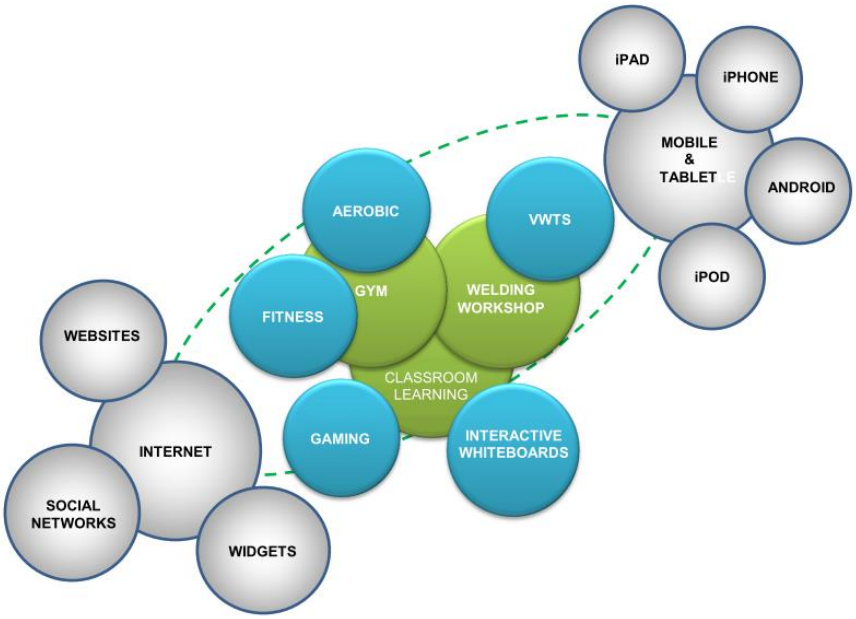
InteractivWeld
Leonardo da Vinci Partnership
2013-1-HR1-LEO04-03224

Lifelong Learning Programme

No.1

Report



Analysis of education, training and labour market system for welding trainees and professionals in partner countries with a reference to EU strategy

Slavonski Brod – Porto Salvo – Oberhausen – Basel – Wels - Zagreb

Introduction

The European Commission set a goal in the production sector in 2012 to raise the BGP from 16% to 20% in the next 10 years. The economic growth is evident through a strong industrial foundation, new workplaces and investments in the sector.

A study was published in Bochum on March 20, 2013: "Macroeconomic and sectorial value added by the production and application of joining technology in Germany and Europe"- carried out at the Faculty of Bochum on behalf of the DVS – German Welding Society supported by the EWF – European Federation for Welding, Joining and Cutting.

EWF published in Lisbon on October 9, 2013 the "Study shows resilience of manufacturing and application of joining technology in Europe".

The results of both the Bochum and Lisbon study show the extent that the manufacture and application of joining technologies represent in both added-value and jobs. Joining technologies are present in all production sectors and, according to the aforementioned study, represent 65 billion € turnover in Europe. In terms of employment by application of joining technologies, of a total of 1.2 million in EU27: 647 000 people as welders, 311 300 as welding inspectors, researchers, designers, trainers and robot operators and 165 900 in terms of joining-related personnel.

"This study highlights the relevance of this industry in Europe as a means to increase competitiveness of EU27 companies and provides further evidence to encourage its development as part of the strategy to support the reindustrialization of Europe", (taken from the study presentation in Lisbon).

On the other hand, by monitoring the labour market it becomes evident that there is a shortage of welders in Europe.

All of the above points to the fact that there is an open space for hiring the welders. In order to fill that space it is necessary to make welding more attractive to young people, to offer modern educational programmes and provide constant logistics available through mobile internet in order to ensure constant support throughout the entire working life of welders.

For that reason, an analysis of education, training and labour market among EWF members in order to create a starting point for the project InteractivWeld.

