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GLOBAL EXPLOSIVE ORDNANCE DISPOSAL CONFERENCE AND EXHIBITION

“Attacking the Network”

May 4-5, 2011
Fort Walton Beach, FL

Agenda

Wednesday, May 4, 2011

Welcome Remarks

- Mr. Eugene Squires, Senior Partner, Squires & Fulcher, LLC Management Consultants; Chairman, NDIA EOD Planning Committee

Keynote Remarks

- Colonel Marue “MO” Quick, USA, Chief, EOD and Humanitarian Mine Action, Office of the Assistant Secretary of Defense, Special Operations/Low Intensity Conflict and Interdependent Capabilities

NATO EOD Working Group Update

- Wing Commander James Brudenell, RAF, United Kingdom Chairman, North Atlantic Treaty Organization, EOD Working Group

Global Partner Briefs Panel

- Lebanon Representative
- Belgian Representative

Canada EOD Update

- Lieutenant Colonel Donald Corbett, Canadian Army, OMM CD Counter IED Task Force, Chief of Land Staff, National Defence, Canada

Interagency Improvised Explosive Device Defeat

- Dr. Edwin Bundy, Program Manager, EOD/Low Intensity Conflict, Department of Defense Combating Terrorism Technical Support Office, Office of the Secretary of Defense

Thursday, May 5, 2011

Keynote Remarks – Attacking the IED Network Decision

- Captain Fredrick E. Gaghan, USN, Chief, Technology Requirements Integration Division, Joint Improvised Explosive Device Defeat Organization

Combating IED Proliferation and Interdicting the Supply Chain

- Mr. Rick Shimon, Special Agent in Charge, U.S. Department of Commerce, Office of Export Enforcement

The Importance of Trained EOD Forces in Forensics/Intelligence Capture

- Mr. Walter Angles, Project Manager for International Operations, Directorate of Ordnance and Explosives, U.S. Army Engineering and Support Center, Huntsville

Transportation Security Agency’s Explosives Security Program Update

- Mr. Edward Kittel, Chief, Explosives Operations Division, TSA Office of Security Operations, Department of Homeland Security

Strategy and Network Behavior

- Mr. David Johnson, Executive Director, Center for Advanced Defense Studies

Marine Corps – Services State of the Union on EOD

- Master Gunnery Sergeant Michael Todd, USMC, EOD MOS/Assistant OCCFLD Sponsor, Logistics Plans, Policies and Strategic Mobility, Headquarters U.S. Marine Corps

Air Force – Services State of the Union on EOD

- Lieutenant Colonel Charles Kelm, USAF, EOD Program Director, Headquarters U.S. Air Force / A7CXR

GLOBAL EXPLOSIVE ORDNANCE DISPOSAL CONFERENCE AND EXHIBITION

“Attacking the Network”



EMERALD COAST CONVENTION CENTER
FORT WALTON BEACH, FL
MAY 4-5, 2011
EVENT #1950



NDIA and the EOD Memorial Foundation present the Global Explosive Ordnance Disposal Conference and Exhibition

WEDNESDAY, MAY 4, 2011

- 7:00AM – 6:00PM **Conference Registration**
Foyer
- 7:00AM – 8:00AM **Continental Breakfast**
Foyer
- 8:00AM – 8:15AM **Welcome Remarks**
▶ Major General Barry D. Bates, USA (Ret), Vice President of Operations, National Defense Industrial Association
▶ Mr. Eugene Squires, Senior Partner, Squires & Fulcher, LLC Management Consultants; Chairman, NDIA EOD Planning Committee
▶ Mr. Lee Woodley, Executive Director, EOD Memorial Foundation
Emerald Grand Ballroom III & IV
- 8:15AM – 9:00AM **Keynote Remarks**
▶ Colonel Marue “MO” Quick, USA, Chief, EOD and Humanitarian Mine Action, Office of the Assistant Secretary of Defense, Special Operations/Low Intensity Conflict and Interdependent Capabilities
Emerald Grand Ballroom III & IV
- 9:00AM – 9:45AM **War Fighter Panel**
Moderator: Major General Walter Davis, USA, Deputy Director, Army Capabilities Integration Center, TRADOC
▶ Commander Todd Siddall, USN, Deputy Commander, 52d ODGP EOD & CTJF-Paladin (Afghanistan)
▶ Colonel Leo Bradley, USA, Commander, 71st OD GP EOD
▶ Lieutenant Colonel Rita Casey, USA, Deputy Commander, 111th OD GP EOD
- 9:45AM – 10:30AM **War Fighter Panel (Continued)**
Moderator: Lieutenant General Keith Kellogg, USA (Ret), Senior Vice President for Ground Combat Programs, Cubic Defense Applications
▶ Commodore Dale Fleck, USN, Commander, Navy EOD Group Two
▶ Lieutenant Colonel Walter Romine, USMC, HQ Marine Forces Command, G-3/5/7, EOD Action Officer
▶ Major D. Landon Phillips, USAF, EOD Program Manager, Headquarters U.S. Air Force A7
Emerald Grand Ballroom III & IV
- 10:30AM – 11:00AM **Networking Break in the Exhibit Hall**
Emerald Grand Ballroom I & II
- 11:00AM – 11:20AM **NATO EOD Working Group Update**
▶ Wing Commander James Brudenell, RAF, United Kingdom Chairman, North Atlantic Treaty Organization, EOD Working Group
Emerald Grand Ballroom III & IV
- 11:20AM – 12:10PM **Global Partner Briefs Panel**
Moderator: Lieutenant Colonel Frank Davis, USA, EOD Officer, G34, U.S. Army Central Command
▶ Pakistan Representative
▶ Lebanon Representative
▶ Saudi Arabia Representative
▶ Kyrgyzstan Representative
Emerald Grand Ballroom III & IV

AGENDA

- 12:10PM – 1:10PM **Networking Lunch in the Exhibit Hall**
Emerald Grand Ballroom I & II
- 12:10PM – 1:10PM **Live Vignette/Demo**
Outdoor Parking Area
- 1:10PM – 3:00PM **Global Partner Briefs Panel (Continued)**
Moderator: Lieutenant Colonel Frank Davis, USA, EOD Officer, G34, U.S. Army Central Command
- ▶ Tajikistan Representative
 - ▶ Jordan Representative
 - ▶ Uzbekistan Representative
 - ▶ Kazakhstan Representative
 - ▶ Kuwait Representative
 - ▶ Egypt Representative
- Emerald Grand Ballroom III & IV*
- 3:00PM – 3:30PM **Networking Break in the Exhibit Hall**
Emerald Grand Ballroom I & II
- 3:30PM – 3:50PM **Canada EOD Update**
- ▶ Lieutenant Colonel Donald Corbett, Canadian Army, OMM CD Counter IED Task Force, Chief of Land Staff, National Defence, Canada
- Emerald Grand Ballroom III & IV*
- 3:50PM – 4:10PM **Interagency Improvised Explosive Device Defeat**
- ▶ Dr. Edwin Bundy, Program Manager, EOD/Low Intensity Conflict, Department of Defense Combating Terrorism Technical Support Office, Office of the Secretary of Defense
- Emerald Grand Ballroom III & IV*
- 4:10PM – 4:30PM **Defense Threat Reduction Agency Support to the Explosive Ordnance Disposal Force**
- ▶ Mr. Mark Becker, Explosive Ordnance Specialist, DTRA Combating Terrorism Division
- Emerald Grand Ballroom III & IV*
- 4:30PM – 5:00PM **Deployable Technical Exploitation Capabilities in Support of Joint Task Force – Counter IED and Attack the Network Operations**
- ▶ Captain Thomas B. Smith, USN, Commanding Officer, Naval Explosive Ordnance Disposal Technology Division
- Emerald Grand Ballroom III & IV*
- 5:00PM – 6:00PM ▶ **Networking Reception in the Exhibit Hall** (Hosted Wine and Beer)
Emerald Grand Ballroom I & II

THURSDAY, MAY 5, 2011

- 7:00AM – 4:00PM **Conference Registration**
Foyer
- 7:00AM – 8:00AM **Continental Breakfast**
Foyer
- 8:00AM – 8:15AM **Welcome Remarks**
▶ Mr. Eugene Squires, Senior Partner, Squires & Fulcher, LLC Management Consultants; Chairman, NDIA EOD Planning Committee
▶ Lieutenant General Donald Wetekam, USAF (Ret), Vice Chairman, Senior Vice President, Government & Defense Business Development, AAR Corporation; NDIA EOD Planning Committee
Emerald Grand Ballroom III & IV
- 8:15AM – 9:00AM **Keynote Remarks – Attacking the IED Network Decision**
▶ Captain Fredrick E. Gaghan, USN, Chief, Technology Requirements Integration Division, Joint Improvised Explosive Device Defeat Organization
Emerald Grand Ballroom III & IV
- 9:00AM – 9:30AM **Combating IED Proliferation and Interdicting the Supply Chain**
▶ Mr. Rick Shimon, Special Agent in Charge, U.S. Department of Commerce, Office of Export Enforcement
Emerald Grand Ballroom III & IV
- 9:30AM – 10:00AM **Combating Terrorist Use of Explosives in the United States**
▶ Supervisory Special Agent Stephen DiRito, Chief of Staff, U.S. Department of Justice, Joint Programs Office
Emerald Grand Ballroom III & IV
- 10:00AM – 10:30AM **Networking Break in the Exhibit Hall**
Emerald Grand Ballroom I & II
- 10:30AM – 11:00AM **The Importance of Trained EOD Forces in Forensics/Intelligence Capture**
▶ Mr. Walter Angles, Project Manager for International Operations, Directorate of Ordnance and Explosives, U.S. Army Engineering and Support Center, Huntsville
Emerald Grand Ballroom III & IV
- 11:00AM – 11:30AM **Transportation Security Agency's Explosives Security Program Update**
▶ Mr. Edward Kittel, Chief, Explosives Operations Division, TSA Office of Security Operations, Department of Homeland Security
Emerald Grand Ballroom III & IV
- 11:30AM – 12:00PM **Joint Training for Attack the Network Operations**
▶ Commander Gregory W. Hubbard, USN, Chief, Attack the Network (AtN) Branch, U.S. Joint Force Command J7 and Joint Warfighting Center
Emerald Grand Ballroom III & IV
- 12:00PM – 12:30PM **Strategy and Network Behavior**
▶ Mr. David Johnson, Executive Director, Center for Advanced Defense Studies
Emerald Grand Ballroom III & IV
- 12:30PM – 1:30PM **Networking Lunch in the Exhibit Hall**
(Last Chance to View Exhibits)
Emerald Grand Ballroom I & II

AGENDA

- 1:30PM – 2:00PM
Army – Services State of the Union on EOD
▶ Colonel Dick Larry, USA, Chief, Adaptive C-IED/EOD Solutions (ACES) Division, G38, Headquarters Department of the Army
Emerald Grand Ballroom III & IV
- 2:00PM – 2:30PM
Navy – Services State of the Union on EOD
▶ Rear Admiral Michael Tillotson, USN, Commander, Navy Expeditionary Combat Command
Emerald Grand Ballroom III & IV
- 2:30PM – 3:00PM
Networking Break
Foyer
- 3:00PM – 3:30PM
Marine Corps – Services State of the Union on EOD
▶ Master Gunnery Sergeant Michael Todd, USMC, EOD MOS/Assistant OCCFLD Sponsor, Logistics Plans, Policies and Strategic Mobility, Headquarters U.S. Marine Corps
Emerald Grand Ballroom III & IV
- 3:30PM – 4:00PM
Air Force – Services State of the Union on EOD
▶ Lieutenant Colonel Charles Kelm, USAF, EOD Program Director, Headquarters U.S. Air Force / A7CXR
Emerald Grand Ballroom III & IV
- 4:00PM
Closing Remarks & Conference Adjournment
▶ Mr. Eugene Squires, Senior Partner, Squires & Fulcher, LLC Management Consultants; Chairman, NDIA EOD Planning Committee
Emerald Grand Ballroom III & IV

LOCATION

Emerald Coast Convention Center
1250 Miracle Strip Parkway SE
Fort Walton Beach, FL 32548

ATTIRE

Appropriate dress for the conference is business coat & tie for civilians and Class A uniform or uniform of the day for military personnel.

ID BADGES

During conference registration and check-in, each attendee will be issued an identification badge. Please be prepared to present a valid picture ID. Badges must be worn at all conference functions.

PROCEEDINGS

Conference proceedings will be available online approximately two weeks after the event. You will receive an e-mail notification once the proceedings are available for viewing.

SPEAKER DONATION

In lieu of Speaker Gifts, a donation has been made to the EOD Memorial Foundation. For additional information, please visit: <http://www.eodmemorial.org>

SURVEY

A survey will be e-mailed to you after the event. NDIA would appreciate your time in completing the survey to help make our event even more successful in the future.

CONTACTS

Ms. Mary Anna Christiansen
Meeting Planner
NDIA
(703) 247-2596
mchristiansen@ndia.org

Ms. Alden Davidson, CEM
Associate Director of Exhibits
NDIA
(703) 247-2582
adavidson@ndia.org



US Army Corps of Engineers



INTERNATIONAL OPERATIONS DIVISION

Keith Angles

Chief, International Operations

Ordnance and Explosives Directorate

US Army Engineering and Support
Center, Huntsville

5 May 2011



HISTORY

- Stood up as Captured Enemy Ammunition (CEA) in 2003
- Name changed to Coalition Munitions Clearance (CMC) in 2006
- On 14 Oct 2008, Permanent Order 281-1 established the International Operations Division (IOD) within the OE Directorate
- December 2008, the IOD was identified by HQ COE as the National Program Manager for demining and ordnance support for contingency operations efforts



International Operations Focus

- Expeditionary mindset
- Support DoD military combat and expeditionary operations with qualified and responsive ordnance and environmental support (ACRs and UXO clearances)
- Ordnance support in the sustainment of Army ranges and training areas worldwide
- Land mine clearance



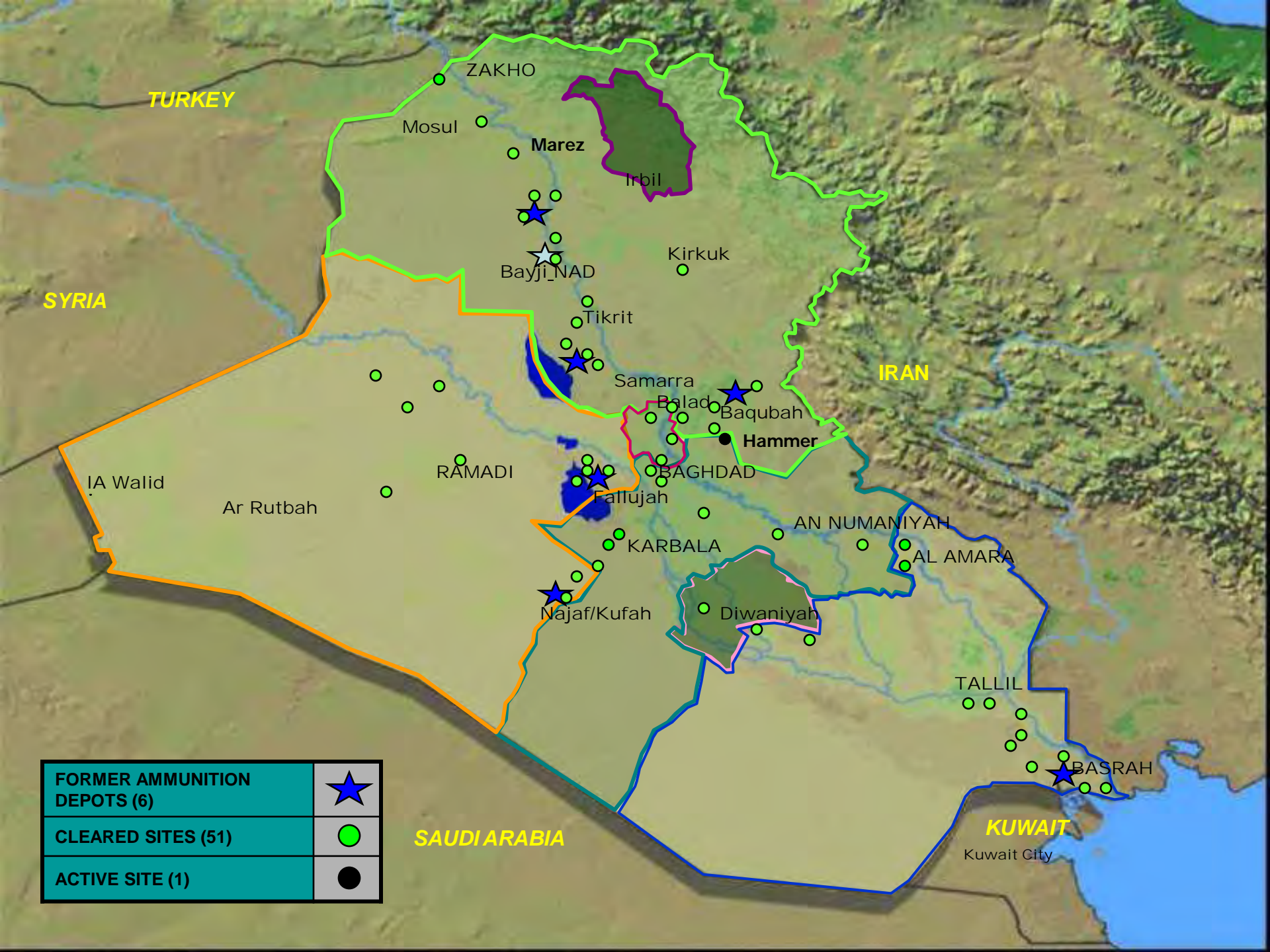
WHAT WE BRING TO THE TABLE

- Fully self sustaining:
 - Logistics
 - Security
 - Mobile
- Extensive contract capacity and capability to execute ordnance work worldwide. The new WERS (over \$1B in contract capacity) contract will allow fully independent environmental work for support to the Army
- The Corps Chemical Warfare Material Design Center is co-located with the International Operations team in Huntsville
- Identified as the National Program Manager for Corps of Engineers demining efforts.



