EUExNet

NEWSLETTER 2
April 2010

European Explosives Network
for Explosive education and Certification of skills

EU Excert
Certifying Expertise in European Explosives Sector

Education and Culture DG
Lifelong Learning Programme

EUExNet meeting in Karlskoga, Sweden 17-19th of March 2010

EUExNet partners gathered in the home town of Alfred Nobel

The first EUExNet Project Meeting took place in Karlskoga, Sweden.

Karlskoga is considered to be the home town of Alfred Nobel because of a small, but crucial fact: It was here, at his mansion Björkborn, Nobel once held his horses and hence Sweden was regarded as his home country and the Swedish Nobel Price later could be established.

The meeting was arranged by KCEM who has been contracted to lead the EUExNet project with its partners from Czech Republic, Estonia, Finland, Germany, Italy, Latvia, Lithuania, Norway, Portugal, United Kingdom and Sweden.

The chairman of the local authority, Anna Drevenstam, opened the seminar with a welcome speach including some history facts regarding the con-

From behind, left: Roswitha Melzer, Ingo Valgma, Hanne Randle, Alfred Nobel (actor Peter Sund), Sigmund Sofienlund, Hans Grönlund, Ken Cross, José Gois, Ingrid Wieselgren, Jörg Rennert, Milos Ferjencik, Mara Battocchio, Olga Mutere and Hans Wallin

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Next EUExNet Conference
30th Sept - 1st Oct 2010
Lonato, Italy

All presentations from the Seminar are available at www.euexcert.org

Links:
http://euexnet.blogspot.com
www.euexcert.org
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nection between Alfred Nobel and Karlskoga as well as the city itself and its future plans.

Karlskoga are planning to set up a Business and Science Arena where one of the key areas will be energetic materials.

International Programme Office

Second on the agenda was The Swedish International Programme Office, represented by Hans Grönlund.

Grönlund talked about the European co-operation in education and training and its future strategic framework and VET (Vocational Education and Training).

To further strengthen the European dimension lifelong learning and mobility were mentioned as high priorities for the next coming years.

A benchmark is to have at least 15 % adults participating in life-long learning by the end of 2020.

The EUExNet and EUExcert a European Project

The ambition in the EuExNet project is to introduce a systematic approach to;

1. Lift the status of workers in the Explosives sector.

2. Attract younger people to work in the sector.

3. Respond to the effects of demographic changes in the ageing workforce.

4. Introduce trajectories for career paths for workers.

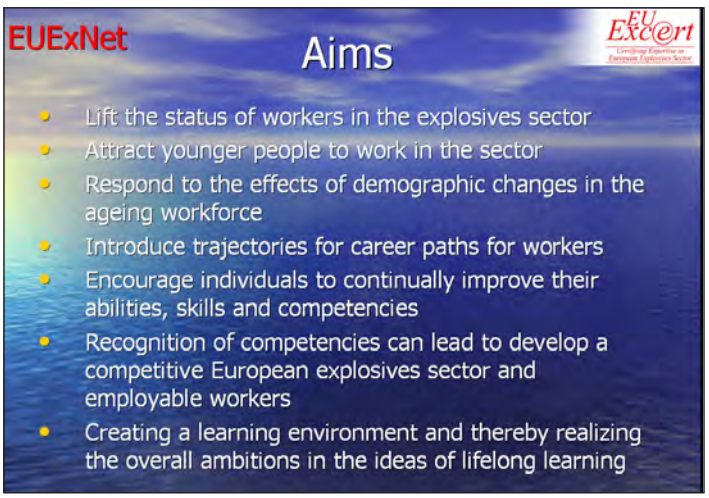
5. Encourage individuals to continually improve their abilities, skills and competencies.

