NEWSLETTER 3 2007

THE EUEXCERT PROJECT

EU Excert
Certifying Expertise in European Explosives Sector
Education and Culture
Leonardo da Vinci

Report from the EUExcert Conference held at the Defence Academy, Shrivenham UK June 13-15 2007

MoD will continue to Support Training and Education in the Explosives Sector

- There is an ongoing loss of expertise across the UK munitions community and the staff profile shows an average age which is increasingly close to retirement. Both formal and informal training routes have declined, and the shrinking munitions community no longer provides the opportunities for knowledge acquisition and career development.

Rob Parry, Ministry of Defence pointed out some risks in the explosives sector but believed the work within the EUExcert Project provided as an opportunity to improve the situation:

Rob Parry, MoD.

- A current initiative between MoD Defence Ordnance Safety Group (DOSG), Cranfield University and the SEMTA Skills Sector Council on "Training and Education in the Explosives Sector" will continue to receive MoD support.

The EU, through a Leonardo da Vinci programme, is seeking to follow the UK example by developing European standards and qualifications.

Worrying Facts from the East

- The storage and production infrastructures in Eastern Europe are inadequate and there is no real investment in explosives education and training.

Adrian Wilkinson.

Adrian Wilkinson, SEESAC, gave some worrying facts about the situation, but said that efforts were being made to improve the situation. He mentioned the distance e-learning pilot project within the EUExcert project that has been developed at Cranfield University as a good example. It covers Bosnia, Croatia, Montenegro and Serbia, and at this moment the first students are testing the module built

An example from the distance learning course.

Requirements for the explosives sector were presented

The symposium examined the development of a range of explosive competencies and qualifications in research, design and development, safety management, test and evaluation, manufacture, maintenance, procurement, storage, transport, and disposal.

Current and future requirements were presented together with flexible training approaches to meet these needs. In addition, the setting up of a Foundation was discussed with a view to awarding a European Explosives Certificate.

Challenges to Face

-Professor Ian Wallace set the scene of the conference and said – we are facing many challenges within explosives safety, business, legacy and security and we have to deal with these challenges.

- In the Leonardo da Vinci EUExcert Project we will use the Occupational Standards to define qualifications for workers in Europe and improve education and training.

Professor Ian G Wallace.

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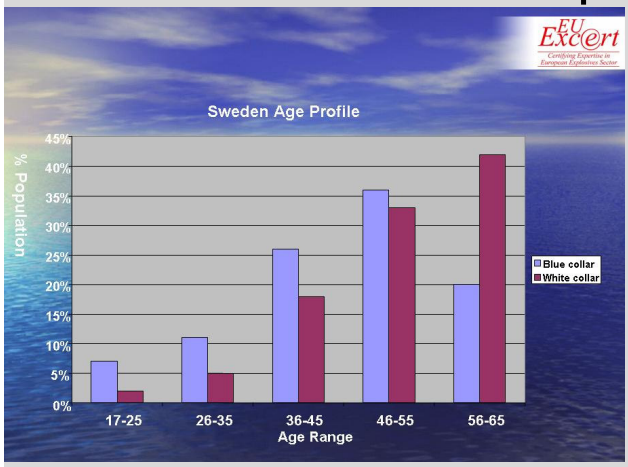
Education a common issue

How is training and education in the explosives sector executed in Europe? Examples were given from Germany, France, Sweden, Portugal, UK, the Czech Republic, Norway, and Finland.

The aim was to inspire and hopefully find transnational solutions.

Participants at the conference.

Presentation of the EUExcert project



The age profile in Sweden. The loss of experience is expected to cause huge problems in the explosives sector.

Erik Nilsson, Chairman of the EUExcert project, presented facts about the aging personnel in the explosives sector.

Erik Nilsson

- The loss of experienced personnel will lead to more accidents and we know that currently 95% of accidents have happened before.

Some of the aims of the EUExcert projects are:

- Develop transnational education material
- Validate the UK competencies for workers
- Form a network
- Set up a regulatory body
- Produce a basic glossary for the sector.

Work place based Training in Sweden

A representative from the industry and an educator presented a Swedish Work placed based Qualified Vocational Training and Education.

Bengt Svensson, Bofors Test Centre in Sweden.

Bengt Svensson, from the explosives industry, and Gisela Spak, an educator, talked about a Swedish Workplace based Qualified Vocational Training and Education course. They gave facts about the number of students who have been trained and the number who have been employed. In this collaboration the industry, KCEM, the Steering commitee and the learning centre have been the motor. The fuel is the combination of the facilitator, the coordinator and the learning at the workplace.

Examples from the German Educational System

Jörg Rennert from Dresdner Sprengschule GMBH gave examples from the system of education and training for commercial blasting and handling of pyrotechnics for outdoor and indoor use in Germany.

Jörg Rennert

The system of step-by-step and task-related training provides high-quality training considering the economic interests of explosives companies and companies in the pyrotechnics field.

Proposals for Higher Education and Training of European explosive specialists

A decreasing but very important Swedish and European industrial sector needs a new system of university education said Professor Dan Loyd from the university of Linkoping, Sweden.

Dan Loyd

He suggested a combination of university courses within the Bologna system, external courses for explosives specialists and industrial co-operation. The system solution being based on the EQF, the Education Qualification Framework.