Coalition Munitions Clearance (CMC)

- Key facts:
 - 187,110,067 lbs NEW destroyed
 - 5,458,885 ammunition items
 - 1,238,407 empty projectiles buried
 - 43 Contractor deaths (3 accident, 1 heart attack, 39 combat operations)
- Total funding: \$1.711B



TURKEY

SYRIA

IRAN

SAUDI ARABIA

KUWAIT

FORMER AMMUNITION DEPOTS (6)	★
CLEARED SITES (51)	●
ACTIVE SITE (1)	●

ZAKHO

Mosul

Marez

Irbil

Kirkuk

Bayji_NAD

Tikrit

Samarra

Baqubah

Hammer

IA Walid

Ar Rutbah

RAMADI

Fallujah

BAGHDAD

AN NUMANIYAH

AL AMARA

KARBALA

Diwaniyah

Najaf/Kufah

TALLIL

BASRAH

Kuwait City







JUN 10 2005



COALITIONS MUNITIONS DISPOSAL (CMD)

IRAQ

Support to USF-I J4



Coalition Munitions Disposal (CMD) Program

Purpose: Destroy Condition Code H and “Do Not Return” ammunition along with Explosive Remnants of War (ERW) for Coalition Forces in Iraq (ACRs).

Project objectives:

- Centralized disposal point for munitions not being retrograded to the US.
- Complete accountability for military munitions received, to include receipt, storage, disposal and preparing certificates of destruction.







STORY LIVE FIRE COMPLEX KOREA

Construction Support Mine/Ordnance Clearance Action

Support to – Training Support Activity Korea (TSAK)



21/04/2011 12:17:15





Bagram Mine Clearance

Afghanistan

Support to Mine Action Center, Bagram AF



Bagram AB

-Objectives:

- Russian Motor Pool – 136.31 ac
- Tower 6 Expansion Areas – 27.61 ac
- ATC Pocket - .54 ac
- Borrow Pit – 22.36 ac
- Kangaroo Gully – 3.16 ac
- Waste Management South – 12.52 ac
- Expansion Bridge and Creek Site – 33.6 ac
- Flight Line Way – 10.35 ac
- BAF ASP – 24.68 ac



07.23.2010 06:23

Remote Operated Mine Wolf





Mobile Team Mine Clearance

Afghanistan

Support to USFOR-A



USFOR-A Mobile Teams

- At the direction of USFOR-A, task is to clear priority sites for base expansion efforts in Afghanistan
- Contractor (EODT) is using Afghan mine clearance teams to move around the country and execute the clearance





TASK FORCE POWER

Afghanistan

Support to USFOR-A, and ARCENT



Task Force Power

- Service members being electrocuted by non-code electrical wiring, grounding and equipment
- Inspection of low voltage electrical systems in all facilities occupied by US troops
- QA support to DCMA
- 81 contractor personnel dispersed to 13 locations
- High visibility with Congress and senior military leaders
- To date, we have identified 35,210 FLASH deficiencies







MLRS Rocket Motor Disposal

Support to Aviation Missile Command (AMC)



Customer: PM Demil (Picatinny Arsenal), AMCOM G3

Objective: to develop a thermal based, closed disposal process for the disposal of up to 8,000 M-26 solid rocket motors with a secondary objective of disposing up to 2,000 additional various rocket motors per year at LEMC.

Currently in the test phase.



Other Initiatives/Support Actions

- Udairi Range, Kuwait - Range 8A DU contamination removal and shipment.
- Sather AB, Iraq – Ordnance clearance of approximately 90 acres in preparation of property transfer to Dept of State
- Ordnance/Demining training support to AFRICOM for Algeria. Other countries may develop



Chemical Warfare Material Design Center

Formerly Used Defense Sites

Nationwide Scoping & Security Study

Active Installation Support

Other

- ▶ Project Team Member for DA Overarching Integrated Project Team
- ▶ Detonation Chamber Testing
- ▶ Assists with policy development for DA



Questions





NATO EOD Working Group

Chairman’s Update

**Joint EOD and Search
Wg Cdr James Brudenell - Royal Air Force**



**EOD
WORKING GROUP**

- Aims of NATO Standardisation Agency
- Basic Organisational Structure
- Current Workstrands
- EOD WG 2011/12 Goals and beyond





NATO
+
OTAN

Aims of the NATO Standardization Agency

NATO – An Alliance to safeguard the freedom and security of member nations by political and military means.

Standardisation Agency - To promote standardization and so allow the Alliance's operational effectiveness to be enhanced.



Interoperability - To allow partners to train, exercise and operate effectively together gaining the best results from resources used.



EOD
WORKING GROUP

Aims of Standardisation

**To Improve Cooperation
To Eliminate Duplication**

**& so achieve
Interoperability**



Greater Flexibility

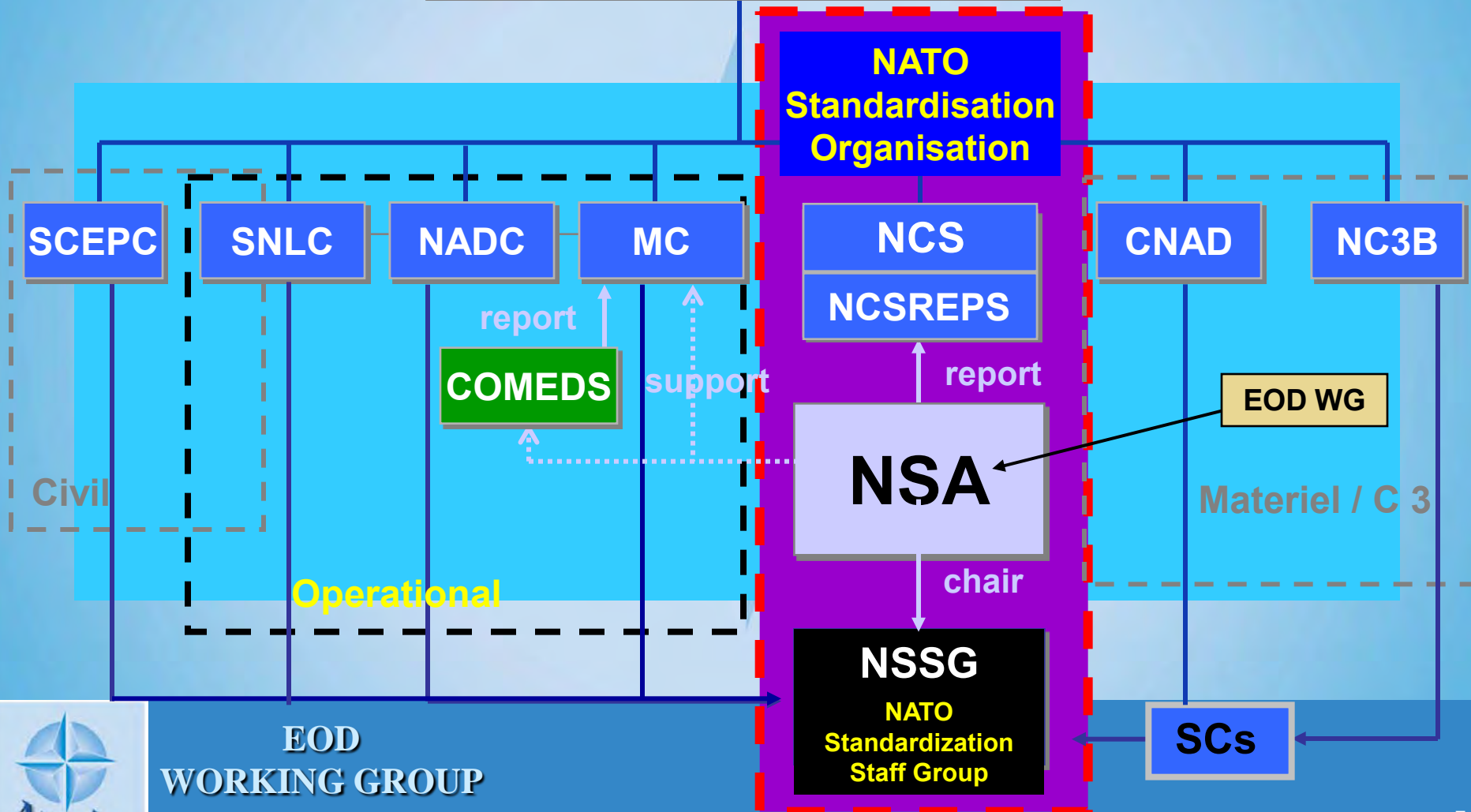
Greater Operational Effectiveness

Shared Costs

Aims of the NATO Standardization Agency

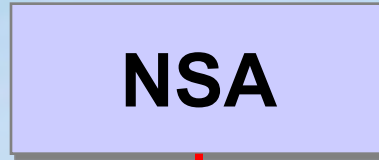
NSA

North Atlantic Council



Aims of the NATO Standardization Agency

NSA

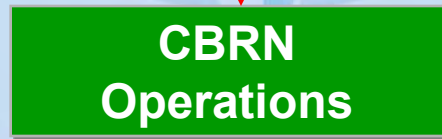


Working Groups

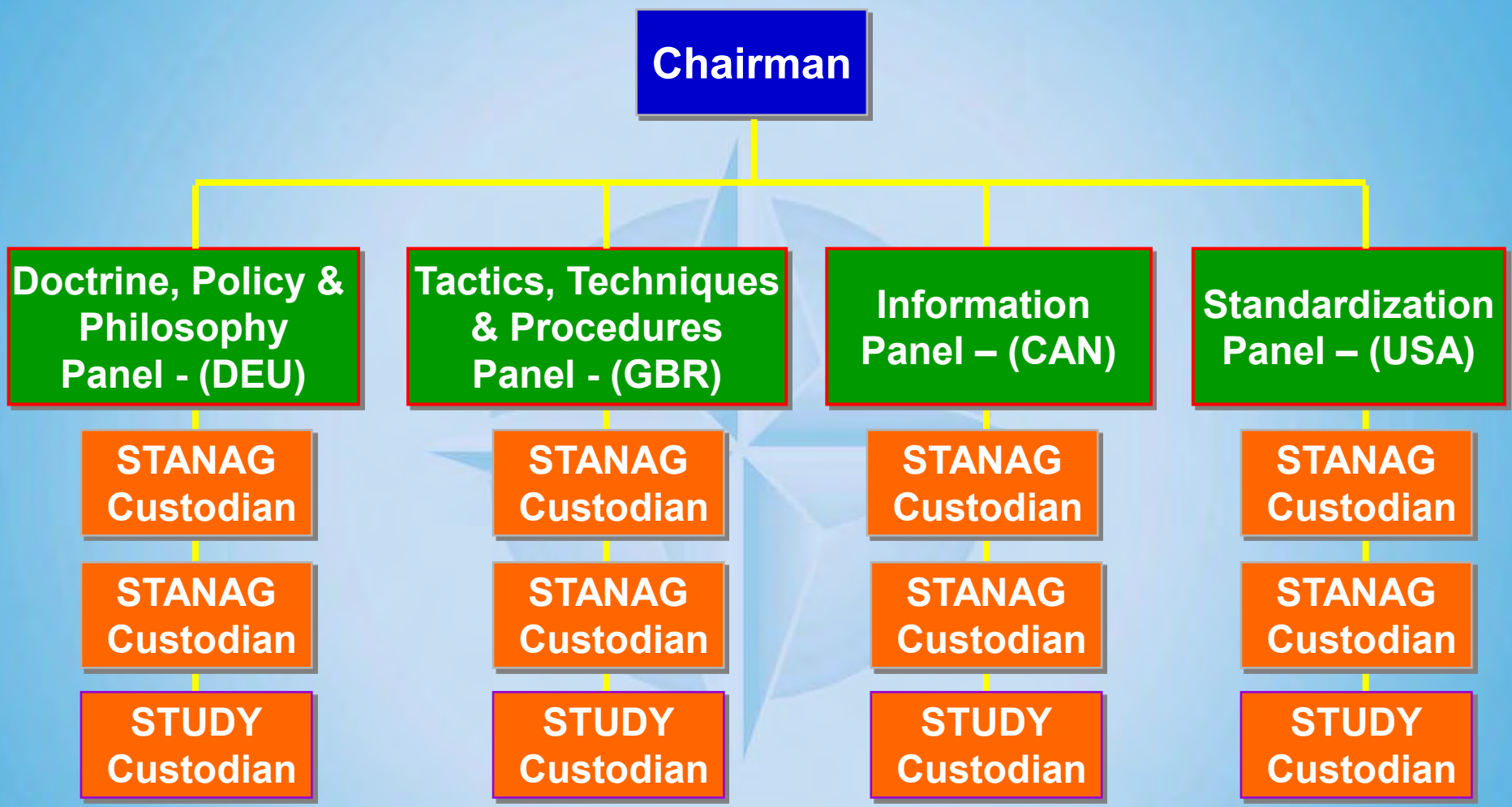
Working Groups



Formal Liaison



EOD Working Group - Structure



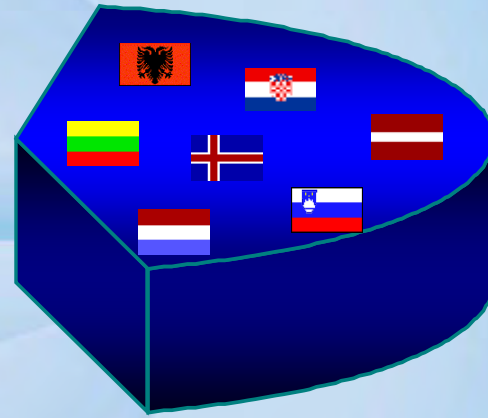
Countries Represented by NATO EOD WG Delegations

21 countries represented
total NATO membership of 28
independent countries



Belgium, Bulgaria, Canada, Denmark, Estonia,
France, Germany, Greece, Italy, Netherlands,
Norway, Portugal, Slovakia, Spain, Poland
Romania, United Kingdom, United States, Turkey
Hungary, Czech Republic

7 member countries not
represented in the NATO
EOD WG



Albania, Croatia, Iceland,
Latvia, Lithuania, Luxembourg,
Slovenia

- Explosive Ordnance Disposal Technical Information Centre – EODTIC – Providing 24/7 support to frontline EOD personnel around the world
- Goals:
 - Complete Library Digitisation – 2011
 - Relocation - 2012
 - Extend Membership



EODTIC Digitisation

- Aim to complete digitisation in late 2011
 - 3800+ EOD manuals covering global munitions from the 19th century to the present day - most complete collection of RSPs in Europe.
 - Rapid information retrieval
 - Improved information delivery
 - Improved protection of source documents
 - Relocation ready!
- New Director of Operations takes post on 1 June

EODTIC Relocation

- Explosive Ordnance Disposal Technical Information Centre - EODTIC
 - Relocation Project
 - From Chatham Kent to Bicester Oxfordshire in May 2012
 - Purpose built replacement building with hard-wired in technology
 - Associated IMS project generating new opportunities to share information

EODTIC Membership

- Explosive Ordnance Disposal Technical Information Centre - EODTIC
 - Aim is to extend Membership
 - Membership of 14 has been static for some years
 - Expressions of interest from Poland and Hungary
 - Running costs are shared equally by member nations
 - Approach to NATO for core funding

EOD Centre of Excellence

- Aim to build EOD capabilities for NATO & PfP countries
- Slovakia lead – Headquarters in Trenčín
 - Rapid development in capability.
 - Recent assessment visit led to an MC endorsed recommendation for certification by the NAC.