6. Recognition of competencies that can lead to develop a competitive European explosives sector and employable workers.

7. Creating a learning environment and thereby realizing the overall ambitions in the ideas of lifelong learning.

8. Forming a European Network for Explosive Education and Training of explosives specialists.

9. Strengthen transnational cooperation in order to maintain and strengthen a safe and competitive European Explosives Sector.



EUExNet Partners and presentations

EUExNet has today 10 members from different European countries. At today seminar the following representatives participated:

- Prof. José Gois, University of Coimbra, Portugal and vice president of the EFEE
- Ken Cross, Institute and Explosives Engineers, UK
- Dr Olga Mutere, University of Latvia, Latvia
- Dr Hanne Randle, Karlstad Universitet, Sweden
- Sigmund Sofienlund, Nammo Raufoss A/S, Norway
- Dr Milos Ferjencik, University of Pardubice, Czech Republic
- Dr Jörg Rennert, Dresdner Sprengschule, Germany
- Mara Battocchio, Nitrex, Italy
- Prof. Ingo Valgma, Tallinn University of Technology, Tallinn
- Hans Wallin, KCEM, Sweden

EFEE and Competence improvement

The overall objective for The EFEE (European Federation of Explosive Engineers) is to promote standardisation and harmonisation of the shotfire training in Europe.

A standardisation would help to increase the mobility of workers between the today 24 nations that has membership in the federation.

– Before you applied for a job in the same city. Later on you were looking for job within your country. Today the market is international and learning languages has become crucial, according to José Gois, vice president of EFEE.

EFEE has scrutinised the education of shotfires in the majority of the member countries and has concluded that these countries have an acceptable level considered ”EFEE basic standard education”

EFEE may also issue an EFEE standard European Shotfire Certificate which then is valid in combination with a valid National certificate.
However, although the basic standard education for shotfires is accepted by nation membership of EFEE the recognition and validation of competences by national authorities of the different European countries are not certain.

When it comes to the EU Action plan on enhancing the security of all explosives Gois can see that the increased control also can be a barrier to promote mobility of shotfires.

The International need of explosive competence

Who needs risk assessments - they are a waste of time!
According to Ken Cross, UK, this may have been a part of an attitude back in ”the bad old day” when competence was something you would only achieve by ”on the job training” and risk management was entirely the domain of the site owner.

A couple of serious accidents in combination with increasing terror activity have changed that attitude as well as the legal framework in Europe and UK.

Today the UK Explosive/Munitions business has similar problems to many other European countries with low recruitment and age distribution peaking at 56-65.

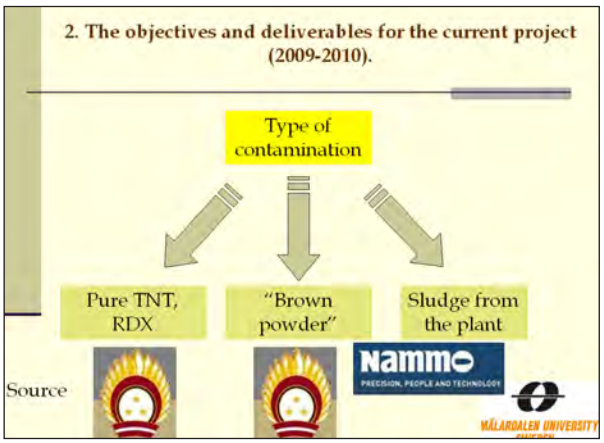
– We see a serious decline in breadth and depth of expertise and competence within the explosive sector, Ken Cross is warning. And it’s a global problem!