Analysis of education and training

P2 (EWF) – Bernardo A. Hourmat

Analysis foundation is the following

QUESTIONNAIRE

As part of the new Leonardo da Vinci Partnership InteractivWeld, we ask the support of EWF members in replying to this questionnaire. It intends to gather information on welder education state of the art in the different countries of the EWF network.
Your feedback is greatly appreciated!

1. Has your organisation supported, in any way, the drafting of national education programmes currently in use in your own country, for welding education?

Yes **No**

2. Are the national programmes (if any) for welding education in line with, or referencing, EWF guidelines?

Yes **No**

3. If the answer for question No.3 was NO, please state documents, standards or other material on which welder education is based.

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4. Welder education programmes are carried out in (mark):
   - Welder education centres
   - Vocational schools
   - Other (please explain): _____

5. Total duration of theoretical and practical welder education in hours:

	Gas	MMA	MAG/MIG	TIG
Education centres				
Vocational schools				

6. Total duration of theoretical and practical welder education in hours:

	Gas	MMA	MAG/MIG	TIG
Education centres				
Vocational schools				

7. Theoretical education is carried out in – (mark):
   - Traditional classroom learning
   - With ICT support (computers, internet connections)
   - 50% in the classroom, 50% on computers
   - 50% at school, 50% at home (distance/blended learning)
   - Through other means: _____

8. Education teaching materials are (mark):
   - Traditional (books, textbooks, brochures, etc.)
   - e-materials: online platforms and resources, websites
   - Didactic/pedagogical software

9. Communication between the trainers and trainees is carried out (mark):
   - verbally, in person, at school or in centres
   - Through online platforms
   - via social networks (Facebook, ...)
   - via mobile phones
   - A mixture of the above

10. Practical training for trainees is carried out (mark):
   - the classical way, on welding machines
   - combined, ____% the classical way, _____% on welding simulators

11. Do the training programmes used in your organisation include any topics outsides of the immediate welding area (i.e. Trainees' psycho-social aspects or physiological/aerobic competences, for instance)?

Yes **No**

Yes

12. Does your organisation have in place a system of recognition and validation of knowledge, skills and competences for professionals in the welding sector?

Yes **No**

13. Are there any comments or remarks you would like to make, that you feel would be important for this subject? If so, please state them.

_____
_____
_____

A few considerations on EWF members' feedback to the questionnaire:

• Questionnaire distributed & discussed during EWF General Assembly, in Lisbon (22/11/2013);
• Questionnaires provided to representatives of participant ANBs;
• Majority (approx. 2/3 of those inquired) addressed both questions 1 and 2 positively with some variations;
• Majority of training provided through welding centres, with some cases of vocational schools;
• For questions 8-10, the vast majority are still involved and relying on traditional learning and teaching platforms & materials;
• VWTS and distance learning platforms are the exceptions with implementation across some members (EU projects have helped improve this);
• All inquired stated the programmes do NOT include any form of psycho-social and/or aerobic competence training;
• Some, however, (approx. 1/3) do feature forms of recognition of past experience and competence validation.

