

## Work Based Learning in Industrial Engineering

LLP/LdV/TOI/2013/IRL - 507

<http://www.adam-europe.eu/adam/project/view.htm?prj=11617>

## Project Information

Title: Work Based Learning in Industrial Engineering

Project Number: LLP/LdV/TOI/2013/IRL - 507

Year: 2013

Project Type: Transfer of Innovation

Status: granted

Country: IE-Ireland

Marketing Text: The Work Based Learning in Industrial Engineering project was an EU funded action designed to facilitate closer cooperation between VET and the world of work. The development of employees' skills and competences has become the key driver of economic growth in the developed world. It is widely recognised that it is mainly through enhancing people's skill and competences that future competitive advantage will emerge. Consequently companies need to be able to identify precise areas where they have, or can build, distinctive competences that will enable them to compete effectively. Nowadays, through the use of the European Qualification Framework (EQF), and other tools it is possible to accredit such skills and competences - even if they (the skills and competences) have been achieved through in-formal or non-formal learning. The partnership has developed a Work-based learning model focused on industrial engineering – WBL-IE model, which has been pilot tested in all the partner countries. As a result of the "piloting process" a six step approach to WBL has been produced and deployed by the partners.

Summary: This project was designed to foster closer cooperation between the worlds of VET providers and industry, and has focused on adapting previous projects titled "Continuing Engineering Education as Work Based Learning" - (CEE as WBL), and Industrial Engineering Standards in Europe (IESE) into an education model that will bring the learning process directly into the workplace. The model is called Work Based Learning in Industrial Engineering (WBL-IE) and its main objective is to create a sustainable framework for learning in a working environment. The project has adapted a pedagogy for Work Based Learning developed by Aalborg University into a sustainable model (WBL-IE model) which has been pilot tested in 5 SME's across the partnership countries. The model has been designed to provide "tailor made" VET courses specific to the needs of the individual organization, while also incorporating the processes and procedures specified by National and European frameworks of qualifications. The consortium believes this aspect of the project is very important because the "learner" must be recognised and where relevant accredited for the work based training he/she receives. The primary finding from the pilot and evaluation process was that the process actually works and is flexible enough to be adapted to most practical training programmes. The most difficult aspect of the WBL-IE process was identifying the Facilitator type needed and training organization staff in facilitation techniques and also in educational frameworks - it is necessary for the facilitator to be able to identify learning outcomes in the staff being trained on the job. It was identified, especially for the delivery steps of the process that both learner and internal facilitator need to have a basic understand of modern pedagogical methods and structures, such as learning outcomes, learning to learn etc. These aspects a very important when it comes to the accreditation and certification of learning that has taken place in the workplace. The majority of the partners elected to continue this collaboration and further develop the WBL-IE model into a commercial offering. A business network called EuroBEN has been set-up to maintain this collaboration and the Irish partner has already delivered a second WBL-IE programme in a similar organization as a commercial enterprise.

Description: The WBL-IE project had three objectives  
1) To adapt and test a pedagogical approach which will train SME personnel to facilitate WBL (Work Based Learning) on an ongoing and sustainable basis. This will allow the SME to facilitate its own tailor made work based education programmes on a day to day basis.

## Project Information

2) Adapt and test training manuals and processes that incorporate the existing "transparency tools" and guidelines as proscribed by the EQAVET and other quality assurance systems. This will ensure the quality of the training being delivered and provide the student / learner with a transparent accreditation which will assist in his mobility, both nationally and internationally. 3) Develop a systematic and sustainable approach to the provision of WBL with a process for evaluating the results against conventional delivery pedagogical delivery methods.

Objective one was achieved by adapting the Aalborg approach to a six step process that can be used as a guide when deploying Work Based Learning in SME's. The six step process is described in the WBL Operations Guide and is available in the Files section of this database. The adaptation and testing of the training manual was achieved by pilot testing the process steps described in the WBL Operations Guide in a number of SME,s in the partnership countries. The results of the pilot project were incorporated in to the WBL Operations Guide and the WBL Facilitator Training programme.

Objective 3 was achieved by structuring any training needs identified in the initial steps of the WBL-IE process into a training programme that is mapped to the EQF and has observable learning outcomes. This aspect of the process was particularly tested in the Irish pilot programme where facilitator and learners were trained and accredited in Basic Industrial Engineering skills.

The overall conclusion of the partners is that this WBL-IE model is usable and sustainable in a practical work environment and will be an effective tool in addressing the skills mismatch still prevalent in European industry.

Themes: \*\*\* Labor market  
 \*\*\* Lifelong learning  
 \*\*\* Equal opportunities  
 \*\*\* Continuous training  
 \*\* Recognition, transparency, certification

Sectors: \*\*\* Transportation and Storage  
 \*\*\* Manufacturing  
 \*\*\* Accommodation and Food Service Activities

Product Types: material for open learning  
 open and distance learning  
 distribution methods  
 teaching material  
 website

Product information: Results in WBL-IE Project

1. Project and Quality Manual
2. WBL Operations Guide
3. WBL Facilitator Training programme
4. EuroBEN network <http://www.euro-ben.org/content/about>

Projecthomepage: <http://www.euro-ben.org/content/about>

## Project Contractor

Name: Institute of Industrial Engineers  
City: Waterford  
Country/Region: South-East  
Country: IE-Ireland  
Organization Type: association/non-governmental organisation  
Homepage: <http://www.iie.ie>