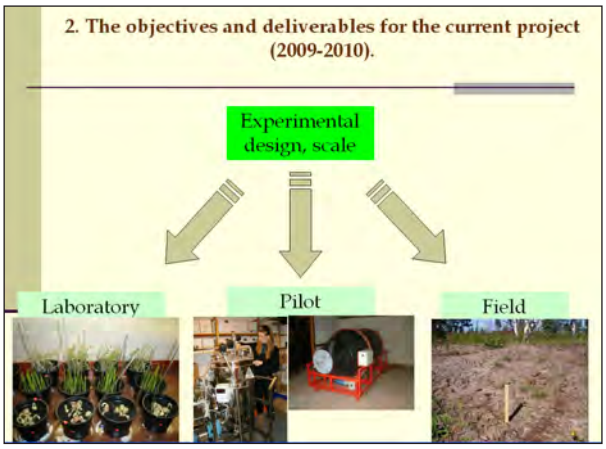
Remediation of soil contaminated with explosives

At the University of Latvia they focus on remediation of contaminated soil using different methods, as described more in detail in EUExNet Newsletter 1.

The multidisciplinary approach in this work is achieved with participation of:

- Ministry of Defence
- National Armed Forces of the Republic of Latvia
- Institute of Microbiology & Biotechnology, University of Latvia
- Institute of Solid State Physics, Latvia
- Latvia University of Agriculture
- National Diagnostics Centre, Latvia
- University of Tartu, Estonia
- Mälardalen University, Sweden



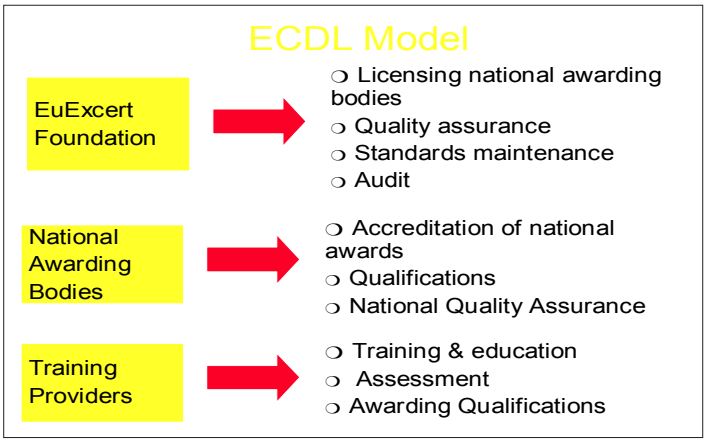


Life long learning for the Explosives sector

Hanne Randle from Karlstad University talked about the importance of lifelong learning.
Lifelong learning can be defined as:
All learning activity undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social and/or employment-related perspective.

As mentioned earlier by the International Programme Office lifelong learning has a high priority in EU. In a global economy with rapid changes in both technology and markets the mobility of skilled workers also becomes increasingly important. The skills and competencies need to be well documented and transparent.

The EUExNet network aims to set up a European foundation, which will be the European body responsible for licensing national awarding bodies, quality assurance, standard maintenance. By using national awarding bodies and training providers the European framework for competencies in the explosive sector can be used within the frameworks of EQF.



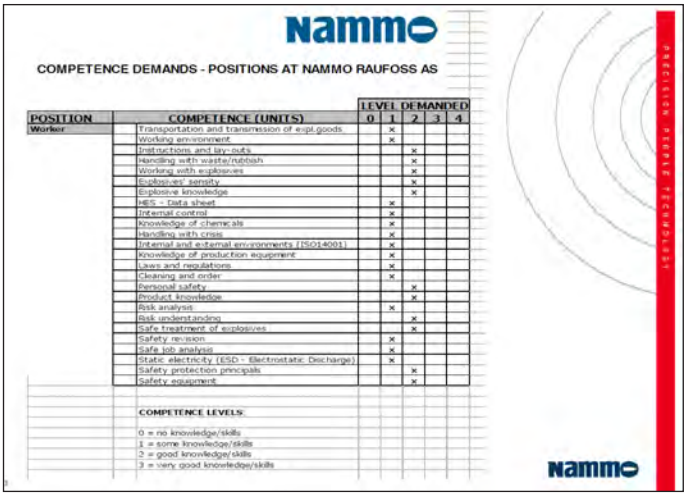
Explosives Education within the Nammo group

In Norway there is no national demand for special licenses for employees in explosive production, Sigmund Sofienlund from Nammo Raufoss could report.
– It is the company that has the total responsibility to secure that the employees have satisfactory competence and knowledge.

