through their research, the SIPs are capable of understanding a sector's appeal for new workers in order to change how they "sell their appeal" and how it is perceived and show where they might have difficulties.

Human, technical and financial resources

To design a *skills-based training and job-seeking guidance system for LANBIDE-Basque Employment Service*, it was seen that the following human and technical resources would be necessary:

Human resources: profiles and skills:

- Labour market information analyst profile. It has been estimated that two people will be working full time on the project plus a coordinator although this will depend on the scope of the tools and the updating systematics,... These persons should have statistical knowledge and be able to use databases and data management.
- As external experts: Designers, programmers and specialists on scraping (specific case of using big-data)

Technical resources:

- The majority of these tools have been developed on free software platforms based on the use of
  - Java
  - Javascript
  - HTML 5
  - Python
- Software
  - Scraping: Java based ad hoc components
  - Database: MySql and Vertica
  - ETL: Talend
  - Machine learning: custom python pipelines
  - Front end: Pentaho (strongly customized) and D3 libraries

Economic resources:

The tools being analysed suggest the need for outsourcing that is difficult to quantify and will depend on Lanbide's own intention to develop it internally or purchase the software and its subsequent adaptation for implementation in Lanbide.

Interviews with the people in charge and analysis of the practices suggest availability from the owners of these tools regarding both solutions.

In the specific case of skills assessment tools, the service would include:

- Use of adapted platforms that facilitate the design, distribution and filling in questionnaires.
- Assistance for defining the skills profiles by means of interviews or specific studies to adapt to the Basque Country's activity sectors. If there was a prior definition, they also suggest adapting it to other models and dictionaries.
- Training on the skills model for workers-advisers, trainers, etc.
- Managing the process to distribute and collect data by means of electronic surveys
- Defining the portfolio of products and services: reports,...
- Mentoring and support throughout the entire implementation process

Wollybi offers the software and management of everything required to develop, implement and maintain Wollybi: platform management (technical scraping and searching skills, Java programming) + ETL (DB administration + ETL) + automatic learning of skills classification + Fronts (HTML5 and business intelligence). Of course this model does not exclude knowledge exchange, support and possibly some training moments on specific topics (if you wish). The economic estimation of this external subcontracting stands at around 50,000-60,000 Euro. On the other hand, it seems interesting to assess the exclusive purchase of the information resulting from monitoring skills through *Big-Data*. This could assess requesting specific reports per activity or occupations of interest, given that changes in the profiles and knowledge derived from trends are estimated to have a global impact beyond the territories.

Lessons learned

Unemployment is currently high in the Basque Country, both for people with high or medium qualifications and for people with lower levels of qualification. In addition, scarce knowledge has been observed on the real demands from companies regarding skills. Experts consider that we are in a quantitative hyper-information position that does not match the qualitative needs of workers and employers. Specifically, if the informative skills field is increasingly important, the Basque Country can hardly boast a tradition of researching this matter.

Skills are becoming more important: they are no longer so much looking for "who are you" but "what can you do" and analysing them poses the added difficulty that skills are valid for temporary cycles which is complicated and complex to monitor. In addition, many of the skills are cross-discipline and so also affect the different professional profiles and occupations.

Very valuable tools to transfer one-off skills to official certifications are skill units (parts of a professional certificate or qualification). Currently, the Basque Government has the GAITUZ

application providing training information from more than 150,000 persons, and can identify the "pending" parts for each person that would give them to access certifications and qualifications.

Along this line, the pilot project has been used to assess benefits related to skills assessment tools, particularly highlighting any allowing objective assessment for measuring and improving generic/cross discipline tools with a view to employability and that connect these results with labour market needs, allowing clear directives based on guidance for skills and designing a mediation system and an adapted training system. The main outputs from the organisations in charge that can be most easily transferred to Lanbide include predefined skills dictionaries (with their corresponding behaviours) and the possibility of importing their specific profiles and behaviours, the software developed and the methodologies used.

Bound to the above, to the lack of knowledge concerning companies' real demands and for future jobs in the Basque Country, education experts from the Steering Committee have indicated a lack of information to plan the training offer in the short, medium and long term. Education and vocational training technicians suggest that we offer a snapshot of the professional families; they consider that we can define these families quite clearly when referring to the past and the present but people are demanding something extra, needing to know to what extent they should increase their skills to get a competitive advantage in the labour market: what I can do and what I can offer you.

The five practices being analysed complement each other with information on skills both from the offer and the demand side with potential interest for improving the knowledge and information flow on present and future needs for personnel and qualifications, as well as how production sectors are evolving, to transfer them to design of employment and training policies. On the other hand, its transferability to the case of the Basque Country will require adaptation to our situation, interests and conditioning factors.

In the case of Wollybi, its transferability to the Basque Country is appreciated by the experts as high (classification of the job describers, reality of a global labour market with common skills evolution) although the greatest difficulty lies in the scarce details of the most cross-discipline skills and that it is impossible to connect up with the mediation system. In relation to the usefulness of the information regarding companies' demands for certain profiles and skills, Wollybi continues wrangling with companies' difficulties to express and define the skills associated with a particular job, presenting scarce details on less technical and more cross-discipline skills. In relation to public employment services, the digital observatory compiles work offers from the entire Italian labour market but it does not mediate by providing the company with the most appropriate candidate, so vacancies are used to provide information but not for mediation in terms of employment, which is a handicap for Lanbide's aims as the Basque Employment Service. On the other hand, among the most interesting outputs, there is interest in the knowledge generated by Wollybi regarding demanded skills and how they evolve. it is considered that this information, along with other skills analyses based on *big data* developed within the framework of European programmes (CEDEFOP), can be extrapolated perfectly to characterise demands that might be derived from the different activity sectors in the Basque Country, without having to develop its own big data-based skills observatory.

