

**Explosives & Search
Competence**

Developing skills in the explosives
munitions and search sector

THE INTERNATIONAL NEED FOR EXPLOSIVE COMPETENCE

Ken Cross

BSc(hons), MSc, FIEpE
VP IExpE



**Explosives & Search
Competence**

Developing skills in the explosives
munitions and search sector

AIM

To explain how the UK and
Europe came to the current
state of explosives education
and training



**Explosives & Search
Competence**

Developing skills in the explosives
munitions and search sector

The Bad Old Days

Who needs risk assessments – they are
a waste of time

Isn't it 'macho' to work with explosives!
(statement not a question)

'On the job' training (and assessment) is
all you need.



**Explosives & Search
Competence**

Developing skills in the explosives
munitions and search sector

Risk - Explosives

- Risk = Likelihood x Consequence
- To assess the Risks we need to consider
 - Are explosive incidents likely?
 - What are their consequences?



**Explosives & Search
Competence**

Developing skills in the explosives
munitions and search sector

Enschede 2000

- Fireworks factory
- 22 dead
- 400 homes destroyed



Cranfield
UNIVERSITY *



Explosives & Search Competence

Developing skills in the explosives munitions and search sector



Camp Falcon – Iraq- Oct 2006



**Explosives & Search
Competence**

Developing skills in the explosives
munitions and search sector

Risk - Explosives

- Consequences
 - Often very high
 - Strategic & Operational
 - Human
 - Loss of confidence in user or customer
 - Political
 - Financial
 - Environmental



**Explosives & Search
Competence**

Developing skills in the explosives
munitions and search sector

Explosives Business - Technical Challenges

- Improved Products & Services
- Lower Vulnerability
- Long Life
- Low Cost
- Low Environmental Impact
- Competent Staff



REDUCING RISK



- Legislation
 - Comprehensive framework
 - Requires Competent People
- Standards
 - Design
 - Test & evaluation
 - Buildings & facilities
 - People ?



**Explosives & Search
Competence**

Developing skills in the explosives
munitions and search sector

LEGAL FRAMEWORK

Management of Health & Safety at Work Regulations (1999):

Requires all employers and self-employed persons to assess the risks to workers and any others who may be affected by their undertaking.



**Explosives & Search
Competence**

Developing skills in the explosives
munitions and search sector

Explosives Security



**Explosives & Search
Competence**
Developing skills in the explosives
munitions and search sector

London 2005



Cranfield
UNIVERSITY *



Explosives & Search Competence
Developing skills in the explosives munitions and search sector

The logo features a stylized globe with a red triangle at the bottom, surrounded by a starburst pattern of lines.

Madrid 2004





**Explosives & Search
Competence**

Developing skills in the explosives
munitions and search sector

Germany 2007

Last Updated: Wednesday, 5 September 2007, 17:06 GMT 18:06 UK

 [E-mail this to a friend](#)

 [Printable version](#)

Germany foils 'massive' bomb plot

Three men have been arrested in Germany on suspicion of planning a "massive" attack on US facilities in the country, officials have said.

Federal prosecutor Monika Harms said the three had trained at camps in Pakistan and procured some 700kg (1,500lbs) of chemicals for explosives.

She said the accused had sought to target facilities visited by Americans, such as nightclubs, pubs or airports.

Defence Minister Franz Josef Jung said the men had posed "an imminent threat".



A masked officer leads a terror suspect (in blue) to a helicopter

GETTY IMAGES

Cranfield
UNIVERSITY *



Explosives Security

- Explosives being used as an instrument of terror
- European Commission Conference
Jan 2007
 - Explosives Security Task Force
 - 4 Working Groups
 - WG1 – Precursors
 - WG2 – Supply Chain
 - WG3 – Detection
 - WG4 – Public Security Aspects
 - 50 Recommendations



**Explosives & Search
Competence**

Developing skills in the explosives
munitions and search sector

Explosives Security Task Force

- All personnel employed in manufacturing, storage, distribution & use of explosives should be vetted (external checks by relevant national authorities under applicable national regulations) & hold a formal authorisation to have access to explosives.
- Member States should have formal systems for authorising, regulating and licensing the manufacture, storage, sale, use and possession of explosives including by private persons.



**Explosives & Search
Competence**

Developing skills in the explosives
munitions and search sector

Concerns Within Explosives Industry (Including MoD)

Over the last 20 years a serious decline in the breadth & depth of expertise & competence

- Pyrotechnic companies: Was 7 now 4
- RO staff: Was 19000 now 5000
- Closure of 2 Gov. research establishments:PERME and RARDE(Woolwich)
- Intake 1960's and 1970's: Retiring or retired
- Explosives workers: 1990 (441,000)1997 (300,000)

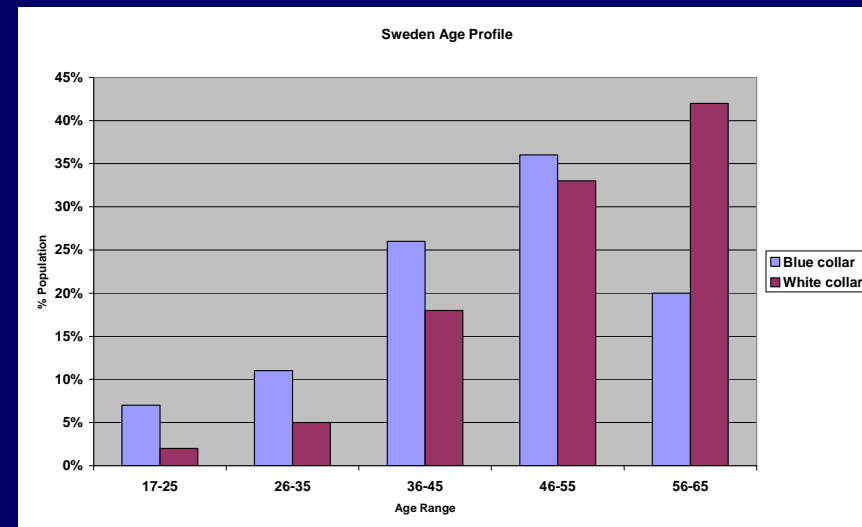


**Explosives & Search
Competence**

Developing skills in the explosives
munitions and search sector

European Explosives/Munitions Business

- Consolidation/Mergers
- Contraction
- Privatisation
- Recruitment
- Age Distribution



- Needs Competent People



**Explosives & Search
Competence**

Developing skills in the explosives
munitions and search sector

People - Competence

- Critical to Explosives Safety
- Essential for Business Competitiveness
- Vital in fight against terrorism
- Needed to clean up the planet
- But!
 - Loss of Expertise
 - Hitherto, absence of Standards of Competence
 - Barriers to movement of personnel
 - Patchy training provision
 - Few recognised qualifications
- It's a global problem



Explosives & Search Competence

Developing skills in the explosives
munitions and search sector

Questions