The regulations differ between the different Nammo companies, but there are common HESS work and policy in the cooperation.

In Nammo Raufoss they have a computer based system for mapping and follow-up the need of training and education.

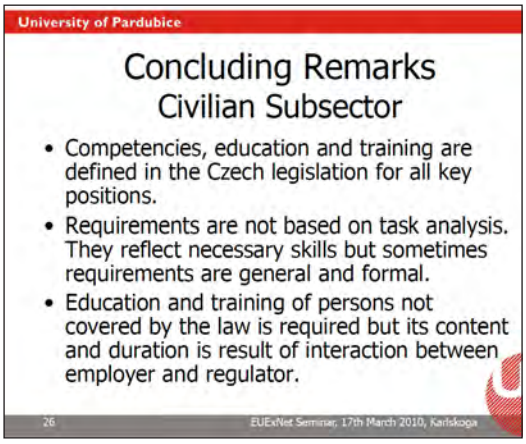
Parts of the training are incompany based. Other courses are in cooperation with the Norwegian Defence, the Norwegian Fire Protection Association or the Norwegian Association of Heavy Equipment Contractors, depending on the area.

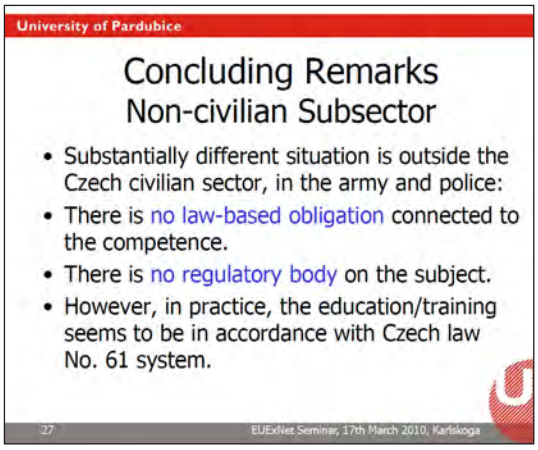


Explosives Education in Czech Republic

In the Czech Republic the explosive sector is clearly divided between the civilian subsector and the non-civilian, where the civilian is more transparent, according to Milos Ferjencik.
The Czech legal system is very similar to the Slovak one, whereas the law and decrees regulating the explosive sector are similar to the German ones.
The most important law No. 61/1988 on Mining Activities, Explosives and the State Mining Administration defines the level of education, training and certification necessary for work in the majority of the Czech civilian explosive sector.
The law constitutes the Czech Mining Authority as the regulatory body over the production and civilian application of explosives.
Related decrees describe detail specification of required competencies, education and training for persons handling explosives in blasting operations and in the neutralizing and destruction of explosives and for employees in the manufacture and processing of explosives.

The non-civilian legislation is divided in a law for the Armed Forces and the Police.





Explosives Education in Germany

In Germany conducting blasting operations in the commercial sector and the application of pyrotechnics for indoor and outdoor fireworks and Explosive ordnance disposal (EOD) are governed by the German law on explosive materials.

Each company needs a license. This is a state license which is issued for the respective company and, valid throughout Germany.
The company's employees who are in charge for the operations also need a personal qualification certificate (valid for 5 years). The permission contains detailed information regarding the authorization for conducting such operations.
Conditions that must be fulfilled to get this license:
- proof of reliability
- personal qualifications
- minimum age 21 years
- technical qualifications

The specialised knowledge is not part of a vocational training and therefore needs to be taught in separate trainings.
This training includes technical qualification courses for each field (explosives technology, pyrotechnics and EOD) in which the necessary knowledge and the required skills are taught.
These courses are divided into basic knowledge courses and accompanying advanced knowledge courses and repeating (refresher) courses.
The main topics which need to be covered by the courses are listed in a statutory curriculum. Moreover, the institution offering the course/training company can impart additional knowledge/know-how.