Analysis of the labour market

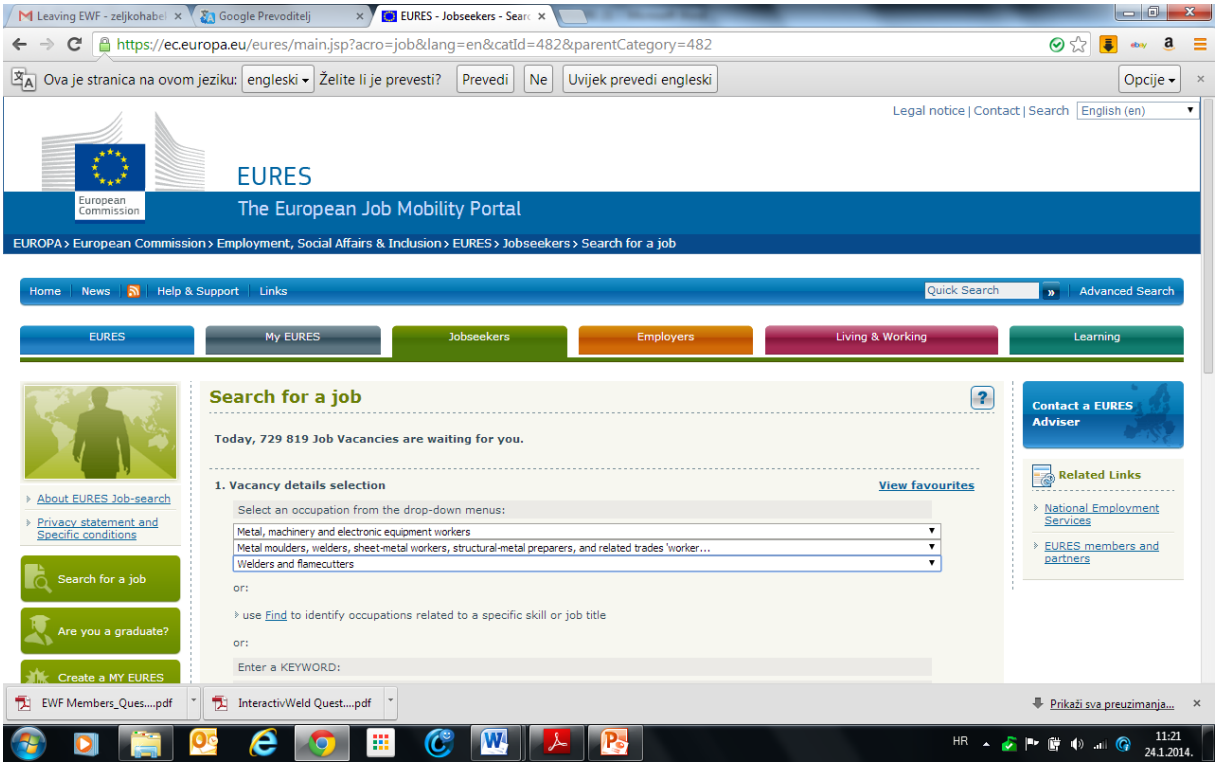
P1 (IOS) – Željko Habek

Sources: Croatian Employment Service (HZZ) and EURES - The European Job Mobility Portal.

Shortage of welders in Europe is evident in the following information. According to valid job ads (8.786 on 25 Nov 2013, source: EURES - The European Job Mobility Portal), Europe is in demand of 30.000 to 40.000 welders. For the last three years, the demand for welders has ranged from 6.700 to 9.300 job ads in EU27.

Similar situation is in the USA as well. The American Welding Society had correctly predicted that by 2010 demand for skilled welders would outstrip supply by 200,000 in the US alone. Source: White paper.