EOD Centre of Excellence

- Focus areas: – Training
Standardisation development
Lessons Learnt
Technologies
Information Sharing (exhibitions etc)
- Goals: Fill outstanding SME posts
Develop mobile training & advisory teams
EOD CoE training course catalogue accreditation



NATO
+
OTAN

Inensitive Munition (IM) Marking – USA lead



BLU-121B/B
MK84 (2000 LB)
AFX-757 Fill

25% RDX



BLU-117B/B
MK84 (2000 LB)
AFX-795 Fill

65% RDX



EOD
WORKING GROUP

Insensitive Munition (IM) Marking (Con't)

Way Ahead

- Need to readily identify IM explosive filler – differing RSPs
 - Base stamping most durable
 - Some voluntary progress already being made
- US leading, work with other nations and the I-AMMO WG to develop policy in this area.
- Get changes approved to US and NATO standards:
 - US MIL-STD-709D
 - NATO STANAG 2953

RCV Standardisation

- Key piece of equipment but little commonality or interoperability
- Work underway to framework technical specification and capability, to provide common criteria for future RCV development and procurement
- Will provide improved TTP compatibility, user nation guidance, lead to cost sharing opportunities and provides a sound publication for achieving greater interoperability



Lessons Learnt (LL) Team

- Spanish lead LL Team have interrogated the JALLC Database.
- Selected lessons have been highlighted to member nations in order to inform and respond. Process needs further refinement.
- Opportunity for collaborative working with the EOD CoE, growth of donor databases and the creation of a dedicated EOD LL database.



Other Workstrands –Interservice EOD Operations on Multination deployments

- Forming closer links with the C-IED WG through permanent representatives - Chair
- Increase availability through STANREC assessment process – CoE
- AMT capability requirements - CoE
- Continued roll out of Military Field Kit – US
- Protecting metal detectors against electromagnetic field influences -BEL
- Chemical weapon disposal by Contained Detonation Chamber Technology – BEL
- EOD Publications hierarchy – CoE



- Develop the LL review and implementation Programme
- Grow membership of the EODTIC
- Achieve closer links with the C-IED WG
- Accreditation of the EOD CoE
- Develop improved guidance on EOD reporting and messaging
- Improve user clarity through the EOD Publication hierarchy exercise.
- Upgrade Study 2293 (Mil Search) and 2609 (EW Support) to STANAG status.
- Undertake a STANREC assessment process.



- Harnessing opportunities for improved information sharing
- Rigorous Lessons Learnt exploitation
- Build on fast track to reduced staffing cycles.
- Better reflection of the Contemporary Operating Environment
- From CRM develop a Human Factor methodology to better protect EOD operators





Questions?



**EOD
WORKING GROUP**

NATO/EAPC UNCLASSIFIED



Interagency IED Defeat Research and Development

Global EOD Conference and Exhibition

May 4-5, 2011

Fort Walton Beach, FL



Combating Terrorism Technical Support Office



CTTSO Organizational Objectives

- Provide interagency forum to coordinate R&D requirements for combating terrorism
- Sponsor interagency advanced technology development
- Promulgate technology information transfer
- Guide basic and applied research
- Influence policy development

CTTSO Organization



Special Operations/Low-Intensity
Conflict & Interdependent
Capabilities



Combating Terrorism
Technical
Support Office



Department
of State



Technical Support
Working Group



Explosive Ordnance
Disposal/Low-Intensity
Conflict



Irregular Warfare
Support

TSWG Organization



Advanced Analytics and Concepts

Chemical, Biological, Radiological, and Nuclear Countermeasures
DoD/DOS

Explosives Detection
DHS S&T/TSL

Improvised Device Defeat
DHS/NBSCAB

Investigative Support and Forensics
USACIL

Personnel Protection
DOE/USSS

Physical Security
ATF/DOE/OPMG

Surveillance, Collection, and Operations Support
IC

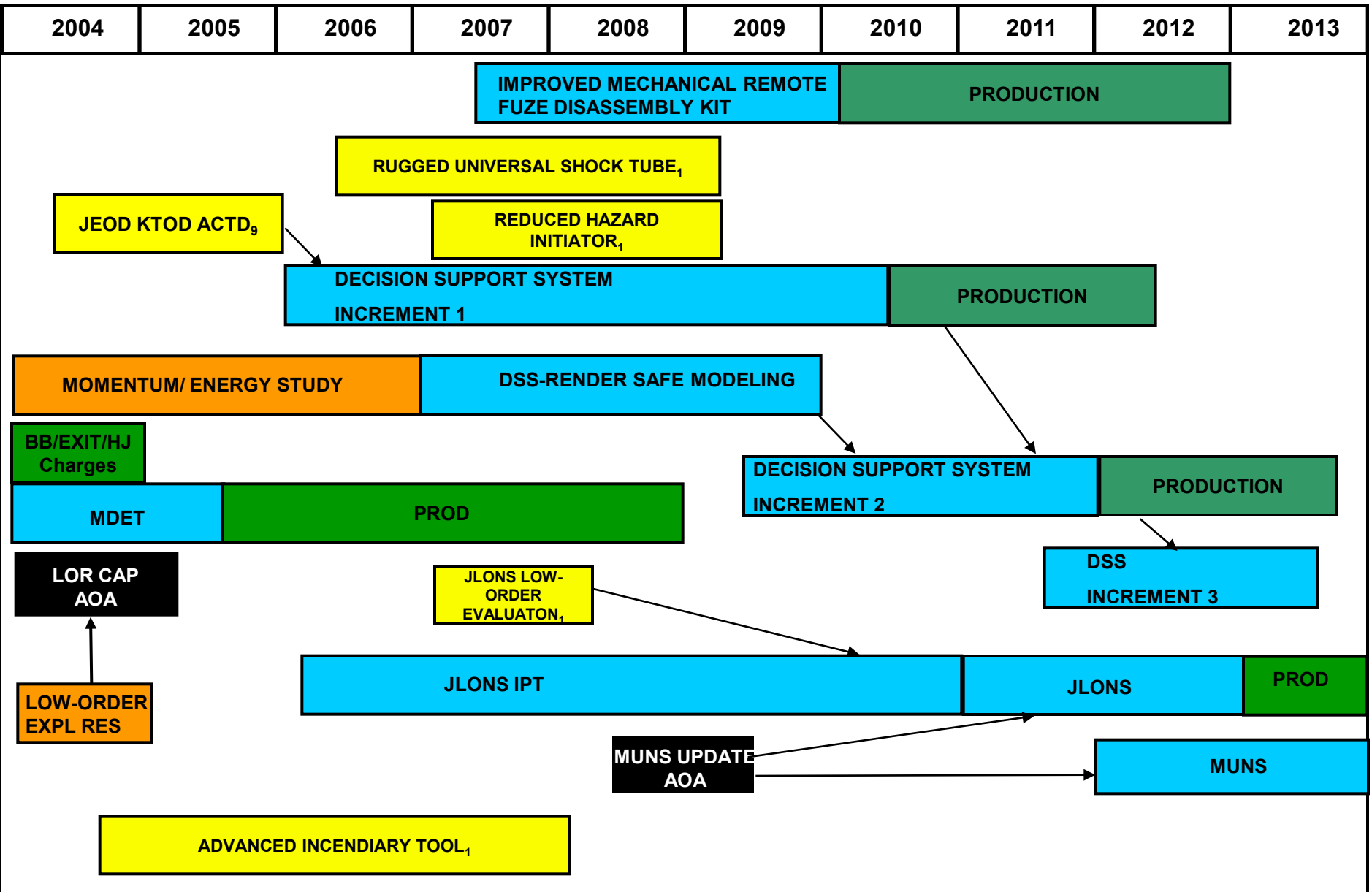
Tactical Operations Support
DoD/DOE

Training Technology Development
USMC



**INTERNATIONAL
PROGRAMS**

EXPLOSIVE ORDNANCE DISPOSAL – RENDER SAFE/NEUTRALIZATION (PART 1)



6.3 SPONSORS:

- 1 - EOD/LIC
- 2 - TSWG
- 3 - OSD UGV
- 4 - DTRA
- 5 - PSEAG
- 6 - DARPA
- 7 - ONR
- 8 - JGRE
- 9 - OSD

6.2	6.3	AOA	6.4	PROD	PIP
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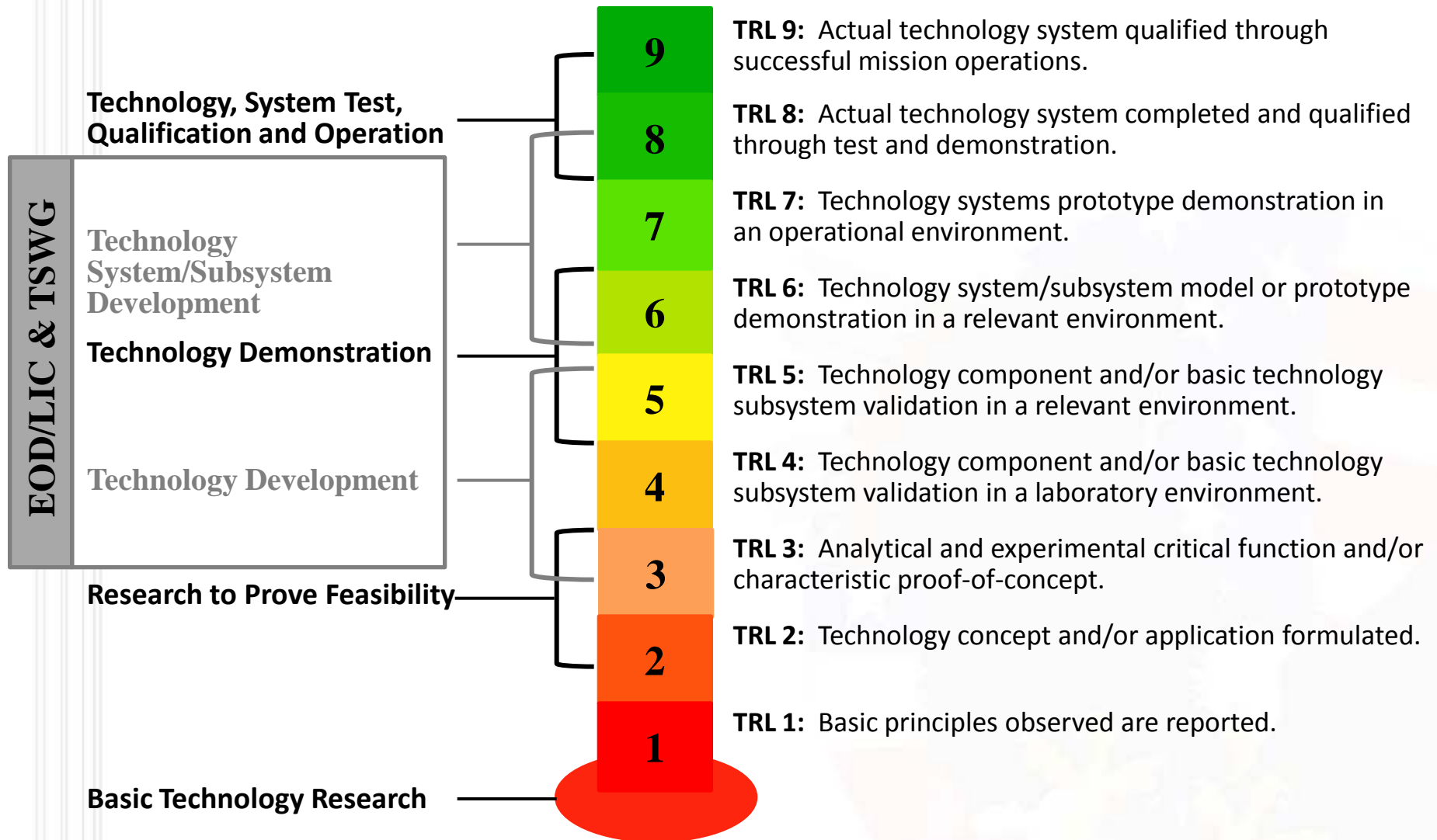


Budget Activity Definitions

<p>Applied Research (6.2) NAVEODTECHDIV</p>	<p>Systematic study to gain knowledge or understanding necessary to determine the means by which a recognized and specific need may be met.</p>
<p>Advanced Technology Development (6.3) EOD/LIC TSWG DTRA JIEDDO OGAs</p>	<p>Includes all efforts that have moved into the development and integration of hardware for field experiments and tests.</p>
<p>Advanced Component Development and Prototypes (6.4) NAVEODTECHDIV</p>	<p>Includes all efforts necessary to evaluate integrated technologies in as realistic an operating environment as possible to assess the performance or cost reduction potential of advanced technology.</p>



Technology Readiness Levels





Meeting EOD Needs

“Enhance domestic counter-IED capabilities. To better prepare the Department to support civil authorities seeking to counter potential threats from domestic improvised explosive devices (IEDs), DoD will assist civil authorities with counter-IED tactics, techniques, and procedures (TTPs) and capabilities developed in recent operations.”

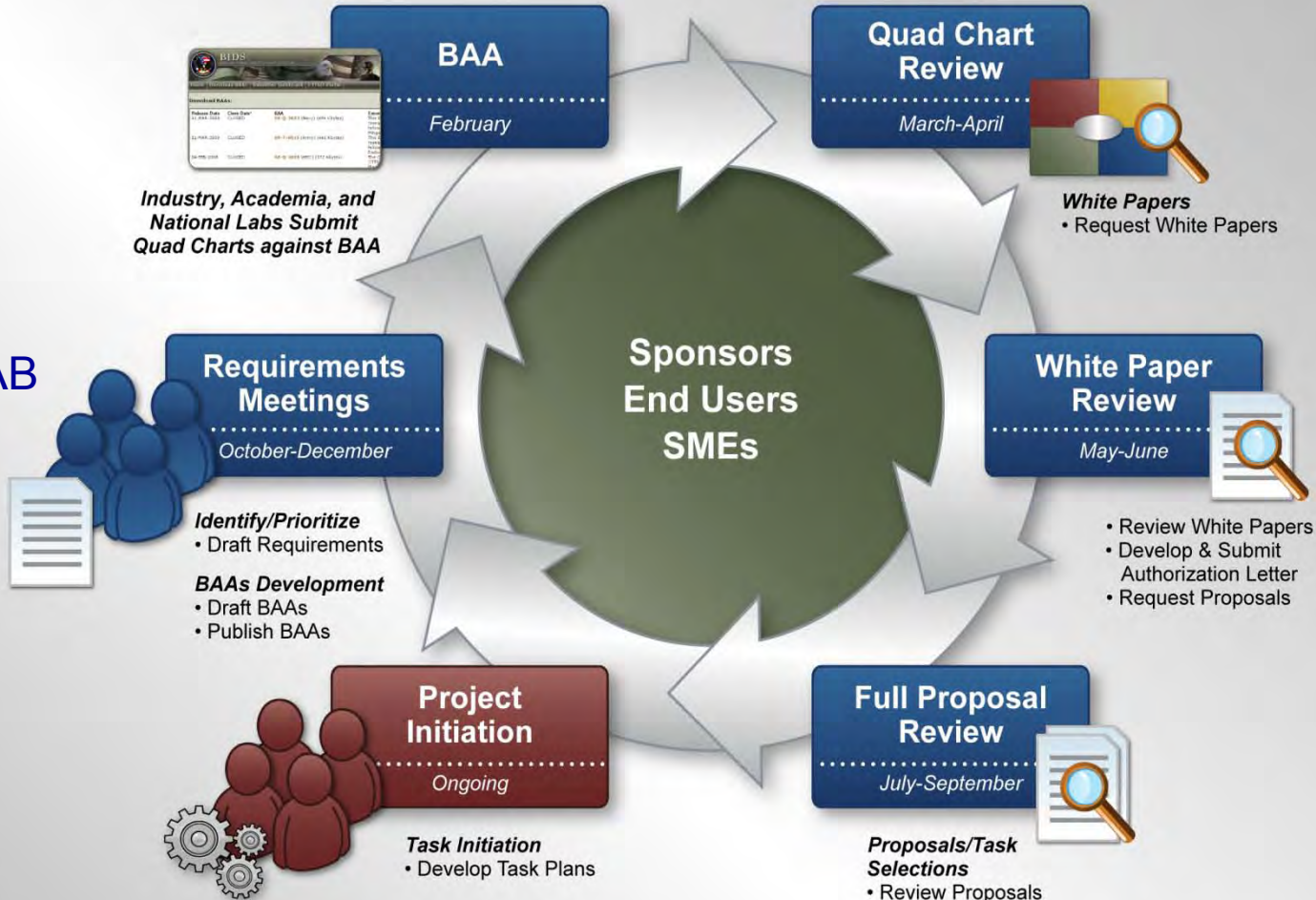
- QDR 2010

EOD/LIC	USERS	IDD
<ul style="list-style-type: none">• Provide Joint Service EOD and Special Operations Forces with advanced technologies and mission-focused solutions• Address current and emerging threats presented by unconventional and asymmetric warfare	JSEOD SOCOM NECC MARSOC AFSOC USASFC NBSCAB DoD DoS USSS OGAs	<ul style="list-style-type: none">• Identify, prioritize, and execute research and development projects that satisfy mission critical needs• Fill capability gaps and address Interagency requirements for advance technologies to safely and effectively defeat improvised terrorist devices



CTTSO Business Cycle

- MTAB
- NBSCAB





Domestic C-IED Challenges

- C-IED Network Attack and Analysis
- Detection of Homemade Explosives
- Standoff Rapid Detection of Person Borne IEDs
- Vehicle-borne IED Detection
- IED Access and Defeat
- Radio Controlled IED Countermeasures
- IED Assessment and Diagnostics
- Waterborne IED Detect and Defeat Systems
- IED Warnings
- IED Threat Characterization and Signatures



Global EOD C-IED Challenges

- Detection and Identification of Explosives, especially HME/IE
- Desensitization of HME/IE
- Standoff Detection of IED Components and Circuitry
- IED Assessment and Diagnostics
- General IED Defeat Tools
- Detection and Defeat of Hidden and Buried IEDs



A New Approach

1. Fly-Away Support Teams
 - Can assist in defining the requirement
 - Knows existing technologies
 - Know what is technologically possible
2. Any-Time, Any-Where Requirements
 - Sometimes crazy ideas are the best solution
 - Some of the best ideas are drawn on the back of a napkin
 - Paperwork shouldn't stop you from making a difference
3. Who knows better what you need than you do? And if you aren't going to tell us what you need, who will?