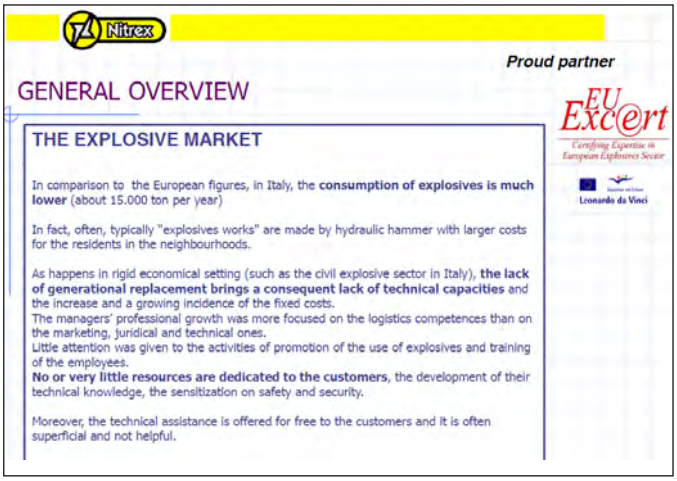
The training contains a curriculum as well as a minimum amount of hours a trainee needs to attend. This amount can be expanded by the training institution but must not fall below a certain amount.
All basic and advanced knowledge courses finish with a written and oral as well as, in many cases, a practical test.
This is held by the training institution in cooperation with the state authority.
These trainings are mainly done by private institutions.

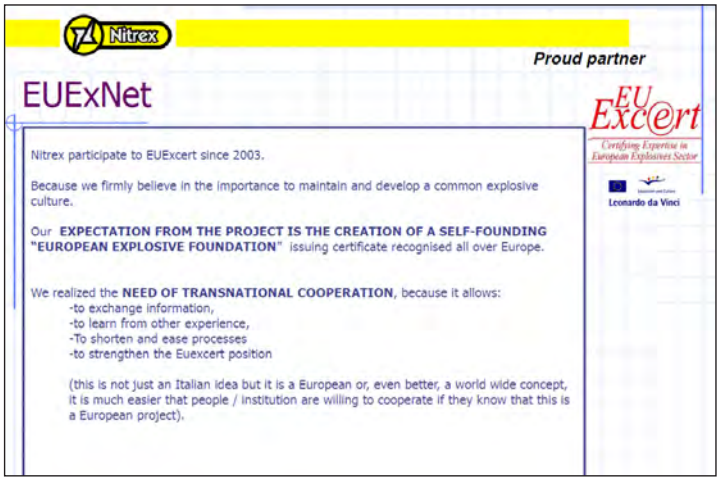
Explosives Education in Italy

Italy was represented by Mara Battocchio from Nitrex.

In Italy, for the last two centuries education and training in activities with explosives had been carried out in the form of apprenticeship. Only in the mining and pyrotechnic fields, a "license" is required by law which testifies a person's technical ability and capacity to handle explosives.
The requirements concern only a basic and general knowledge and does not check any practical applications.
The validity of this license can vary from province to province since the educational program never has been defined. Moreover, the examinators have no specific qualifications themselves and often no experiences at all.

EUExNet could be the important key for the Italian institutions to renew and harmonize the explosive sector and legislation, necessary to guarantee a god level of knowledge and to increase safety.