On the other hand, there are welders who have finished school and are looking for a job but cannot find it - probably because they are lacking competence. For example, there has been a constant need for 100 to 150 welders over the years in Croatia, and there are around 1.000 unemployed welders (source: Croatian Employment Service, October 2013). Similar situation is in EU27.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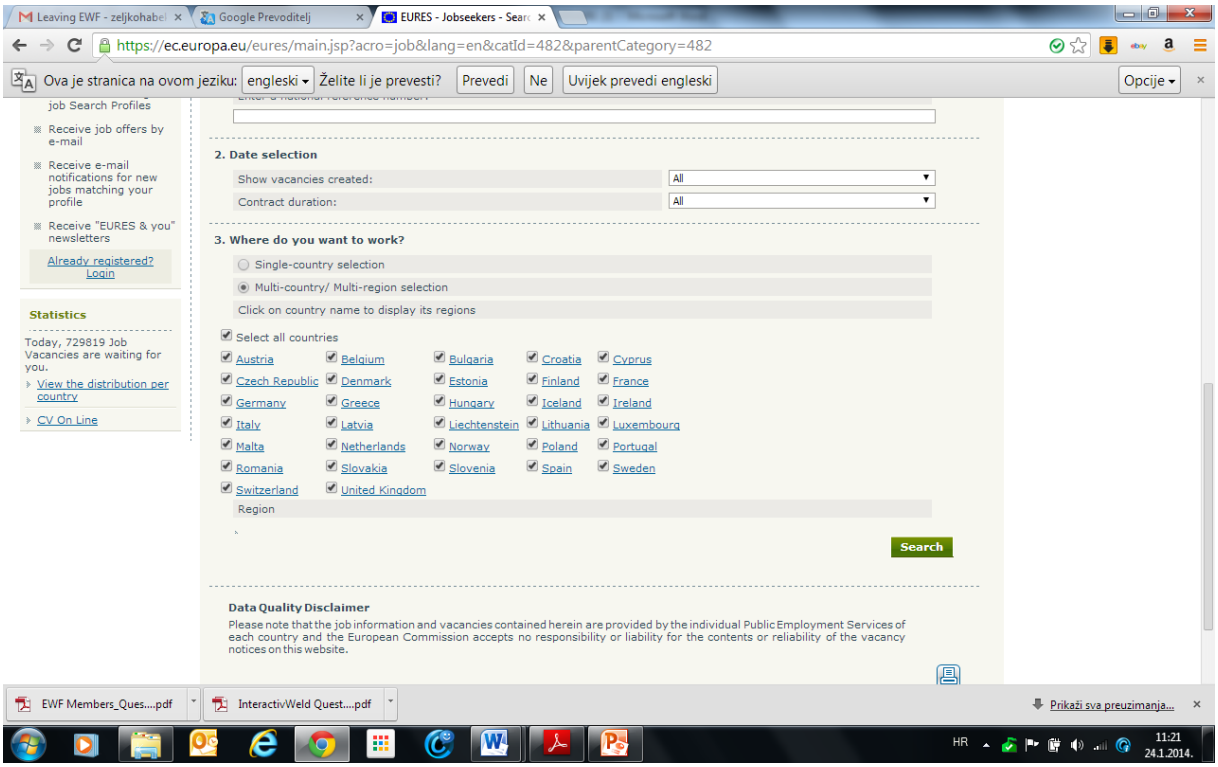
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Contract duration:
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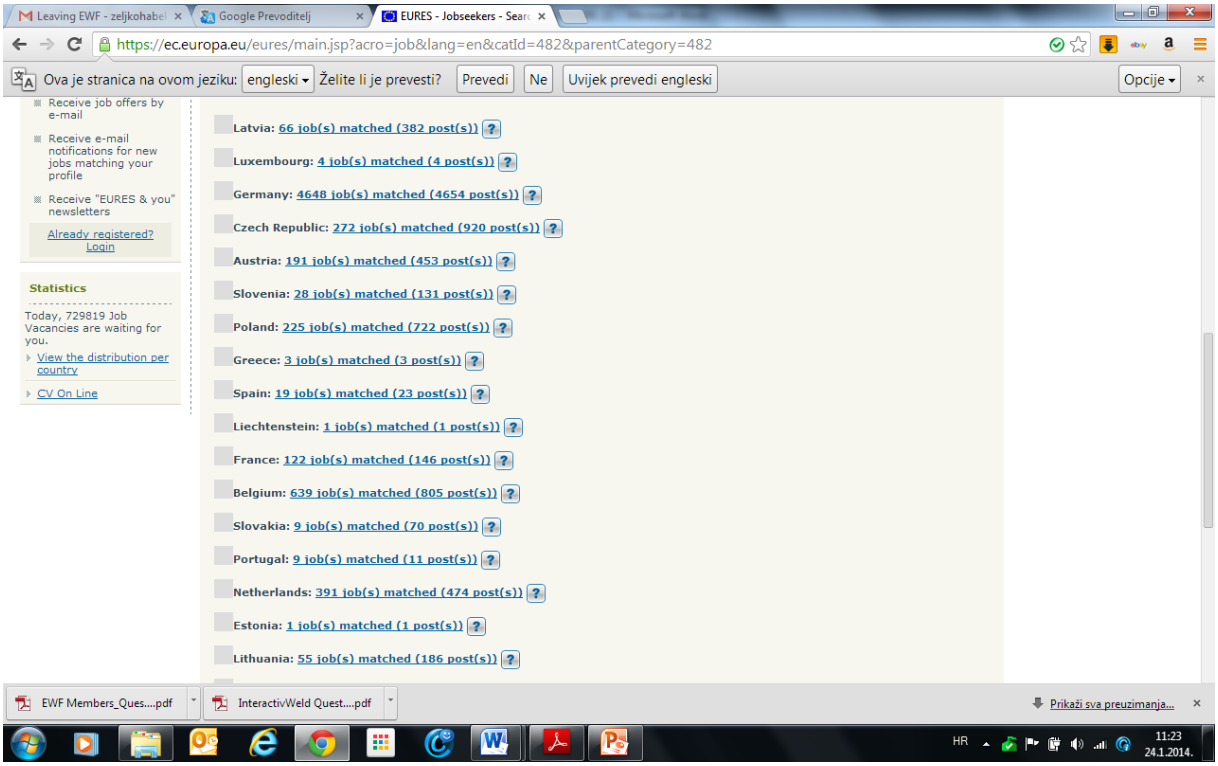
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Statistics
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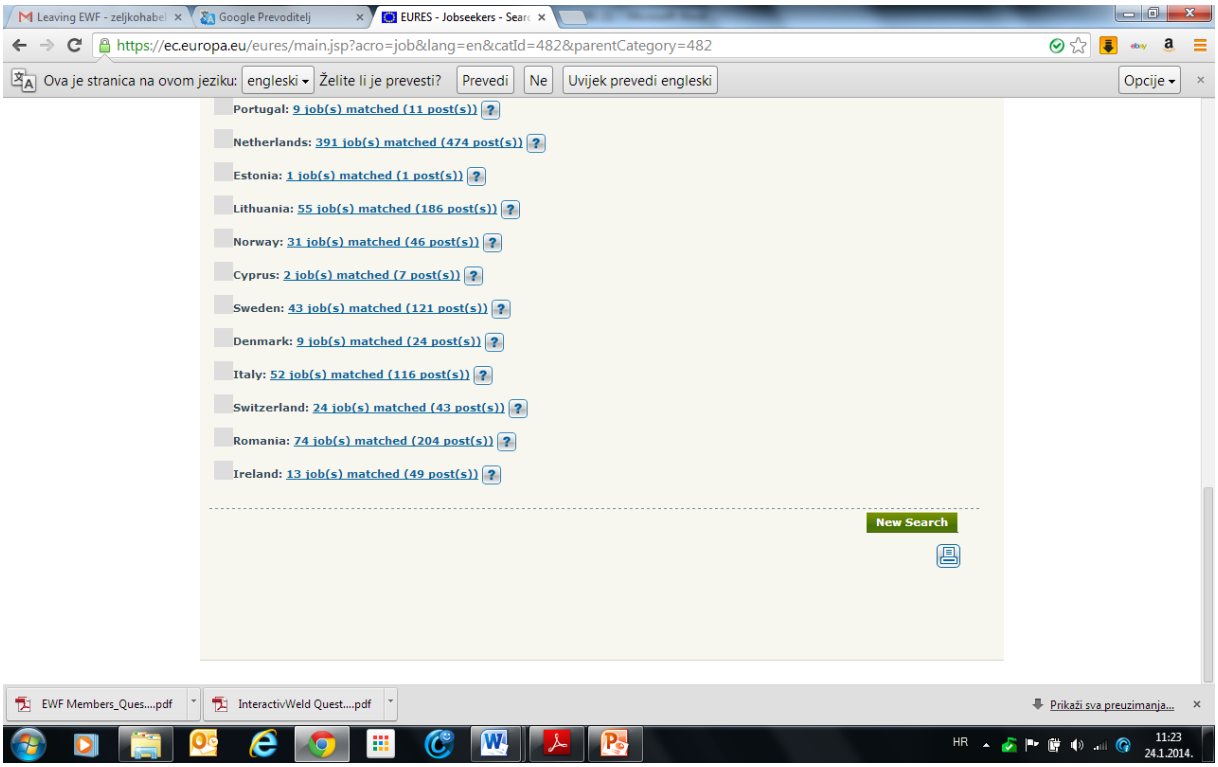
View the distribution per country
CV On Line
Latvia: 66 job(s) matched (382 post(s))
Luxembourg: 4 job(s) matched (4 post(s))
Germany: 4648 job(s) matched (4654 post(s))
Czech Republic: 272 job(s) matched (920 post(s))
Austria: 191 job(s) matched (453 post(s))
Slovenia: 28 job(s) matched (131 post(s))
Poland: 225 job(s) matched (722 post(s))
Greece: 3 job(s) matched (3 post(s))
Spain: 19 job(s) matched (23 post(s))
Liechtenstein: 1 job(s) matched (1 post(s))
France: 122 job(s) matched (146 post(s))
Belgium: 639 job(s) matched (805 post(s))
Slovakia: 9 job(s) matched (70 post(s))
Portugal: 9 job(s) matched (11 post(s))
Netherlands: 391 job(s) matched (474 post(s))
Estonia: 1 job(s) matched (1 post(s))
Lithuania: 55 job(s) matched (186 post(s))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Norway: 31 job(s) matched (46 post(s))
Cyprus: 2 job(s) matched (7 post(s))
Sweden: 43 job(s) matched (121 post(s))
Denmark: 9 job(s) matched (24 post(s))
Italy: 52 job(s) matched (116 post(s))
Switzerland: 24 job(s) matched (43 post(s))
Romania: 74 job(s) matched (204 post(s))
Ireland: 13 job(s) matched (49 post(s))
New Search