Follow up activities

The analysis is being used to assess the suitability of developing an internal tool to assess skills, with technical assistance to support its design and implementation in Lanbide that helps to make the most of the knowledge generated in other organisations with similar developments that at the same time is adapted as much as possible to Lanbide's aims as the Basque Employment Service.

Although it is a medium term project (it is estimated that its development and definitive implantation in the Basque labour market observatory could take at least two years), steps have been taken to start the work by looking at the key points identified in this pilot project to design a training and job-seeking guidance system based on assessing and monitoring skills for Lanbide-Basque Employment Service.

As a second step, and to bring this goal to life, in relation to monitoring skills demanded by the labour market through using Big Data monitoring tools, Lanbide is considering acquiring information on the evolution of skills associated with occupational groups generated by some of these organisations that would make it possible to extrapolate trends in skills behaviour to the different lines of work in the Basque Country by business branches and occupational profiles.

- Identification of best practices in tools, maps or reference dictionaries.
- Contrast and assessment of the different best practices.
- Drawing up the synthesis proposal that incorporates components from the different best practices, respecting methodological consistency of the resulting proposal.
- Qualitative contrast of the proposal for a skills map with specialist regional agents.
- Definitive proposal adapted to qualitative contributions.

This activity is going to be the focus of outsourcing as Lanbide-Basque Employment Service has decided to "CONTRACT CONSULTANCY SERVICES TO SUPPORT DESIGN AND IMPLANTATION OF A TRAINING AND JOB-SEEKING GUIDANCE SYSTEM BASED ON ASSESSING AND MONITORING SKILLS." Bidding companies should present their best offers to Lanbide before 22 April 2016.

Within the scope of the contract's purpose, the skills management system should have a reference tool, map or dictionary of skills, where it is possible to identify and provide information on the skills, both cross discipline and specific, for the main occupations or occupation groups that make up the Basque Country labour market, originating from a best practice that a member country or specialised agency from the European Union has previously developed, and from own methodologies for developing skills dictionaries. In this component, the adjudicating entity should participate in identifying and selecting the tool among current alternatives as well as ensuring (quantitative and qualitative) adaptation of the aforementioned tool/map/dictionary to the characteristics of the Basque Country, where LANBIDE is not responsible for its acquisition or surrender.

Outside the framework of this contract, this component should be subsequently integrated with a tool/application to objectively measure job seekers' skills when they come to LANBIDE, Basque Employment Service. The tools being defined will constitute two components of the Skills Management System that need to be included to give it coherence.

The project will be developed in 4 months and the maximum bid budget will be 17,500 Euro.

With these lines of action up and running through the SIMOVET pilot project, working from the labour market analysis and the information provided by the prospecting and information system on the gaps and opportunities in activity, occupations and skills, it aims to provide relevant information to the rest of the organisation's services, as well as the Department of Employment and the systems from the training and employment field including LANBIDE, such as the lifelong Integrated Guidance System and the Integrated Vocational Training System for identification and/or proposed by them for new programmes and actions.

Description of the organisation and main interests regarding the project

Lanbide-Basque Employment Service is responsible for being "*the effective work-related mediation instrument to help full development of the right to stable, high quality work and encourage shaping a labour market that helps improve employability for working people and cover personnel needs for companies as well as promoting social and territorial cohesion and fighting poverty and exclusion, through managing services established in the social inclusion system and management of employment policies and execution of the work legislation entrusted to them*."

With this assignment, the Lanbide Strategic Plan 2013-2016 assumes a series of premises to streamline Lanbide, aimed at expanding opportunities for high quality work and achieving results that, based on effective and efficient public management, with innovation and continuous improvement criteria, and from clear leadership, establish processes of collaboration and participation for the multiple agents and sectors in terms of employment, training and economic activity. They are all basic principles on which the **Skills-based guidance model in Lanbide** has been built, linking in directly with one of its main strategic axes: "*Improving knowledge and information flow on present and future needs for personnel and qualifications, as well as on how production sectors evolve, to transfer them to designs for employment and training policies*"

Along this line of information on skills and how they evolve, both in terms of information on companies' demands and a tool that helps to assess and measure the skills of people coming into the Basque employment service to receive guidance based on detecting training needs, it is essential for this knowledge to be translated into coherent and realistic training offers, making these people more employable.

Consequently, from its Careers service Lanbide offers consultancy from careers professionals to put together a personal plan to find each user a job.

As part of this service, Lanbide works with job seekers to improve their employability through tools and continuous design of different actions to bring about more personalised job seeking. The main functions of the Lanbide Guidance Service technical personnel include creating a meeting space where job seekers can find a "person-market" reference point, they can assess their own personal and professional resources and at the same time access certain opportunities for improvement by means of services and actions.

The relevance of this pilot project carried out within the framework of the Erasmus+ Programme, *Bases for designing a training and work guidance system based on assessing and monitoring skills for Lanbide-Basque Employment Service* would provide great added value for helping people who require it or request it from joint assessment of their employability that in short represents a joint assessment from which users can extract information, guidelines and goals to improve their internal and external possibilities in their reference labour market.

Contact details

Javier Ramos Salazar
Kabinete Teknikoaren Arduraduna / Technical Department Manager
Email: javier.ramos@lanbide.eus
CENTRAL SERVICES
Jose Atxotegi, 1 01009, Vitoria-Gasteiz
Tel. 945 18 13 18
Information 901.222.901 – 945.160.600
www.lanbide.euskadi.eus

Co-funded by the Erasmus+ Programme of the European Union