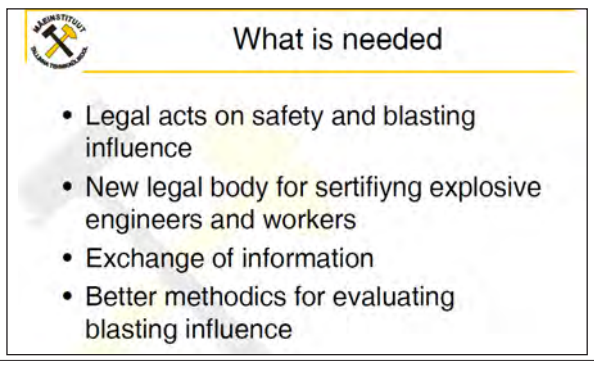
Explosives Education in Estonia

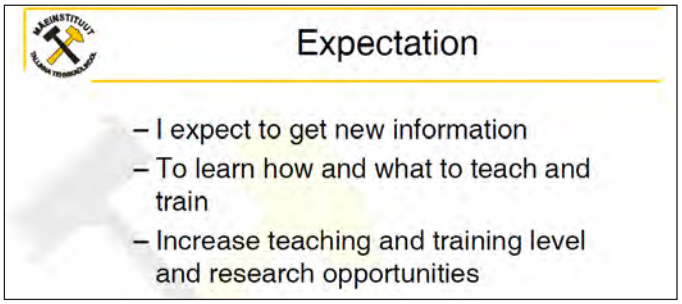
Estonia, the latest member country in EUExNet, was represented by Ingo Valgma ,Tallinn University.

Explosives are mainly used in 4 different areas in Estonia:
- Oil Shale mining
- Limestone
- Constructions
- Military

There are three main actors in the explosive sector in Estonia:
- Department of Mining (University)
- Estonia Mining Society
- Estonia Assoc. of Mining Industries

Beside mining research and development the Department of Mining is also responsible for the two excisting educations for explosives:
- Mining engineers
- Vocational Education





Explosives Education in Portugal

In Portugal you can study the following regular courses related to explosives at:

High schools
- Graduate/Master in Mining
- Geosciences and Environment (specialist or master course)
- Short courses

Military schools
- Master in Military engineering
- Navy school

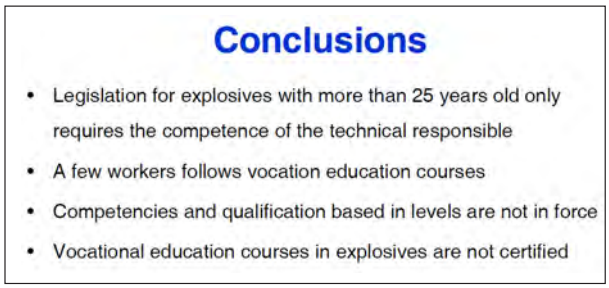
Police school
- Police Specoal Forces

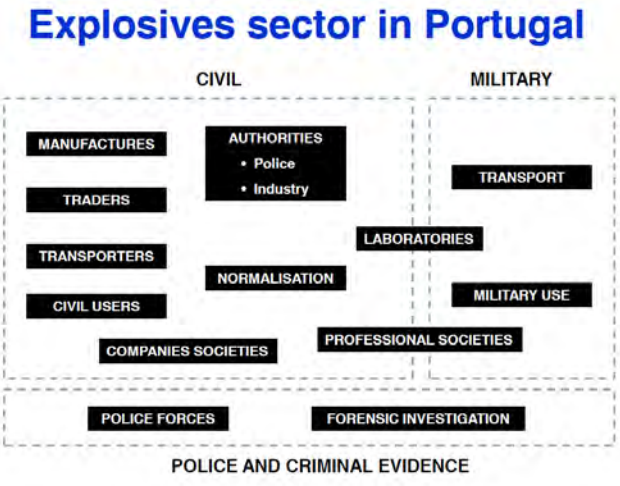
In addition to the above regular courses there are a few non-regular courses within the fields of transportation of dangerous goods, rock blasting and pyrotechnics.