Conclusions:

1. Joining technologies will play a significant part in industrial production growth by the year 2020 (European Commission). Creation of a strong industrial foundation will follow the growth of hiring numbers and investments in the sector. The shortage of welders on the labour market is already evident. On the other hand, there are unemployed welders on the labour market - primarily because they lack competence.

2. Lack of welder competence is primarily connected to education that is not harmonised with good European practice and EWF recommendations, but also to the lack of continued welder education throughout their entire working life – the lack of lifelong education.

3. The classical way of teaching is still predominant in education and training, with certain exceptions. The emphasis is mostly on developing the skills, and not the capabilities.

4. Practically no significance is given to developing and maintaining psychophysical abilities of welders.

5. The analysis has demonstrated that it is necessary to make a turn towards lifelong education and application of modern approaches and technologies in education while developing welder capabilities and competences and maintaining the same. The S – K – S meets those requirements and could represent a quality platform for lifelong education of welders.

Bibliography:

1. “Study shows resilience of manufacturing and application of joining technology in Europe“, Lisbon, October 9th 2013,

2. Prof. Dr. Waike Moos, Natalya Leonenko und Julia Klöpper „Gesamtwirtschaftliche Wertschöpfung aus Fügetechniken in der EU und ausgewählten Ländern Europas“, Bochum, den 28. Februar 2013

3. "Improving Global Quality of Life through Optimum Use and Innovation of Welding and Joining Technologies" First Edition, Edited by Chris Smallbone and Mustafa Koçak, IIW, A World of Joining Experience. www.iiwelding.org - White Paper, 2012.

4. “Vision for Welding Industry“, American Welding Society, 2000 (strategy to 2020)

5. M. Szügyi, Ž. Habek: “Influence of Virtual Welding Simulator Usage on Education, Training and Testing of Welders“, Technical Conference Welding Trainer “The Future of Education“; Duisburg, September 2012.