My Contact Information

Ed Bundy

IDD and EOD/LIC Program Manager

Combating Terrorism Technical Support Office

Office: (703) 602-6262

DSN: 332-6262

Mobile: (703) 624-1020

Fax: (703) 604-1728

NIPR: edwin.bundy@cttso.gov

SIPR: edwin.bundy@cttso.sgov.gov



Questions?





CF EOD - Defeating the Device



Lieutenant Colonel
Donald W Corbett OMM CD
CFEOD
DComd (XO) CF C-IED TF



Canadian Forces & Afghanistan

- Since 2002.
 - >18,000 pers deployed
 - Current deployed strength: 2380.
 - Transitioning from Kandahar to Kabul.
 - KIA:
 - 155 Military, 4 civilian
 - IED related: ~70%





Countering IEDs

2006

2009

2011

Defeating the device

Preparing the Force

**Attacking the
Network**

Research & Development

Institutionalised Capability



CFEOD Mission

The mission of CF EOD is to act as the strategic focal point for all EOD issues within the CF.

- CF EOD plans, coordinates, and provides direction regarding all aspects of EOD to protect the force and ensure mission success



CFEOD Vision

The provision of highly trained, effectively equipped, well led, world class EOD Operators capable of successful conduct of the full spectrum of EOD operations in international and domestic high-IED threat environments in concert with Canadian security agencies and our allies.



World Class EOD

Professionalise the business of EOD within
the CF.

Develop leaders

Ensure we are prepared to operate -
anywhere, anytime.

(Alicubi – Aliquando)



EOD Operations – late 20th Century

■ 70s – 80 s

- Operator focussed Specific Trades - Fd Engr, CI Div, AT, AWS Techs
- NCO / Part-time / Dom Ops focus
- CMD (Basic) / EOD centre

■ 90 s

- 1989 – IEDD first response transferred to Police
- Army - IEDD not an operational imperative / BIP UXO
- AF – Small cadre of EOD operators
- Navy – Capability maintained within Clearance Diver community
- CF
 - EOD became “service CMD focussed”
 - No strategic EOD leadership



EOD Operations – early 21st Century

- Afghanistan
 - Lack of required specialist to sustain EOD / IEDD capability
 - Army could not mount/FG sufficient Army EOD teams.
 - Delta provided by Navy & AF (*onesie's & twosie's*).
 - Army re-commenced FG Army IEDD Operators.
- 2006 –CFEOD established to “fix the FG problem(s).”
- 2007 – CFEOD is the DtD Section within CF C-IED TF.
- *Working to professionalise the business of EOD by:*
 - Policies and processes.
 - Career management
 - Institutionalising capabilities
 - Monitor FG process





EOD Operations – near future

- Any CF member (Reg or Res) that meets the selection criteria.
- Balance of Commissioned Officers and Non-commissioned members.
- Full-time business (Part-time for some)
 - Full time strategic staff
 - Practice and standard mandated and monitored.
 - Leaders identified and mentored
 - Managed specialty.
- Deployable anywhere, anytime.



Major Projects

- ✓ Policies and processes
- ✓ CF EOD Doctrine
- ✓ EOD Operators Log Book
- Joint EOD Collective Training
- HME Training
- EOD Memorial



From Defence to Offence

- World class EOD Capability
- Specialized EOD / C-IED Eqpt
- COIN mindset
- Attacking the Networks





Questions / Discussion?





We will remember!

EOD OPERATORS

CPL DANY FORTIN

CPL MARTIN DUBE

PO2 CRAIG BLAKE



DATE

3 MAR 2009

14 JUN 2009

3 MAY 2010

CIED TEAM MEMBERS

WO DENNIS BROWN (T)

CPL CHAD QUINN (E)



“Desert Divers”

By green ocean they tune, tag, pack kit, kiss wives, kids, their ocean brothers farewell;
He's coming back, he's coming back - beloved's words are wetsuits, regulators, oxygen tanks

Herc'ed into the lethal sandbox, grief's path, desert divers walk towards, not away
from handmade mayhem, metal plates.

(Hey desert diver, how many kids'ya save today?)

In early Afghan spring, mulberries blossom, storks return, rain-washed roadsides expose IEDs

Ha! My first job, an old-fashioned bayonet trick!

Drawn to deep water, amber kelp, day-glo starfish, desert divers dive the depths of 41 Celsius
adrenaline on dusty roads, half a watery blue world away.

SM Steele poet, TF-3-09, Afghanistan for Pat M, and in memory of PO 2nd Class Craig Blake



Attack the Network – Defeat the Device – Train the Force

Attacking the IED Network

NDIA Global EOD Conference

CAPT Frederick Gaghan, USN

05 May 2011

This briefing is UNCLASSIFIED



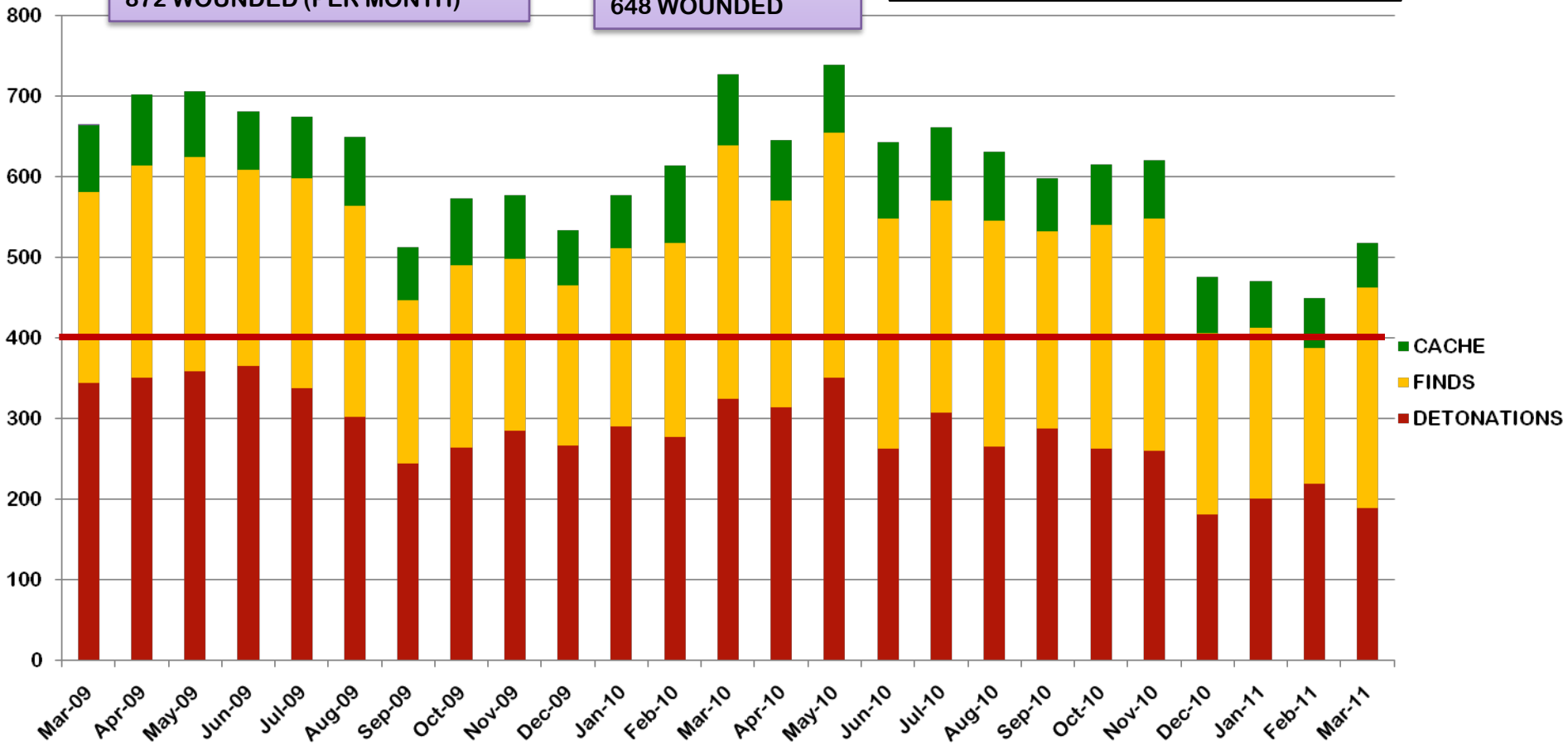
Global IED Incidents: MAR 2009 – MAR 2011

Attack the Network – Defeat the Device – Train the Force

24 Month Average
 296 DETONATIONS (PER MONTH)
 260 FINDS (PER MONTH)
 80 CACHES (PER MONTH)
 299 DEATHS (PER MONTH)
 872 WOUNDED (PER MONTH)

March 2011
 188 DETONATIONS
 274 FINDS
 55 CACHES
 188 DEATHS
 648 WOUNDED

LEXICON NOTE
INCIDENTS = DETONATIONS + FINDS
CACHE = FOUND, NON-COMPLETED IEDs, I.E. PRECURSOR MATERIALS (NOT COUNTED IN IED INCIDENT TOTALS)



Source: Global IED Relational Database

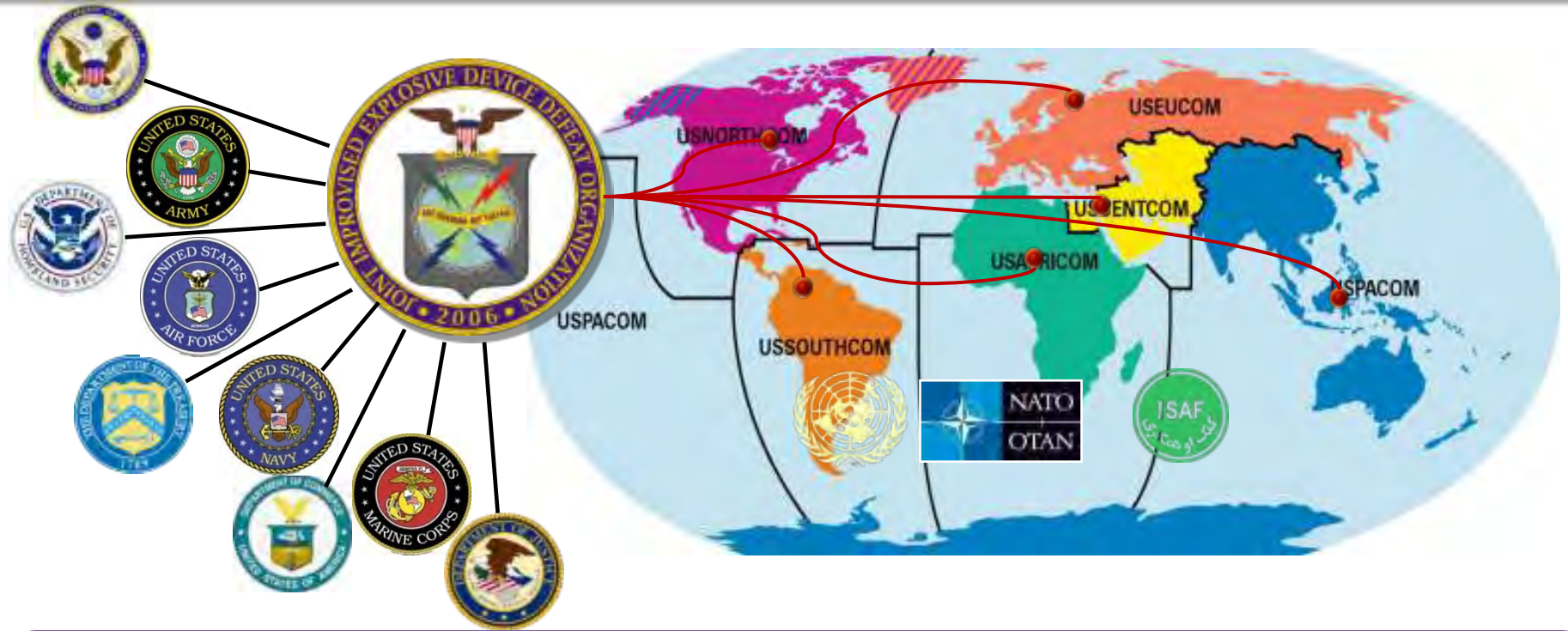
** IED incidents occurring in Afghanistan and Iraq are not included in this database**



Why JIEDDO?

Attack the Network – Defeat the Device – Train the Force

Counter-Improvised Explosive Device (C-IED) operations is the organization, integration and synchronization of capabilities that enable offensive, defensive, stability, and support operations across all phases of campaigns in order to defeat IEDs as operational and strategic weapons of influence.



Mission Statement: JIEDDO leads DoD actions to rapidly provide Counter Improvised Explosive Device capabilities in support of the Combatant Commanders and to enable the defeat of the IED as a weapon of strategic influence



Lines of Operation (LOOs)

Attack the Network – Defeat the Device – Train the Force

LOO1 - Attack the Network: Lethal and non-lethal actions and operations against networks conducted continuously and simultaneously at multiple levels (tactical, operational, and strategic) that:

- capitalize on or create key vulnerabilities
- disrupts activities
- eliminates the enemy's ability to function

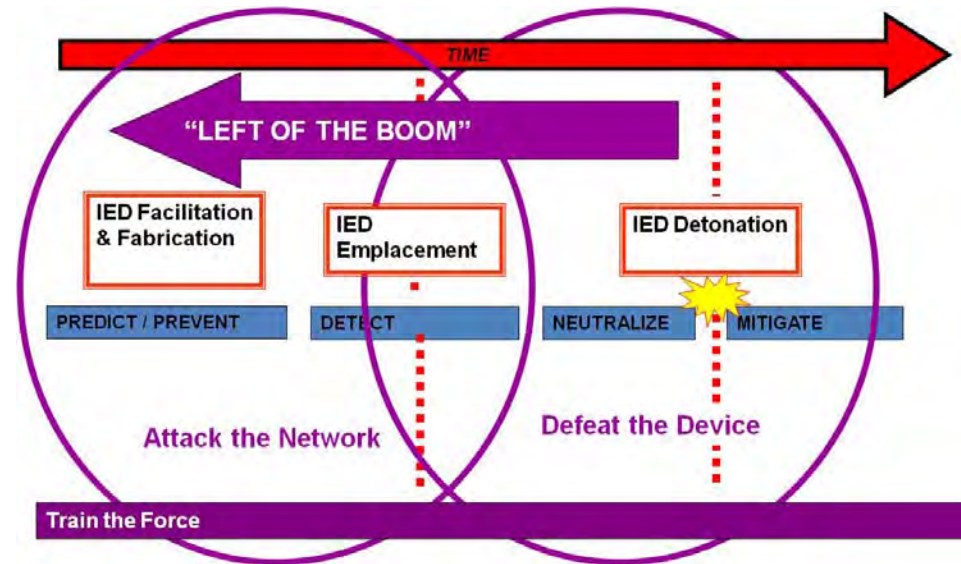
- Social and Dynamic Network Analysis
- Tagging, Tracking, & Locating
- Detect/Prevent Pre-Placement Activity
- Persistent Surveillance Technologies
- Sensor Enhancement and Data Exploitation

LOO2 - Defeat the Device: Detection, mitigation, and neutralization of IEDs once it has been emplaced through:

- route clearance
- device neutralization
- explosive detection
- disposal of unexploded and captured ordnance
- vehicle and personnel protection

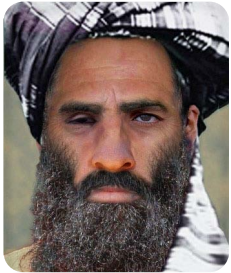
LOO3 - Train the Force: Actions and activities designed to enable Attack the Network and Defeat the Device through:

- graduate level Combat Training Center events
- C-IED training at Home Stations and the Centers of Excellence
- focused individual C-IED pre-deployment training
- training in-theater to stay ahead of adaptive enemy



Threat Overview

Attack the Network – Defeat the Device – Train the Force



Taliban

- Nationwide organization but strongest in South: Kandahar, Helmand, Zabul, Oruzgan
- Headquarters: Quetta, PAK



Hizbi Islami (Gulbuddin) (HIG)

- Operates in eastern Afghanistan and adjacent areas of Pakistan's tribal areas but has fighters integrated with Taliban throughout country
- Headquarters: Peshawar, PAK



Haqqanis

- Operate in Paktia, Paktika, Khost, Logar, and Ghazni Provinces and in Kabul City
- Headquarters: Miram Shah, PAK



Pakistan is home to several terrorist organizations, and the Headquarters for several insurgent groups operating in Afghanistan.