### Contact Person

Name: Donal Nolan  
Address: 1 Boeing Avenue, Airport Business Park,  
City: Waterford  
Country: IE-Ireland  
Telephone: +353 87 1389233  
Fax:  
E-mail: [dnolan@iie.ie](mailto:dnolan@iie.ie)  
Homepage: <http://www.iie.ie>

## Coordinator

Name: Institute of Industrial Engineers  
City: Waterford  
Country/Region: South-East  
Country: IE-Ireland  
Organization Type: association/non-governmental organisation  
Homepage: <http://www.iie.ie>

## Contact Person

Name: Donal Nolan  
Address: 1 Boeing Avenue, Airport Business Park,  
City: Waterford  
Country: IE-Ireland  
Telephone: +353 87 1389233  
Fax:  
E-mail: [dnolan@iie.ie](mailto:dnolan@iie.ie)  
Homepage: <http://www.iie.ie>

## Partner

### Partner 1

Name: Royal Institute of Technology  
City: Stockholm  
Country/Region: Stockholm  
Country: SE-Sweden  
Organization Type: university/Fachhochschule/academy  
Homepage: <http://www.kth.se>

### Partner 2

Name: AEL Oy  
City: Helsinki  
Country/Region: Uusimaa (Suuralue)  
Country: FI-Finland  
Organization Type: continuing training institution  
Homepage: <http://www.ael.fi>

### Partner 3

Name: VOAA bv  
City: Veenendaal  
Country/Region: Utrecht  
Country: NL-Netherlands  
Organization Type: continuing training institution  
Homepage: <http://www.voaa.nl>

### Partner 4

Name: International Industrial Consult - IIC  
City: Frankfurt  
Country/Region: Hessen  
Country: DE-Germany  
Organization Type: continuing training institution  
Homepage: <http://www.advancedindustrialengineering.de>

## Partner

### Partner 5

Name: Aalborg Universitet  
City: Aalborg  
Country/Region: Nordjyllands Amt  
Country: DK-Denmark  
Organization Type: university/Fachhochschule/academy  
Homepage: <http://www.cpd.aau.dk/>

## Project Files

WBL-IE ProcessManual-FacilitatorTraining.doc

<http://www.adam-europe.eu/prj/11617/prj/WBL-IE%20ProcessManual-FacilitatorTraining.doc>

## Products

- 1 WBL Operations Guide

## Product 'WBL Operations Guide'

Title: WBL Operations Guide

Product Type: material for open learning

Marketing Text: In order to take advantage of the recent advances made in the area of Work Based Learning a group of likeminded stakeholders with expertise in the area of WBL have formed a working consortium. The consortium was set out to develop a “flexible” and “practical” model that will facilitate the implementation of “workplace” learning. This project was funded by the European Union. The model is designed to be very flexible while adhering to the quality guidelines set out in the EQF and other quality tools.  
The purpose of this document is to introduce the WBL-IE (Work Based Learning in Industrial Engineering) concept that is developed by the six partners in the WBL-IE project (consortium).

Description: This document describes the base structure of the WBL-IE concept and highlights those factors that shall be taken into account while preparing a work based learning in a tailor-made training program for the companies, especially in small and medium size companies.

Work based learning is a subset of workplace learning. It refers specially to the achievement of “planned learning outcomes” derived from the experience of performing a work role or function. Work-based learning is a part of a cluster of concepts including “lifelong learning”, “employability” and “flexibility”. One of the main differences between learning in the formal education system and learning at work is that the former is based on formal, intentionally planned education activities, while latter is mostly informal in nature. This model (WBL-IE) will be designed to create a framework around which the informal learning achieve structure and focus.

Target group: This programme will target all SME's with learning requirements.

Result: WBL Operations Guide

Area of application: The WBL-IE concept includes six main steps that form the base for the WBL-IE concept. Descriptions and definitions in this document help the reader to understand the connection between each step and the factors to be taken into account for being able to proceed to the next step. In the end of each chapter is described a quality gate that highlights the minimum that is needed to be able to continue.  
Target is to give a clear understanding about the difference between the WBL-IE concept and the WBL-IE execution process (implementation). WBL-IE concept is flexible and allows different kind of execution process due to factors that differ between customers for the reasons described in this document. Examples of WBL-IE pilots during the WBL-IE project help to understand why WBL-IE concepts implementations processes can be different. Yet in each of the WBL-IE project execution of the WBL-IE concept has been proceeding through these six steps. Examples can be found from the “WBL-IE Pilot feedback document”

WBL-IE concept in six steps

1. Introduction and target setting
2. Organization Training Needs Analysis (OTNA)
3. Training Needs Analysis for Learner (LTNA)
4. Training and project plan creation
5. Implementation
6. Overall evaluation of the implementation of WBL-IE process

Homepage: <http://www.euro-ben.org/content/about>

Product Languages: English

## Events

### Business EXPO

Date 10.09.2015

Description The Business Entrepreneurship and Excellence Hub.

All members showcasing in this area are at the fore in providing and supporting businesses in Entrepreneurship, Innovation, Research and the journey of achieving Excellence. The concept of the Hub is to showcase the extraordinary talent and innovation that is happening in Ireland right now and to emphasis your importance in achieving this.

Target audience The target audience are businesses and individuals in the SE Region. How the WBL-IE concept could be applied to their business to improve competitiveness and develop an excellence approach to internal training process.

Public Event is open to the public

Contact Information Donal Nolan  
dnolan@iie.ie  
Mobile: +353871389233

Time and place Bolands BMW Showrooms  
DATE: Thursday, 10th September  
TIME: 4:00 – 7:00 pm  
VENUE:Cork Road, Waterford