Professor Loyd said – European transnational cooperation is necessary to provide Higher Education and Training in the explosives industry.

”Accidents a Consequence of our Ethical Values”

Jorma Karhulahti

- When safety is seen as a technical issue, it can be defined using the concepts of preventive measures, probability and consequences. Because accidents do occur, however, the concept of safety must also be considered against the background of man as the operator - not part of a process.

Jorma Karhulahti, a Finnish safety consultant, talked about experiences from accidents.

- When the review focuses on the causes of accidents, it can be determined in all cases that man and his set of ethical values are in contradiction with safety philosophy, according to the Finnish speaker.

- Therefore the concept of safety should be supplemented by a fourth function of ethical values, which has an impact on overall safety. The safety function reads:

f (safety) = f(probability) x f(preventive measures) x f(consequences) x f(ethical values

Reports from France and the Czech Republic

Milos Ferjencik

Milos Ferjencik Institute of Energetic Materials at the University of Pardubice, Czech Republic gave a summary of the legislation and the education in the explosives sector.

Nicole Forichon-Chaumet from Nexter Munitions shared some French experiences of how to transfer knowledge and competence in the explosives industry.

Nicole Forichon-Chaumet

A combination of theoretical study and practical handling are taught by professional people at the workplace.

Cooperation in Norway

Sigmund Sofienlund

A competence development between the Norwegian Armed Forces and Nammo Raufoss AS was introduced at the conference by Sigmund Sofienlund. Common courses and training events have been established to save both personnel and financial resources.

Portuguese experience

José Góis

José Góis Laboratory of Energetics and Detonics Mechanical Engineering Department, Faculty of Sciences and Technology of University of Coimbra presented the educational system and training courses in the Portuguese explosives sector.

He mentioned some critical points:

- Small size of fireworks companies
- Explosive industry depends of the Minister of Internal Affaires
- Operators have limited knowledge and competences
- Training and examination is not mandatory for most people in the sector.

A positive point is that young people are able to use computers and the facilities for training are good.

Module built course in Finland

Irmeli Tuukkanen

Dr Irmeli Tuukkanen from the Finnish Defence Forces Material Command Headquarters described an explosives training course that has been developed by the command headquarters.

This module built education consist of three separate two-day modules that are organized every six months.

- Could this comprehensive framework be of interest in the UK, was a question from the audience.

European effort for harmonization

The European Federation of Explosives, EFEE, works for harmonizing training programmes in Europe. But the members of the federation also discuss harmonization of laws and regulations instead of waiting for suggestions from the EU.

Aslak Ravlo

Aslak Ravlo, Norway talked about the Shotfirer Certificate introduced by EFEE. He also stated that the members speak a lot of languages. Understanding, however, is a minor problem

Focus on European Education and Training at Symposium

*"Not only is there a shortage of competent people,
but there are no standards to which to measure these competencies."*

This statement was the base for the second symposium arranged by EUExcert at Cranfield University, UK in June 2007.

Although the explosives sector is highly regulated due to the hazardous nature of the materials, the competencies of the workers in the explosives sector are not regulated in detail. It is a fact that no measurable qualification which is linked to competencies exists in Europe for workers in the explosives sector. The only training given to explosives workers is in-house training which is not transferable between companies and countries; this training has no status or recognition.

The Way Forward after NVQs

The title of Denise Clarke's presentation was: UK Explosives competence: the way forward. Working with the UK explosives industry, she has developed the UK explosives competences and defined the National Vocational Qualifications NVQs.
Through a new company, Explosives & Search Competence, she is now supporting employers and training centres in introducing the standards and qualifications.
She can be contacted at www.deniseclarke.co.uk or via the Standards Setting Body for Explosives, Munitions and Search Occupations (see the Links page) at www.ssbforemso.org.uk.

Denise Clarke

Challenging Merger

Jim Fleming of the Roxel Group described the experiences encountered during a merger of two companies one in the UK and the other one in France.

Jim Fleming

Staff exchanges, joint reviews (design, programmes etc.), intranet and workshops have been particularly challenging areas.

Competence Requirements for Staff in the Test and Evaluation Environment

"It is not our place to do a dangerous job, but to do a safe job with dangerous materials" said Peter Honey from QinetiQ about Explosives Safety Competence in the Test and Evaluation Environment.

Peter Honey had a straight language when explaining the company's work: We do all the things that other people are told not to do; for instance we put explosives in fires to test how long you could fight the fire before it explodes.

Peter described how the staff are trained to carryout test and evaluation and the competence requirements necessary for the staff involved.

- If you do not know what you don't know, how can you be competent?

Peter Honey

A Learning Perspective to the Conference

The conference had many speakers. Nicky Solomon from City University, UK and Hanne Randle from the University of Karlstad, Sweden added perspectives on learning. Pete Bayley from the British Computer Society gave the background to the Leonardo da Vinci project that enabled the European Computer Driving License ECDL.

Nicky Solomon and Hanne Randle

The flexible learning material, earlier mentioned by Adrian Wilkinson, was described by Dr Bernard Scott and Katie Janota, both representing Cranfield University.

Delegates from all over Europe attended the conference, arranged by the EUExcert project.