Attack the Network (AtN) Definition

Attack the Network – Defeat the Device – Train the Force

Attack the Network (AtN) Operations are lethal and non-lethal actions and operations against networks conducted continuously and simultaneously at multiple levels (tactical, operational and strategic) that capitalize on, or create, *key vulnerabilities* and disrupt activities to eliminate the enemy's ability to function in order to enable success of the operation or campaign.

Effective AtN requires the military to understand where IED networks divert legal, dual use chemical precursors and electronics from the marketplace into the IED network

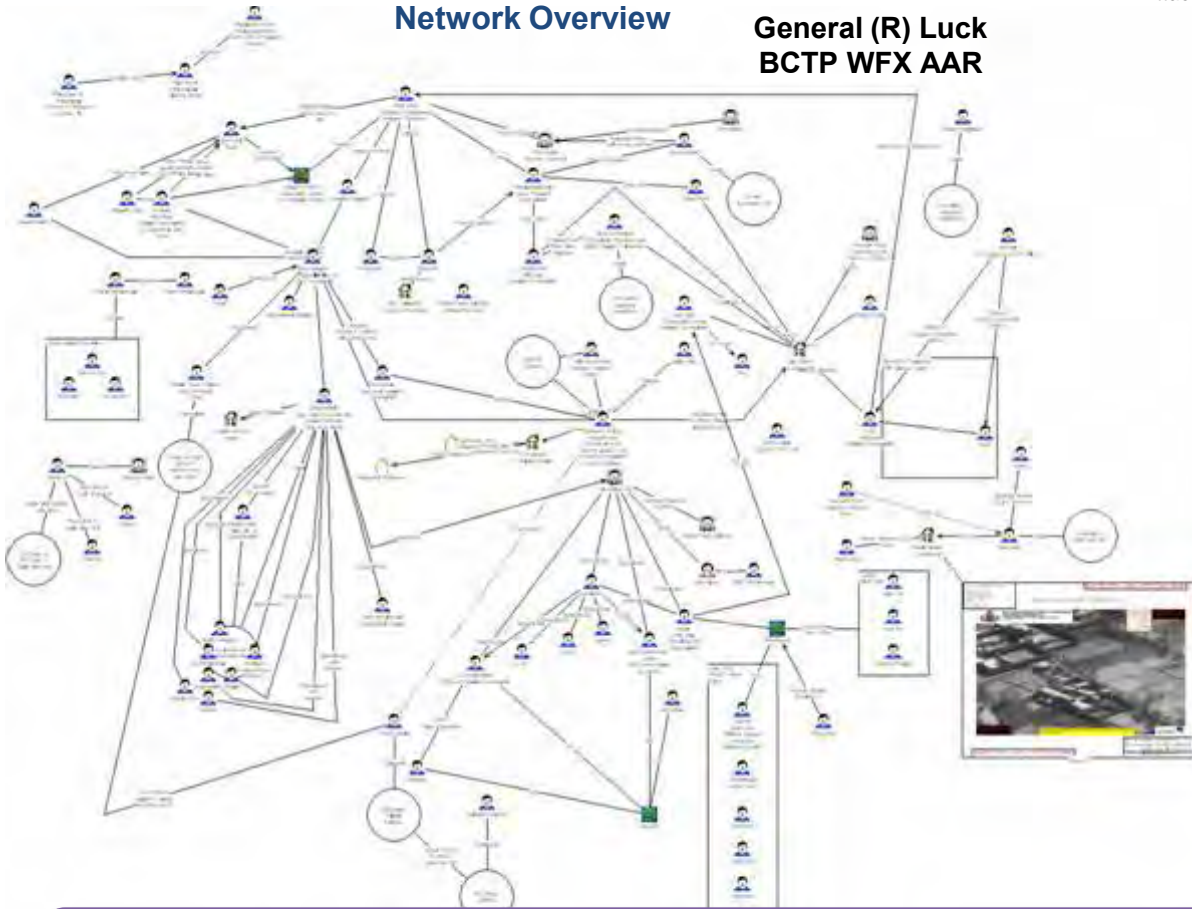


Common Operational Picture

Attack the Network – Defeat the Device – Train the Force

Network Overview

General (R) Luck
BCTP WFX AAR



-  •HVI C/KO pns
-  •KLE
Key Leader Engagements
-  •CMO
Civil Military Operations
-  •IO
-  •CERP
Commanders Emergency Response Program
-  •PRT
Provincial Reconstruction Team
-  •Medical
-  •Governance
-  •Drug Eradication

Achieving a Broader perspective

- Develop knowledge of network
- Define desired effects
- ID and integrate actions (lethal and non lethal)
- Assess tasks and effects



Critical Factors Analysis (CFA)

Attack the Network – Defeat the Device – Train the Force

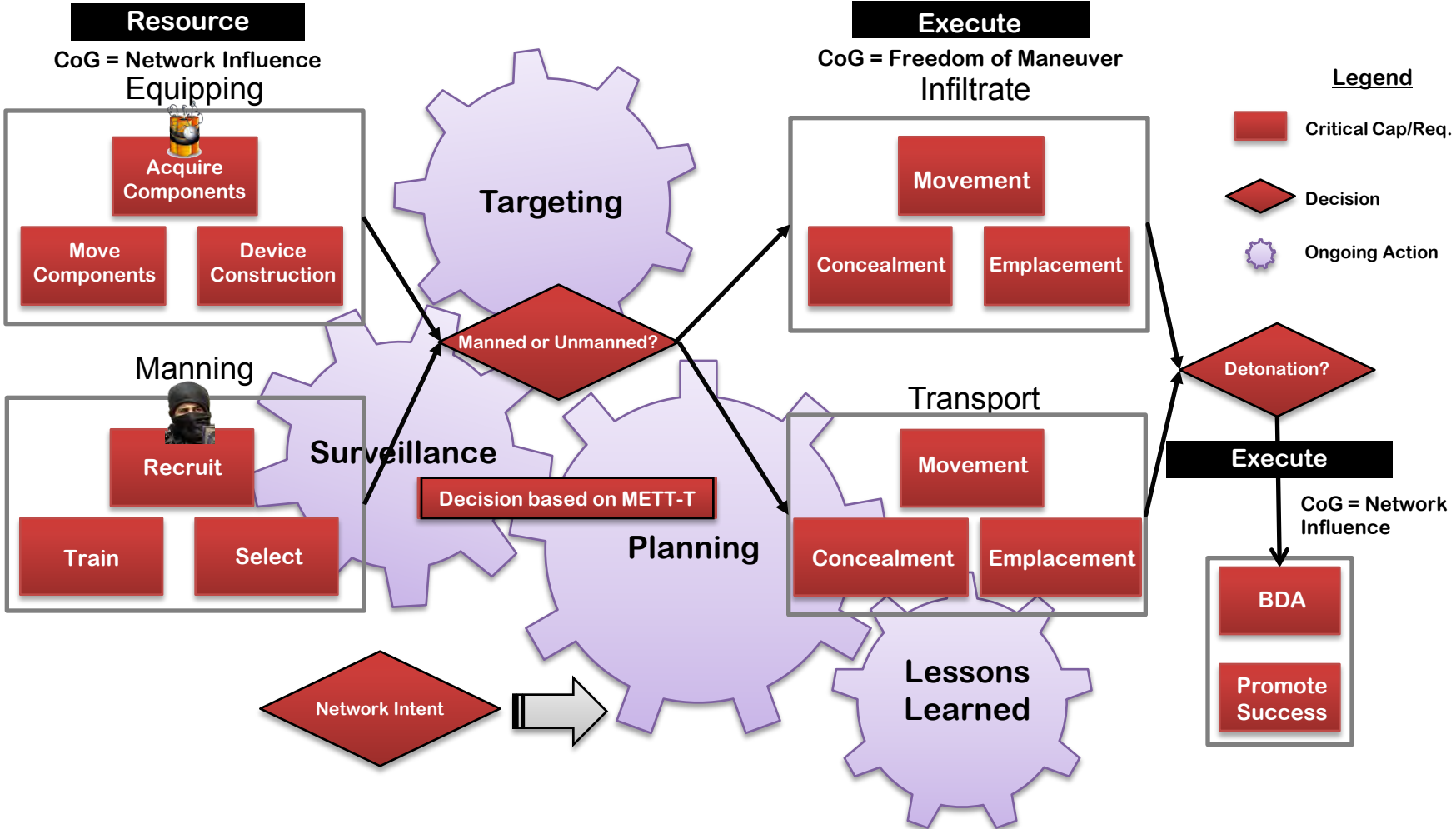
- **Attack the Network focuses on direct and indirect offensive operations against vulnerabilities**
- **Different agencies have different capabilities that will effect specific parts of the enemy network**
- **CFA helps the inter agency and “whole of government” allocate and prioritize resources against enemy network vulnerabilities**

CFA aims to build on the Common Intelligence Picture and Common Operating Picture by ensuring we use the right agency against a specific enemy vulnerability to achieve the greatest effect



Enemy Operational Architecture

Attack the Network – Defeat the Device – Train the Force



Enemy Mission: When feasible, utilize IED attacks IOT demoralize CF forces and destabilize GIROA
Enemy Intent: Purpose: Discredit CF forces and delegitimize GIROA
 Method: Exploit CF and ANP/ANSF CVs through IED attack
 End State: Eliminate legitimate influences and accelerate withdrawal of occupying forces



F3EAD for C-IED Operations

UNCLASSIFIED



Find, Fix, Finish, Exploit, Analyze, Disseminate

Attack the Network – Defeat the Device – Train the Force

IED Incident



Site Security & Exploitation



Device Exploitation



Develop Device Profiles



**Capture or Kill
Bomb makers, Financiers, Suppliers
Take down the Network**

C-IED TTPs & Training



Actionable Intelligence Support Judicial Process



Identify the Cells & Networks



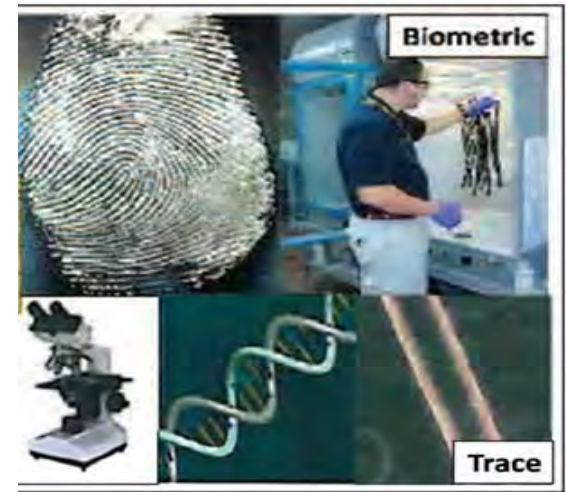


Site Exploitation

Attack the Network – Defeat the Device – Train the Force

- Site exploitation involves a systematic process of collecting materiel from a site for immediate and future exploitation—feeding and updating the Common Intelligence Picture
- It is critical that tactical units understand the value of preserving evidence and moving it from the field to the laboratory

Five Forensic Modalities; each with a different authoritative database (Photography, Biometrics, Tool Marks, Trace Analysis, and Document/Media Exploitation)



Common C-IED Forensic Functions



A Three-Pronged Attack

Attack the Network – Defeat the Device – Train the Force

Defeat the Device (DtD)



Attack the Network (AtN)



Train the Force (TtF)



EOD trained for Exploitation



One cannot Attack the Network without Defeat the Device and Train the Force

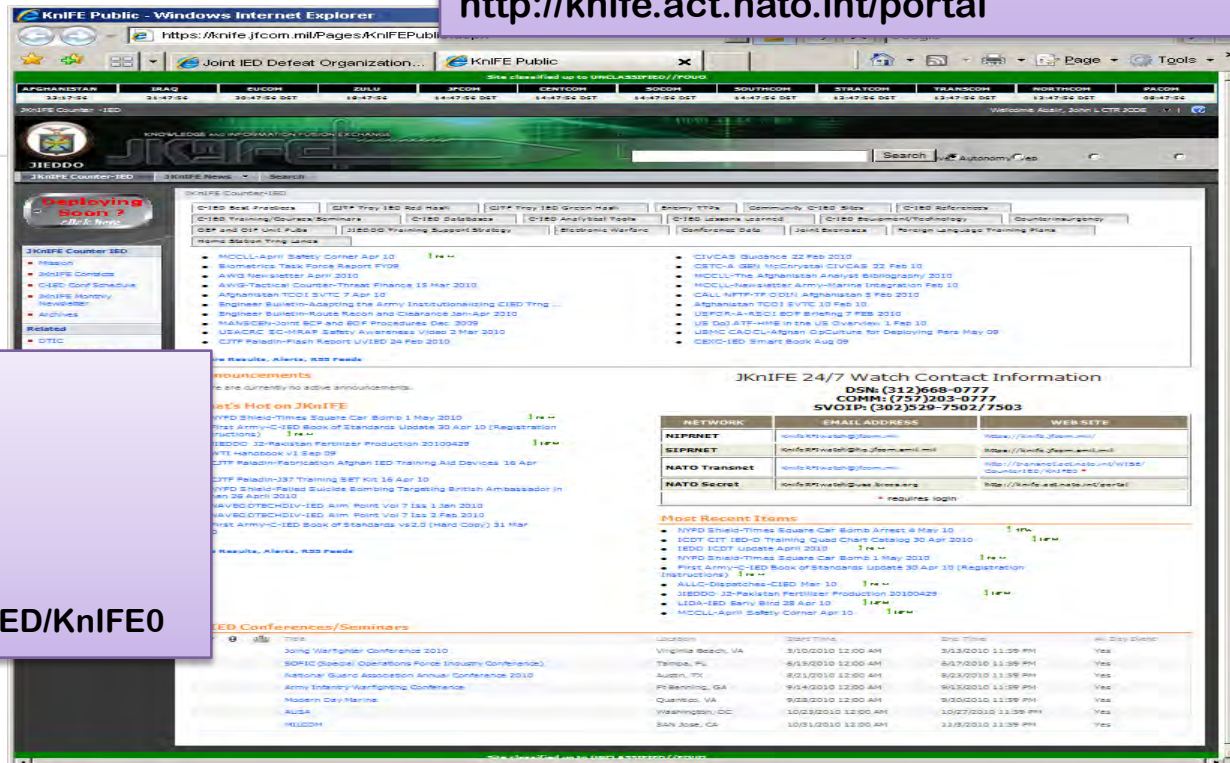


Online Resources: JKnIFE

Attack the Network – Defeat the Device – Train the Force



SIPR
<https://jknife.jieddo.dod.smil.mil>
CENTRIXS-ISAF
<http://www.jknife.usa.isaf.cmil.mil>
NATO Secret WAN
<http://knife.act.nato.int/portal>



NIPR

<https://jknife.jieddo.dod.mil>

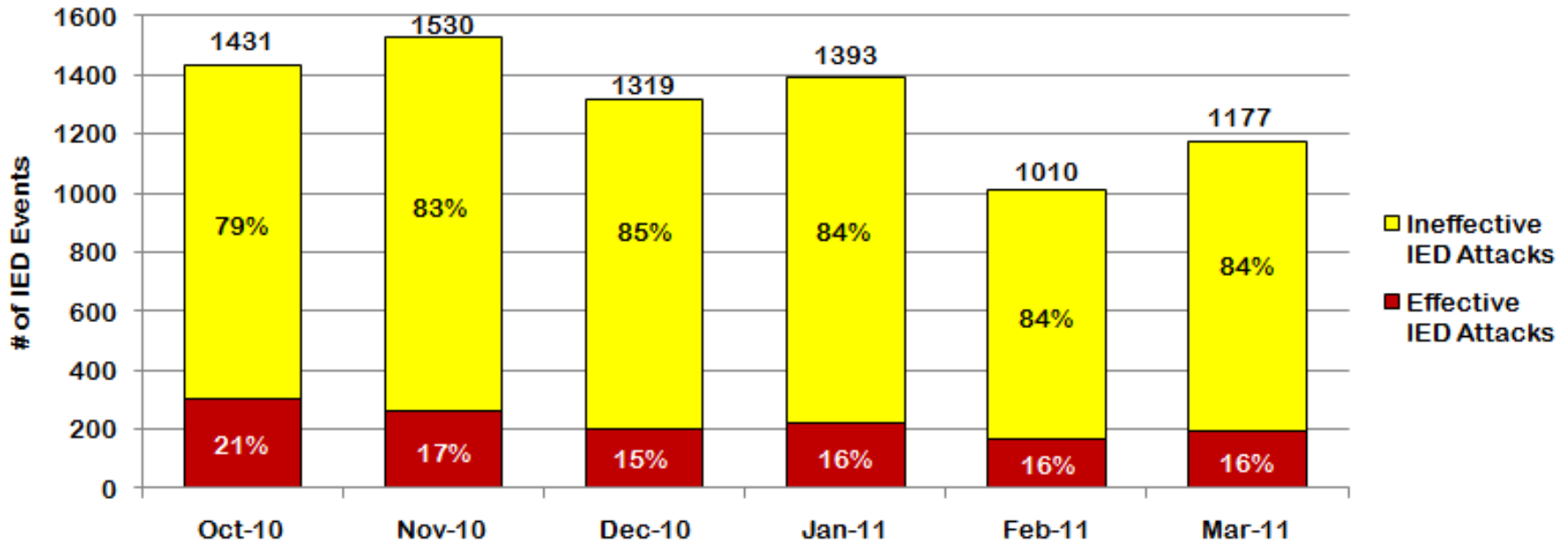
NATO Transnet

<http://transnet.act.nato.int/WISE/CounterIED/KnIFE0>



Afghanistan IED Trends

Attack the Network – Defeat the Device – Train the Force



IED efficacy has decreased despite an increased OPTEMPO

- Reasons for success:**
- Effective COIN strategy
 - Effective C-IED enablers w/trained forces
 - Effective host nation security force
 - Political reconciliation
 - Lethal targeting of irreconcilables