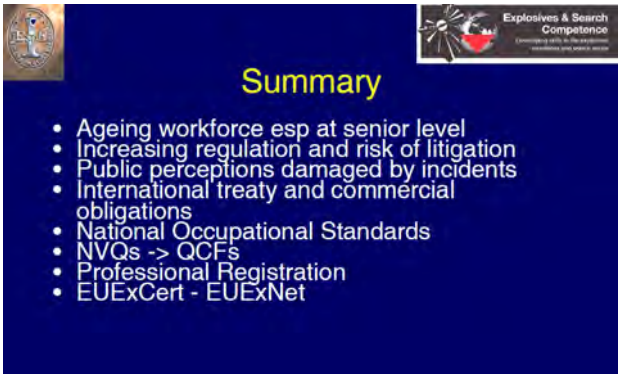
Explosives Education in UK

As stated in his earlier presentation, Ken Cross sees major problems in the explosive sector related to both an ageing working force and low new recruitment.
The National Occupational Standards provide a basis for training providers to set course programmes and assessment of competency.
The UK has few degree-level explosives-related qualifications and the National Vocational Qualifications system is being overhauled and replaced by Qualification Credit Framework (QCF) because the existing (old) system was too complex, there was a lack of understanding of current qualifications, learning needed in bite sizes and a more inclusive framework was needed, with more flexibility needed. The lack of academic qualification means that vocational qualification is the best way for explosives workers to be able to demonstrate their competence.

Many CGI and industry- or employer-specific courses are accredited but are not mapped against the NOS. 31 NVQs were mapped against the NOS but only 8 offered, mainly due to the small population of potential candidates. 6-8 QCFs have been mapped & offered. There is much work to be done to develop those areas that can be taken forward.







A recent development in UK is the opportunity for suitably qualified and experienced people to be professionally registered with the Engineering Council. EUExcert and EUExNet is a natural path for the development of vocational qualification and the resulting mobility of explosives workers within Europe and beyond.

Final remarks by Hans Wallin, KCEM

Explosives accidents have claimed the lives of thousands of people around the world since the turn of the Millennium. Added to the loss of life has been the significant loss of defence capability and civil infrastructure. Many of the accidents have been caused not by failure of design, but by human failure.

Much of the human failure can be attributed to the lack of competencies, skills and adequate training of the people concerned.

However the use of explosives started with the Black Powder era which lasted 1,500 years and left very small environmental problems since the ingredients – charcoal, nitrates and sulphur – easily lost their explosive properties when exposed to water.

About 150 years ago high explosives (HE) were introduced, starting with nitroglycerine, picric acid and TNT (TriNitroToluene). The two latter explosives were very stable in storage, had low sensitivity and quickly became very popular for military purposes. They are equally stable in ambient conditions.

Today explosives are fundamental tools for building our modern society. They are used for blasting in construction, mining and oil exploitation, airbags in cars, in medicine, in fuels and devices for space rockets and satellites, for pyrotechnics such as emergency rockets/signals, and for defence materiel.

Handling of explosives is definitely a task for well educated and trained professionals, not for amateurs.

EUExNet and EUExcert aims for a Safe and Competitive European Explosives Sector where lifelong

learning and transition of skills between generations are some fundamentals in the search for excellence.

EU Excert

Certifying Expertise in European Explosives Sector

Is Alfred Nobel alive?

After termination of the seminar, all participants were fetched by a bus taking them to the mansion of Alfred Nobel, Björkborn, in Karlskoga.

Alfred Nobel was born in Stockholm 1833. He died in San Remo in December 1896...but, wait a minute. Who is sitting in that chair over there in the living room at Björkborn? It looks very much like Nobel himself. Of course, it is not for real, it's a doll.

But suddenly he is moving and talking and he knows everything about Alfred, himself, as he claims!

We know Alfred Nobel invented dynamite, but did he also invent a time machine, or some compound for eternal life? When we ask, he smiles, and in the light of a photoflash the makeup is cracking. Almost relieving!