JIEDDO Today: Areas of Strategic Focus

Attack the Network – Defeat the Device – Train the Force

- **Reduce the flow of homemade explosives into Afghanistan**
- **Mitigate threat to dismounted troops**
- **Support our forces in Iraq as the mission transitions**
- **Provide support to coalition partners and allies**
- **Foster whole-of-government approach to the IED threat**



Summary

Attack the Network – Defeat the Device – Train the Force

- **The IED is not a weapon on the battlefield – it IS the battlefield**
- **We must contain the spread of IEDs as a global weapon of choice for violent extremists**
- **We must continue to strive to make IEDs too costly to produce and too risky to employ by:**
 - **Attacking networks that emplace IEDs**
 - **Training our forces to protect themselves**
- **IEDs are not just a tactical problem**
- **Effective AtN begins with tactical and sensitive site exploitation conducted by maneuver and EOD units**



www.jieddo.dod.mil

www.jieddo.dod.smil.mil

www.coic.smil.mil

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Strategy and Network Behavior

www.c4ads.org



AGENDA



Introduction: The Speaker's Suit



The Impact of Strategy



Understand the Network



Apply Understanding



Understand Yourself



Operational Approaches



Conclusion: Fit the Customer

Questions



INTRODUCTION



The Center for Advanced Defense Studies

- A Washington, DC-based non-profit dedicated to non-partisan research, education, and implementation programs to enhance global security
- “Innovation for Peace”- multi-disciplinary approaches to complex security challenges.
- Intent-Centric Paradigm [Howard 2000]
 - “It is not about the data, it is about how real people use data”



The Speaker’s Suit



THE IMPACT OF STRATEGY

- Strategy: The organization of assets and resources in space and time to achieve freedom of action
- Traditional Strategies: Annihilation, Attrition, Exhaustion
- Traditional Approaches: Direct (Government); Indirect (Population)
- Context is King! –know yourself and the adversary (sometimes they are the same)

Operational Success is NOT Strategic Success
(Phyrrus)



UNDERSTAND THE NETWORK

- Networks have fuzzy boundaries
 - Human networks do not behave like computer networks
 - Networks are dynamic
-
- Models are always flawed (but useful)
 - Operational Network Analysis is not Dynamic
 - Dynamic Social Network Analysis is not Human
-
- Models can be made better through continuous analysis
 - (DEDUCTION) Threat Process Model → Activity → Observable → Collection Tasking → Analysis (ABDUCTION) → Tasking → Observable → Activity → New Threat Process Model (INDUCTION)



APPLY UNDERSTANDING

Knightsian Segmentation

- Economics: Capital Market Governance [Boyko, 2009]
- Predictable, Probable and Uncertain (Rumsfeld's "Known Knowns; Known Unknowns; and Unknown Unknowns")

CADS Adversary Behavioral Studies

- Cultural and Conflict Studies- Dr. Jeff Reeves
- Survey of 5 domains- Ms. Sarah Catanzaro
 - key concepts, weaknesses, tools, and thought leaders. Book and Conference in the Fall of 2011.
 - Dynamic Social Network Analysis; Psychology; Economic Models; Organization Theory; Agent-Based Modeling



UNDERSTAND YOURSELF



The Counter-Threat Cycle

- Persistent Environment
- Deter, Detect, Prevent, Protect, Remediate, Recover



Principles of the Defense

- Preparation, Concentration, Disruption and Flexibility
- Protective Counter-measures

New Threat= Vulnerability X Intent X Consequences
Protective Counter-measures



Prioritize Counter-measures

- Predictable Threats by intensity
- Probable Threats by certainty and intensity
- Uncertain Threats



OPERATIONAL APPROACHES



Operational Approaches and Strategy

- Leadership Targeting (Exhaustion, Attrition, Annihilation)
- Coherence Targeting
- Logistics Targeting
- Infrastructure Targeting
- Sanctuary Targeting
- Connectivity Targeting

• ***How do NX lose effectiveness?***

- *C2 loss*

- *System failure*

- *Loss of assets to another NX*

• ***How do NX die?***

- *Factionalization (Loss of Trust)*

- *Drift (Lack of Use)*



MAKE A SUIT THAT FITS



Segmenting Threat: Intent-Centric Security

- We first understand the nature of the network
- We have to understand our own goals
- We must apply solutions to the selected Threat that **fit**

Dealing with Uncertain Threats



- There is no silver bullet for Unknown Unknowns
- Create Certainty rather than reduce Uncertainty- proactively influence the network to identify and better understand threats.



QUESTIONS?



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www.c4ads.org**



Headquarters U.S. Air Force

Integrity - Service - Excellence

Air Force EOD State of the Service



**Lt Col Charles Kelm
AF/A7CXR
Version #5**

U.S. AIR FORCE

AF Civil Engineer EOD: "Supporting JFC"



AF Civil Engineer EOD: Partnering and TSC



AF Civil Engineer EOD: "Afghanistan Ops"





U.S. AIR FORCE

State of the Service USAF EOD Basing

- **USAF has 77 Active Duty and 84 Air Reserve Component (ARC) bases**
- **EOD located on 54 Active Duty; 16 of these are associate units (AD and AFRC combined)**
 - **Nine AF Reserve Command bases**
 - **17 Air National Guard**
 - **Five flights supporting Air Component to EUCOM**
 - **Eight flights supporting Air Component to PACOM**
- **CENTCOM: USAF EOD operating in eight countries**
 - **~ 24 locations in Afghanistan/Iraq; 6 locations within other Gulf Coastal Countries**



U.S. AIR FORCE

State of the Service Deployment Transition Center (DTC)

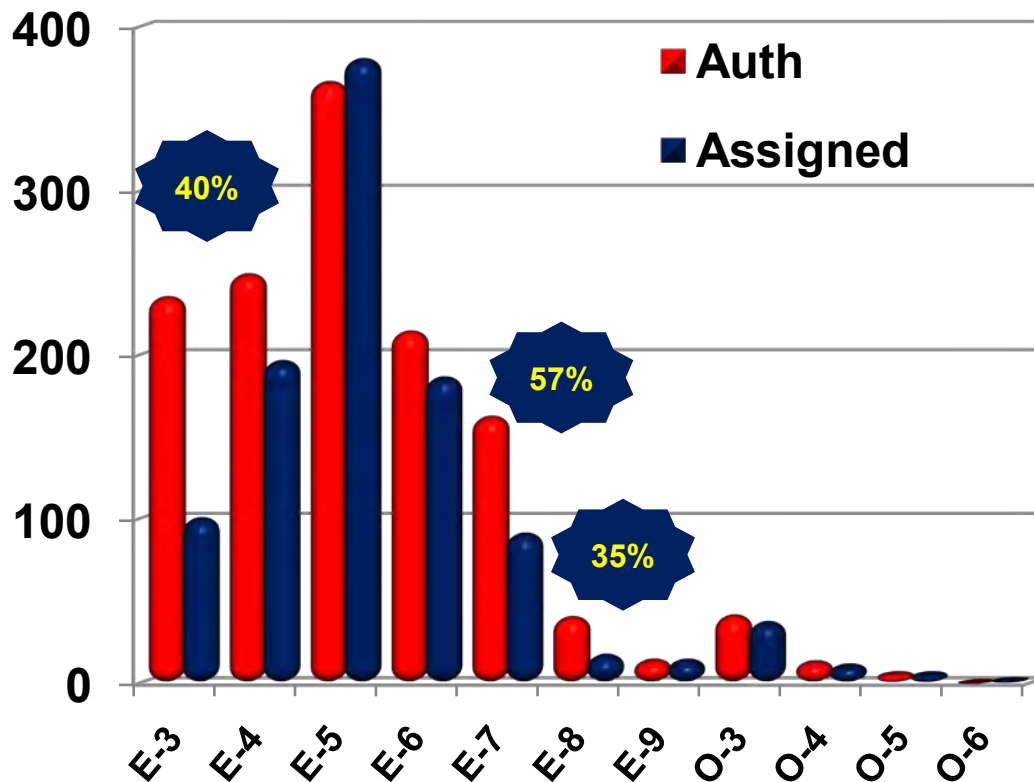
- CORONA South, Feb10 approved DTC as part of Airmen Resiliency Program
- DTC Vision - Provide critical *reintegration and decompression* time to meet the needs of Airmen at “high risk to traumatic exposure”
- Airmen and their families face increased life challenges associated with military lifestyle
 - Individual (*career, mission, life events*)
 - Family (*marital status, care for children/aging parents*)
 - Historical (*economy, war*)
- Individuals who demonstrate *resiliency* in the face of life challenges are better able to “get the job done”
- Promoting and sustaining *resiliency* critical goal for AF leaders

3Rs: Resiliency, Recovery, Reintegration”...DCoE Director



U.S. AIR FORCE

State of the Service Manning Initiatives



■ Personnel Initiatives:

- Filling ~300 vacant positions
- Increase trng quotas/utilization
- Improved unity of command under one commander
- Targeting new recruits with the goal of recruiting the “right” Amn
- Emotion Quotient-Inventory (EQ-I)
- Physical Ability Stamina Test
- Extend prelim course to 20 days
- Decrease drop on requests
- Recommending SRB adjustment to increase eligibility requirements

680 of 950 AF EOD operators have less than 10 years experience

Integrity - Service - Excellence

EXPLOSIVE ORDNANCE DISPOSAL

REMEMBERING THE FALLEN



TSgt Walter M.
Moss Jr.
29 March 2006
Baghdad, Iraq



MSgt Brad A.
Clements
21 August 2006
Taji, Iraq



SrA William N.
Newman
7 June 2007
Balad, Iraq



TSgt Anthony L.
Capra
9 April 2008
Balad, Iraq



Capt Kermit O.
Evans
3 December 2006
Baghdad, Iraq



TSgt Timothy R.
Weiner
7 January 2007
Baghdad, Iraq



TSgt Phillip A.
Myers
4 April 2009
Bastion,
Afghanistan



SSgt Bryan D.
Borly
12 September 2009
Farah, Afghanistan



SrA David B.
Miller Jr.
7 January 2007
Baghdad, Iraq



SrA Elizabeth A.
Lanks
7 January 2007
Baghdad, Iraq



TSgt Anthony C.
Campbell
15 December 2009
Helmand,
Afghanistan



TSgt Adam K.
Gincer
19 January 2010
Kohat, Afghanistan



SrA Michael J.
Burns
21 Sep 2010
Afghanistan



SrA Donald J.
Johnson
5 Oct 2010
Afghanistan







EXPLOSIVES OPERATIONS DIVISION



Edward Kittel
Chief, Explosives Operations Division
Transportation Security Administration

Explosives Operations Division History

- 1970 – Established at FAA Security (FAA HQ)
- 2002 – Transitioned to TSA under AVOPS (TSA HQ)
- 2004 – Transferred to ICE/FAMS (Reston)
- 2005 – Transferred to TSA/FAMS (Reston)
- 2006 – Transferred to OLE/FAMS Office of Security Services & Assessments (TSA HQ)
- 2009 - Transferred to TSA Office of Security Operations (TSA HQ)

Explosives Operations Division



Mission:

Provide an expert, rapidly deployable, national level resource that conducts all aspects of transportation explosives security for the United States and foreign governments.

The Explosives Operations Division's (EOD) mission is broad based and extends into all aspects of the transportation domain.

EODs mission in simple terms is to allow no bombs in the transportation system.

In respect to TSAs broader mission, EOD provides both DHS and TSA with world class chemical, biological, radiological, nuclear and explosives (CBRNE) related knowledge, skills and abilities.

Explosives Operations Division

Transportation Security Specialist – Explosives (TSS-E)

Overview:



- **Specialists average over 22 years Explosive Ordnance Disposal experience each**
 - **Over 7200 years cumulative EOD expertise**
 - **Tactical Military and Special Operations backgrounds**
 - **All have security clearances**
- **Selected TSS-E are:**
 - **Certified Post-Blast Investigators**
 - **Graduates of the National Transportation Safety Board’s “Aircraft Accident Investigation School”**
- **Multimodal training:**
 - **Aviation**
 - **Maritime**
 - **Mass Transit**
 - **Freight Rail**
 - **Pipeline**

Current Staffing

- **Headquarters**
 - **11 HQ personnel (includes 2 support personnel)**
 - **4 Field HQ reports**
 - **Research and Special Projects**
 - **Emerging Technologies**
 - **National Explosives Security Training Manager**
 - **TSOC/Freedom Center Liaison Officer**
- **Transportation Security Specialists – Explosives**
 - **Aviation**
 - **406 TSS-E at ~140 airports**
 - **Multimodal/FAMS Support**
 - **20 positions**
 - **VIPR (Multimodal)**
 - **25 positions**

Total TSS-E: 464

Technical Explosives Support Capabilities



**Intelligence
Threat Analysis**



Training/Outreach



Investigations

Technical Explosives Support to ALL Aspects of Homeland Security



Technical Security Support



RDT&E

Technical Security Support

Transportation Security Specialists -Explosives

- Advanced Alarm Resolution
- TSO IED awareness training
- Explosive Vulnerability Assessments (all modes)
 - Risked Based Analysis
 - Security Countermeasures
 - Training
- MANPADS Vulnerability Assessments
- VIPR Support



Intelligence Threat Analysis



- Technical Intelligence Analysis of explosives and CBRN threats
- Quantitative Risk Analyses
- Forensics analysis support to the Terrorist Explosive Device Analytical Center (TEDAC)
- Produce IED exemplars for briefings and training on current threats
- IICT—Technical Threat Countermeasures Subcommittee Member

Post Blast Investigation

TWA 800
July 17, 1996



First VP of Sudan
Helicopter Crash
July 30, 2005

Research, Development, Testing, and Evaluation



Develop TSA countermeasures and mitigation techniques

Evaluate effectiveness of countermeasures

Support on explosives, weapons effects, CBRN, aircraft hardening, and equipment development

TSWG/DHS S&T/RMAP/Project Newton participation

Aircraft explosives tests are also used to improve post-blast investigation skills

Training/Outreach

Explosives and IED Recognition Training

- TSS-Es provide training on explosives and IED recognition to TSA personnel.



Training/Outreach

Multimodal Training for Bomb Squads



Training/Outreach

BSRTS Course Overview

- **Course Modules**
 - Aviation
 - Mass Transit
 - Maritime
 - Rail
- **Identify transportation system components**
- **Introduce operators to the operational considerations, constraints, and challenges of operating in a specific transportation mode**
- **History of specific transportation mode attacks**
- **Practical Exercises**



Training/Outreach

BSRTS-T Objectives

BSRTS-T course is designed to provide Bomb Technicians the opportunity to make health-life safety decisions in a non-threatening environment in preparation for performing potentially hazardous Improvised Explosive Device (IED) render safe operations within Mass Transit Systems.



Training/Outreach

BSRTS-T Objectives – (Cont)

BSRTS-T course will introduce bomb technicians to the unique challenges of the Mass Transit Environment through a series of lectures, demonstrations and realistic practical exercises. The training is designed to identify and resolve potential problems before they manifest themselves during actual emergency situations.



Transportation Explosives Security Training Center (TESTC)

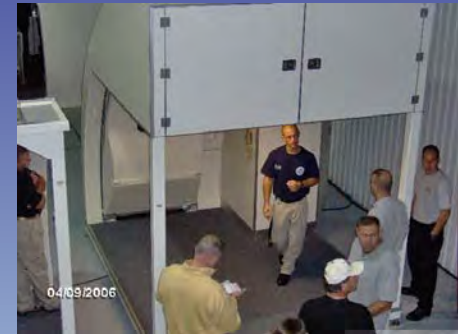
- Located in Pueblo, CO with the TSA's Surface Transportation Security Training Center (STSTC).
- Tasked with providing initial and specialized training to TSS-E in all modes of transportation explosives security.
- Explosives training for TSA
TSA Regulatory Inspectors



Training/Outreach

Training Support to FAMS and VIPR Teams

- **TSS-Es also provide training on:**
 - **LRBL**
 - **Simulator Drills**
 - **CBRN threat and personal protection**



QUESTIONS???



E-Mail: EOD_HQ@DHS.GOV



LEBANESE ARMY



LEBANESE TEAM

LTC SAID GHANIME

(COMMANDER OF THE EOD BATTALION)

MJ JEAN JADAM

(AMMUNITIONS TECHNICAL EXPERT)

WO MUSTAPHA HADDOUL

(EXPERT IN EOD COMPANY)





Engineer Regiment Briefing

Location : Warwar , Babda Area , Lebanon



ENGINEER REGIMENT



Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required



ENGINEER REGIMENT



Structure , Missions,
Capabilities

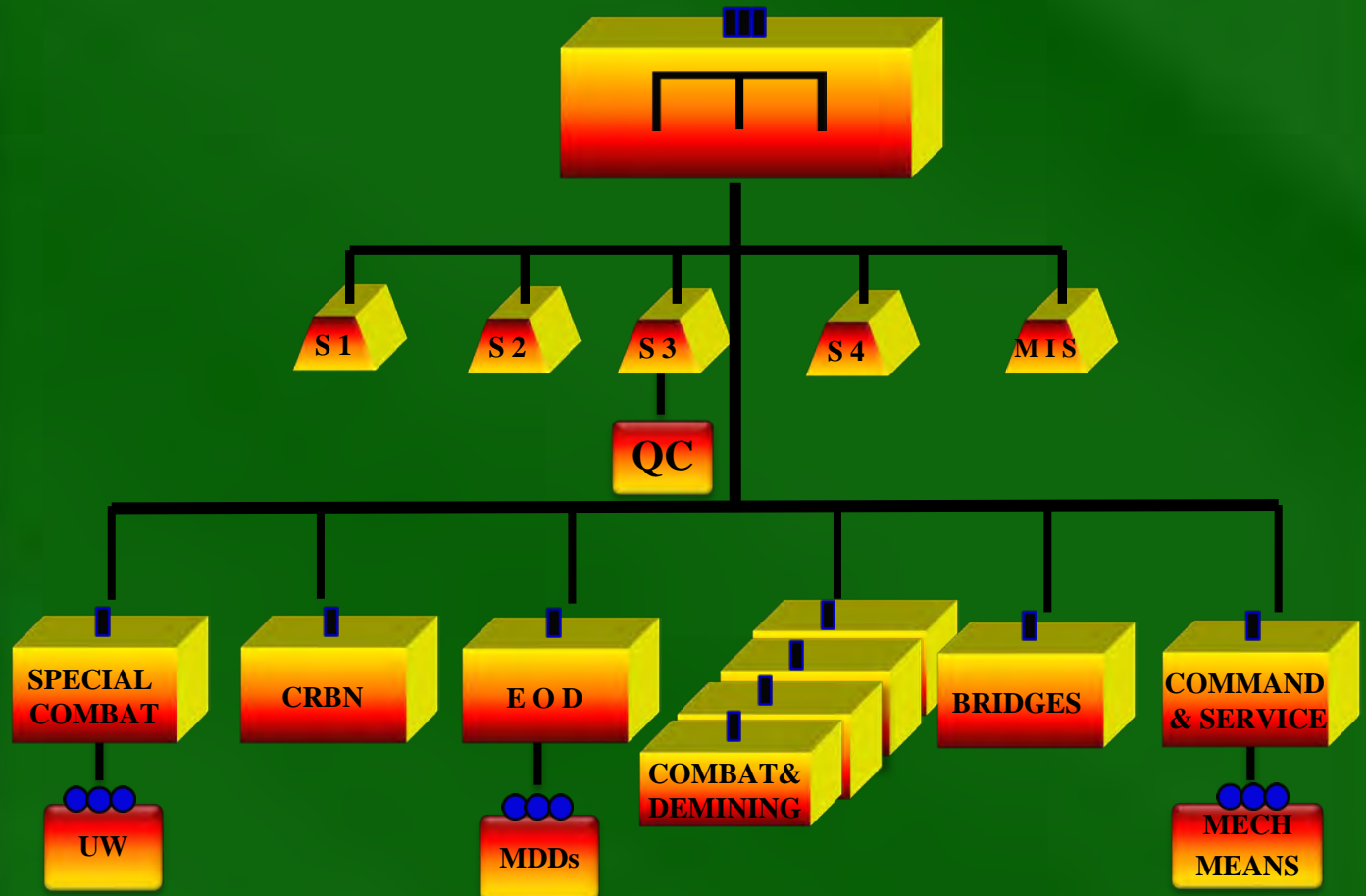
Actual Activities
Location, Deployment



Achievements

Assistance Required

Structure





Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required

Mission

Enhance the combat effectiveness of the Infantry brigades by providing Engineering support.

Demining, Treatment of U.X.Os, I.E.Ds & CRBN.

Infantry missions.



ENGINEER REGIMENT



Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required

Capabilities

- Engineering support for 4 brigades and 3 Special Regiments.
- Rivers crossing for 2 Infantry Brigades.
- Secure Engineer intelligence and reconnaissance.
- Technical support to units in supply and fortification works.
- Participate in fortifications assault.
- Technical EOD , IED & CRBN support at the national level.





Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required

Humanitarian Demining & BAC Activities all over the country

- 1ST Company & 2nd Company, Demining sites around Beirut Areas deployed with LMAC executing TS missions and 1 sampling team.
- 3rd Company, North Lebanon , BAC missions.
- 4th Company, South Lebanon, Demining & BAC sites.
- MDD & Flail teams, as second assets after companies clearing or area reduction.



ENGINEER REGIMENT



Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required

Deployment:



ENGINEER REGIMENT



Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required



Humanitarian Demining & BAC



ENGINEER REGIMENT



Structure , Missions,
Capabilities

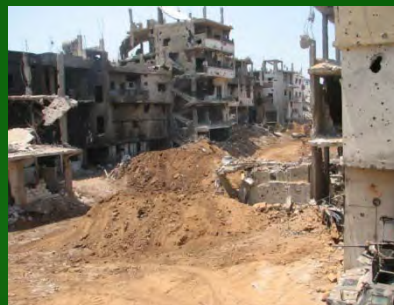
Actual Activities
Location, Deployment



Achievements

Assistance Required

Humanitarian Demining & BAC



ENGINEER REGIMENT



Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required



MDD



ENGINEER REGIMENT



Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required

FLAIL





Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required

Support activities

- **Command & Services company support Companies and Army (maintenance , fortification...) all over LB.**
- **EOD company EOD & IED missions all over LB.**
- **CRBN company all over LB.**
- **Bridging company all over LB.**
- **Special Combat company, Under Water EOD missions all over LB .**



ENGINEER REGIMENT



Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required



Command & Service



ENGINEER REGIMENT



Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required



EOD & IED missions



ENGINEER REGIMENT



Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required

Bridging



ENGINEER REGIMENT



Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required

UW EOD missions





Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required

Other activities

- Training Engineering , EOD & IED courses for the army and other Agencies.
- Training Mine Action Standards and Procedures (SOP).
- Participation in awareness campaigns conducted by the LMAC.
- Preparing training publications.
- Fire baptisms.
- Development missions.





Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required

Humanitarian Demining & BAC cleaning process

- 1- Recon or TS report.
- 2- Cleaning plan.
- 3- Delivered to a company for cleaning operations.
- 4- Quality assurance during cleaning stages .
- 5- Completion report issued by the company and delivered to ENG REG HQ.
- 6- Quality control (Either positive or negative).
- 7- Final completion report issued by the REG and delivered to. LAF HQ to be stored in IMSMA section in LMAC .



ENGINEER REGIMENT



Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required

Mines & UXOs Neutralized since 13/10/1990 till 31/12/2009

TYPE	NUMBER
Anti-personnel mine	40880
Anti-tank mine	5818
UXO, Bombs, Missiles	86594
Others (IED, sub-mun, bullet..)	257806
TOTAL	391098



ENGINEER REGIMENT



Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required



Area cleared since 1/01/2005 till 31/12/2009

Year	Cleared areas (m ²)		
	DEMINING	FLAIL	MDD
2005	1880939	-	-
2006	1716528	-	-
2007	3733084	57850	50435
2008	833839	99870	42435
2009	792640	143756	77800

ENGINEER REGIMENT



Structure , Missions,
Capabilities

Actual Activities
Location, Deployment

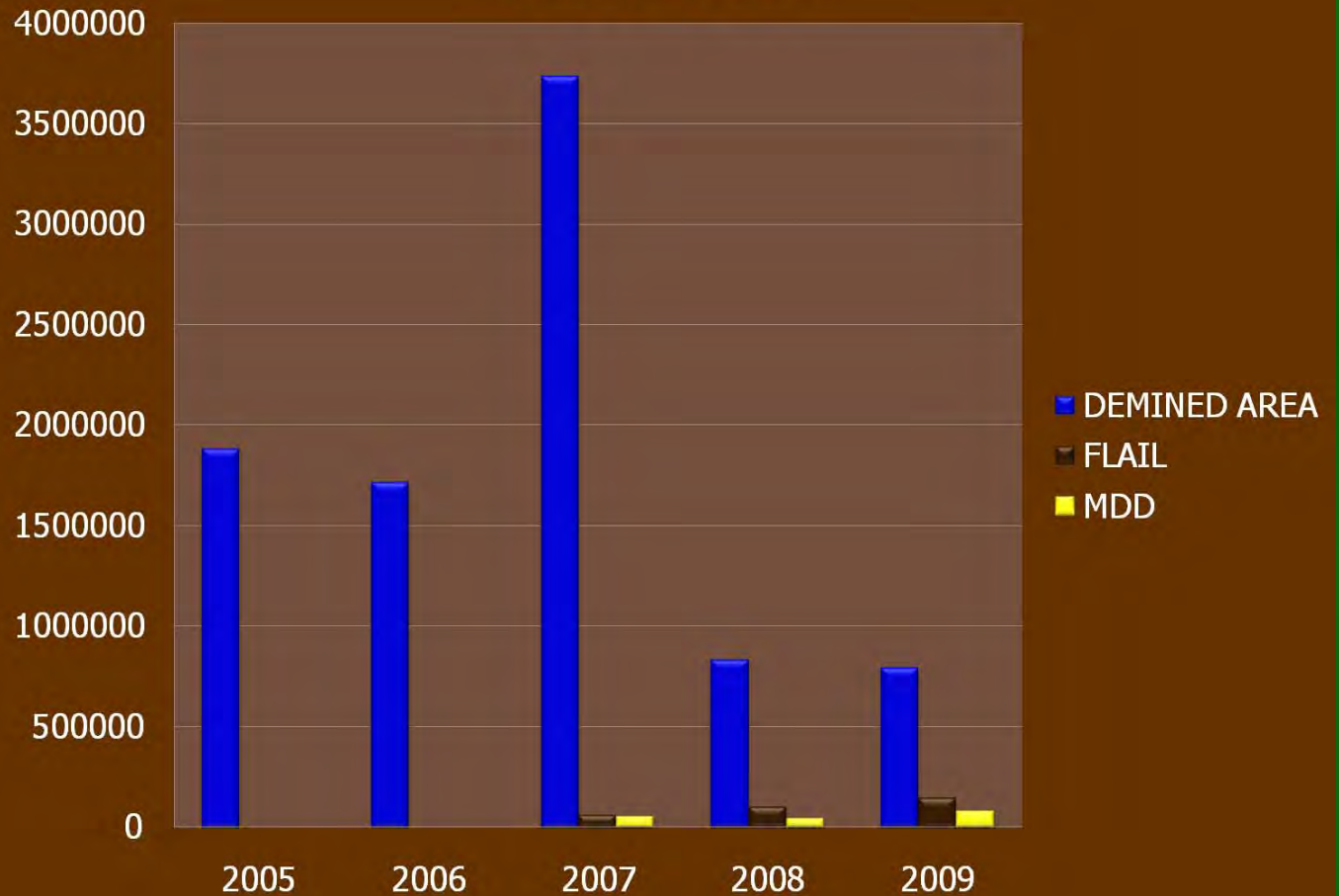


Achievements

Assistance Required



CLEARED AREA



ENGINEER REGIMENT



Structure , Missions,
Capabilities

Actual Activities
Location, Deployment

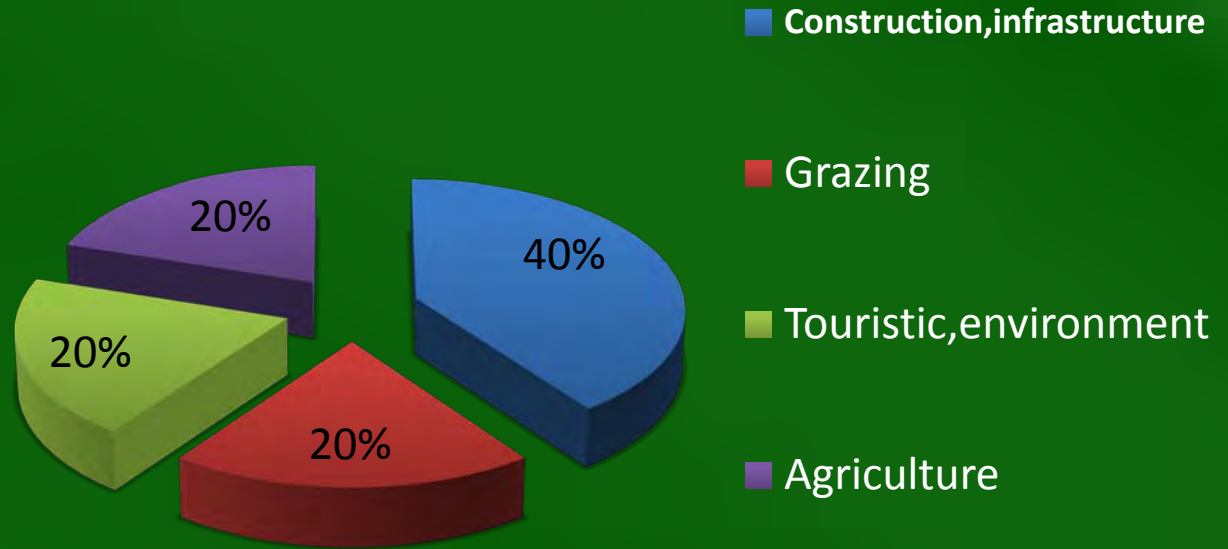


Achievements

Assistance Required



National Impact of cleared area



ENGINEER REGIMENT



Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required



REGIMENT VICTIMS





Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required

After July 2006 Israeli aggressive attack

- BAC rapid respond after Israeli hostile attack finished.
- Building a temporarily passages over the rivers for the deployment of the Army in the South.
- Installing” ACROW” BRIDGES.
- Fortifications works for the Army in the south.
- Maintaining bridges that been built by French , British & Russian Armies.
- Reinforcing the troops in the south with (ENG & EOD) teams.
- Partisipating in contending terrorism attack against LAF in Naher Bared camp .



ENGINEER REGIMENT



Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required



Naher Bared



ENGINEER REGIMENT



Structure , Missions,
Capabilities

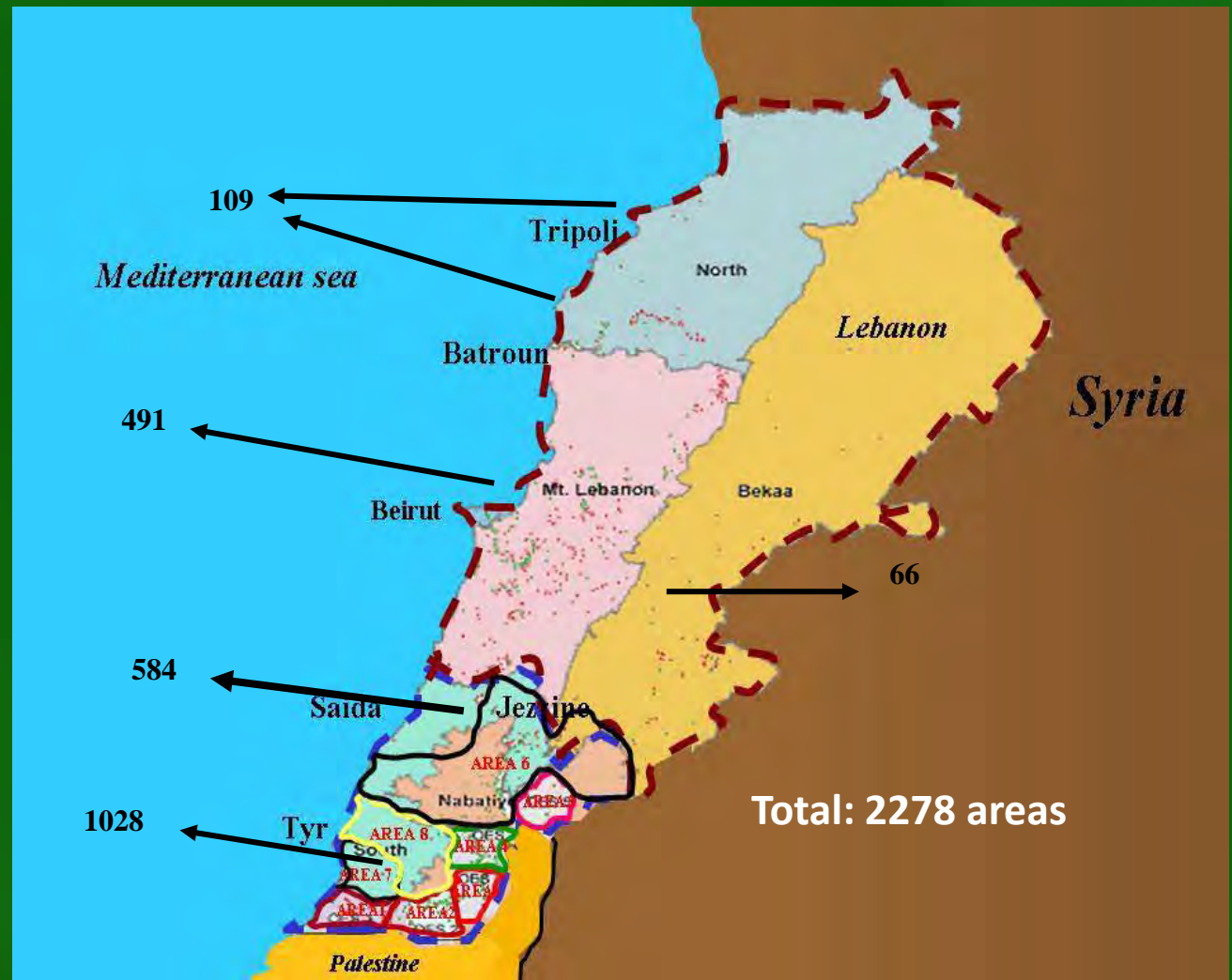
Actual Activities
Location, Deployment



Achievements

Assistance Required

ESTIMATED REMAINING MINE FIELDS & DANGEROUS AREAS



ENGINEER REGIMENT



Structure , Missions,
Capabilities

Actual Activities
Location, Deployment



Achievements

Assistance Required



TRAINING	Training Center EOD – UW EOD Courses HMA Demining Courses CRBN Courses Bridging Courses Management Courses												
	<table border="1"> <tr> <td rowspan="6">EQUIPMENT & MAINTENANCE</td> <td>EOD-UW EOD</td> <td>EOD Kits, ROBOT, JAMING SYST & 60 Series Pubs</td> </tr> <tr> <td>DEMINEING</td> <td> PPEs Helmets AND Visors Detectors Ambulances – Medical Kits Deminer Kits Survey kits Trucks (Maintenance , Spare parts) ENG Vehicles (Maintenance , Spare Parts) Communications Equipments </td> </tr> <tr> <td>IT</td> <td>(PCs & accessories)</td> </tr> <tr> <td>CRBN</td> <td>CRBN Equipments</td> </tr> <tr> <td>MDDs</td> <td>New MDDs</td> </tr> <tr> <td>BRIDGING</td> <td>Speed Mounted Bridges</td> </tr> </table>	EQUIPMENT & MAINTENANCE	EOD-UW EOD	EOD Kits, ROBOT, JAMING SYST & 60 Series Pubs	DEMINEING	PPEs Helmets AND Visors Detectors Ambulances – Medical Kits Deminer Kits Survey kits Trucks (Maintenance , Spare parts) ENG Vehicles (Maintenance , Spare Parts) Communications Equipments	IT	(PCs & accessories)	CRBN	CRBN Equipments	MDDs	New MDDs	BRIDGING
EQUIPMENT & MAINTENANCE	EOD-UW EOD		EOD Kits, ROBOT, JAMING SYST & 60 Series Pubs										
	DEMINEING		PPEs Helmets AND Visors Detectors Ambulances – Medical Kits Deminer Kits Survey kits Trucks (Maintenance , Spare parts) ENG Vehicles (Maintenance , Spare Parts) Communications Equipments										
	IT		(PCs & accessories)										
	CRBN		CRBN Equipments										
	MDDs		New MDDs										
	BRIDGING	Speed Mounted Bridges											
FACILITIES	Buildings & Prefabricated (training center)												
PERSONNEL	Recruit new deminers												

ENGINEER REGIMENT



**Structure , Missions,
Capabilities**

**Actual Activities
Location, Deployment**



Achievements

Assistance Required

**Thanks for your attention.
Questions ?**



DEFENSIE
LA DÉFENSE



VOORRANG AAN VREDE
PRIORITÉ À LA PAIX



DEFENSIE
LA DÉFENSE



VOORRANG AAN VREDE
PRIORITÉ À LA PAIX

Belgian EOD Group

SitRep

Briefing GECE

LtCol GS MOERMAN Luc



04 May 2011

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**DEFENSIE
LA DÉFENSE**

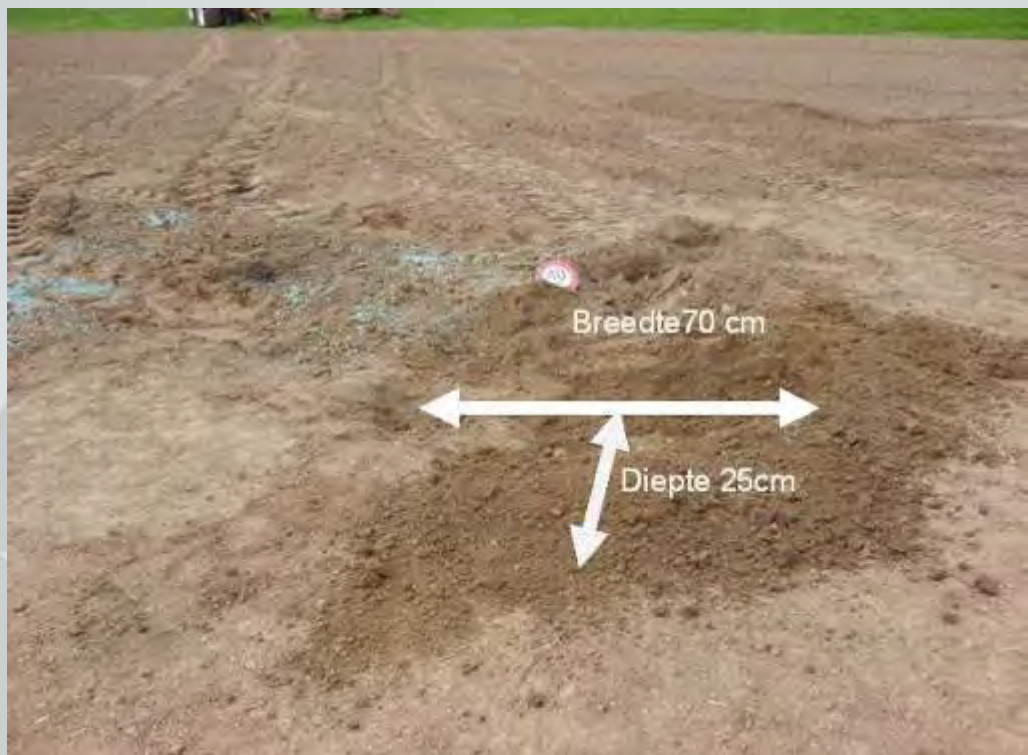


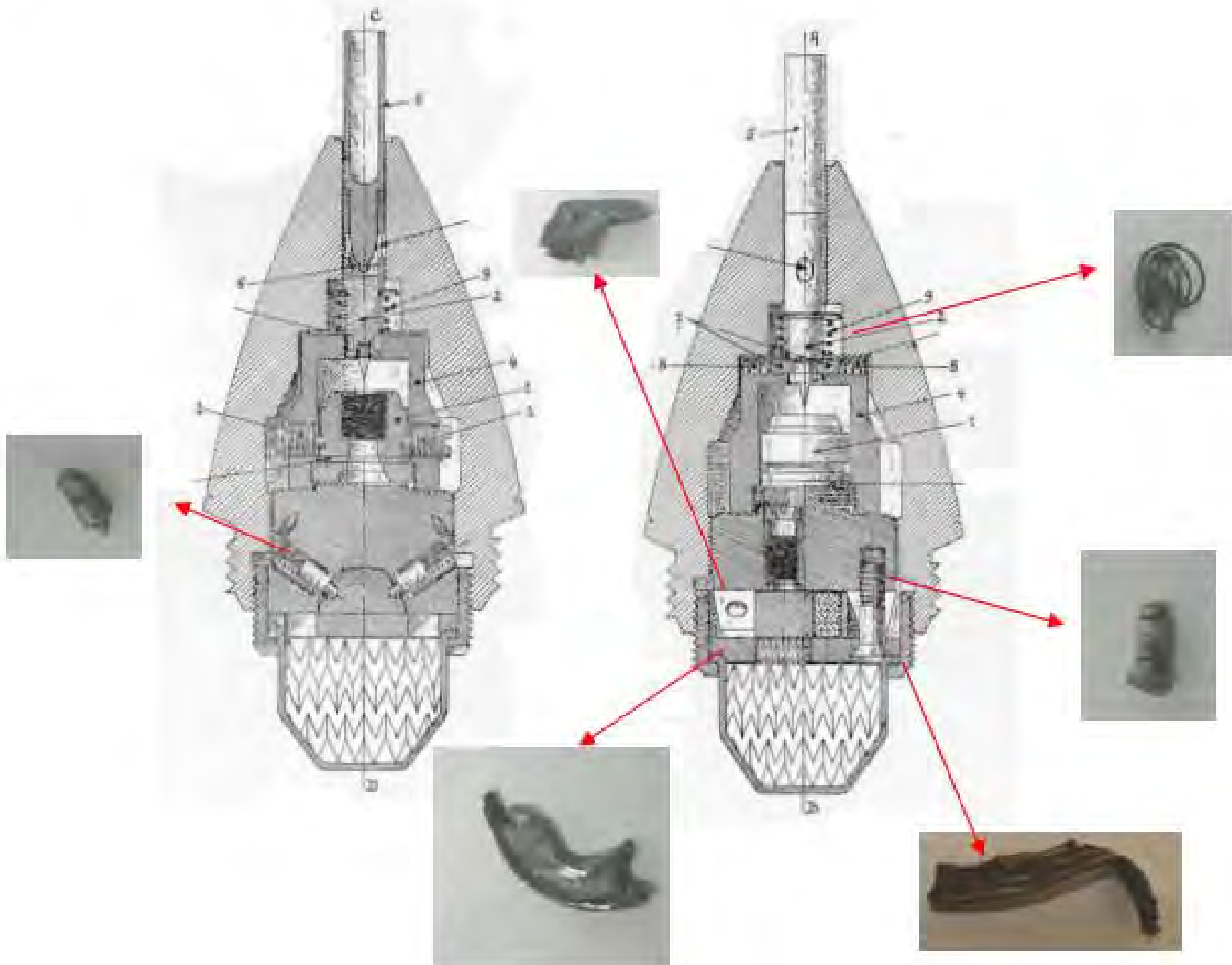
**VOORRANG AAN VREDE
PRIORITÉ À LA PAIX**

324

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AGENDA

- **Organisation**
- **Main tasks**
 - **Disposal of conventional munition**
 - **OCW program**
 - **Disposal of IEDs**
 - **Instruction and training**
 - **EOD support abroad**
- **Defeat the network**
- **Industry/Material related issues**



CHOD

ACOS Ops & Trg

COMOPSAIR

COMOPSLAND

COMOPSNAV

COMOPSMED

COL 2D

4 Engr Bn

11 Engr Bn



EOD Gp

MEERDAAL

POELKAPELLE

ZEEBRUGGE

171
(130)
Army
Air
Navy

128
(115)
Army
Air
Navy

42
(39)
Navy
Army

Personnel

Total OT : 26 - 182 - 133 (341)

Sit Jan 11 : 23 - 139 - 122 (284)

 OT : 18 - 128 - 62 (208)

Sit Jan 11 : 17 - 95 - 63 (167)



ZEEBRUGGE

POELKAPELLE

BRUSSELS

MEERDAAL

210 mi

 **EOD Gp**

- Ops Branch
- EOD-Ti2
- EODSC

Meerdaal

- • •
- EOD**
- • •
- IEDD**
- • •
- EOD School**

Poelkapelle

- • •
- EOD**
- • •
- Tox**

Zeebrugge

- • •
- EOD**
- • •
- Diving School**



MAIN TASKS

- Disposal of ammunition WW I & WW II and obsolete Ammunition (*CMD*)
- Dismantling Toxic ammunition WW I (*OCW*)
- Disposal of IEDs (*IEDD*)
(*technical assistance to Juridical Authorities*)
- Instruction and training
- EOD support abroad



CMD

On land (responsive, initiated by Police)





CMD

DIVING TASKS in territorial sea (*RDS : Ready Duty Ships*) and inland waterways





CMD

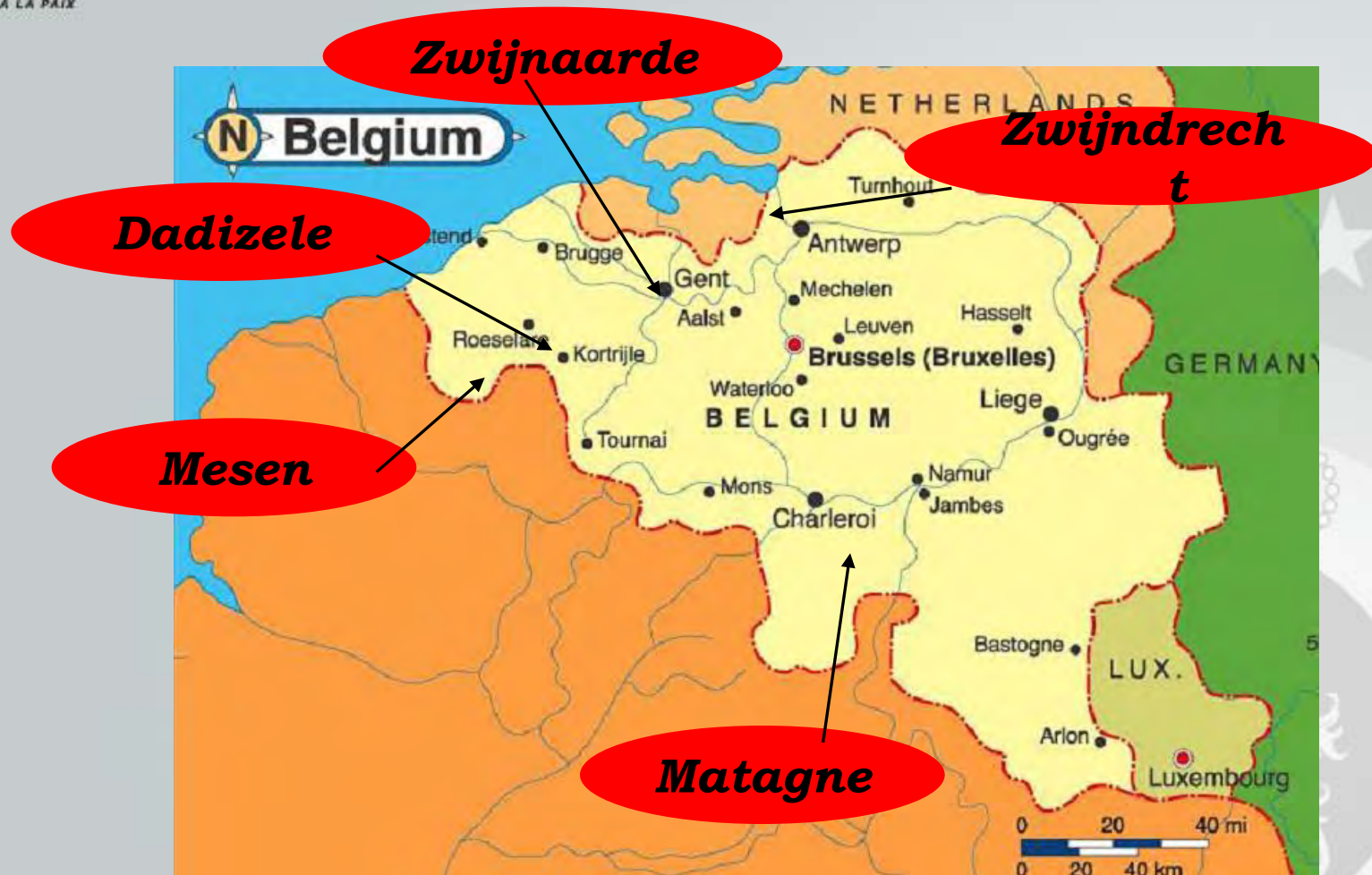
AIRCRAFT CRASH



Crash F16
SOMAL -FAILON 2004



Sites (known)





Sites (known)

SITE	HISTORY	QTY	EXECUTION
DADIZELE 2	Dump WW I	?	No permission by owner
ZWIJNAARDE 2	Explosion GE Mun Dep WW II	20 t	PLANNED
MATAGNE	Dump GE WW I/ II + PRB	?	NOT PLANNED
MESEN	2 mine chambers WW I	50 - 90 t	NOT PLANNED (15 to 25 m depth)
Fortress ZWIJNDRECHT	Mun UK/BE/FR/GE WW I / II	2000 - 4000 t	Until 2008: 40t 2009: 98t 2010: 30 t



ZWIJNDRECHT



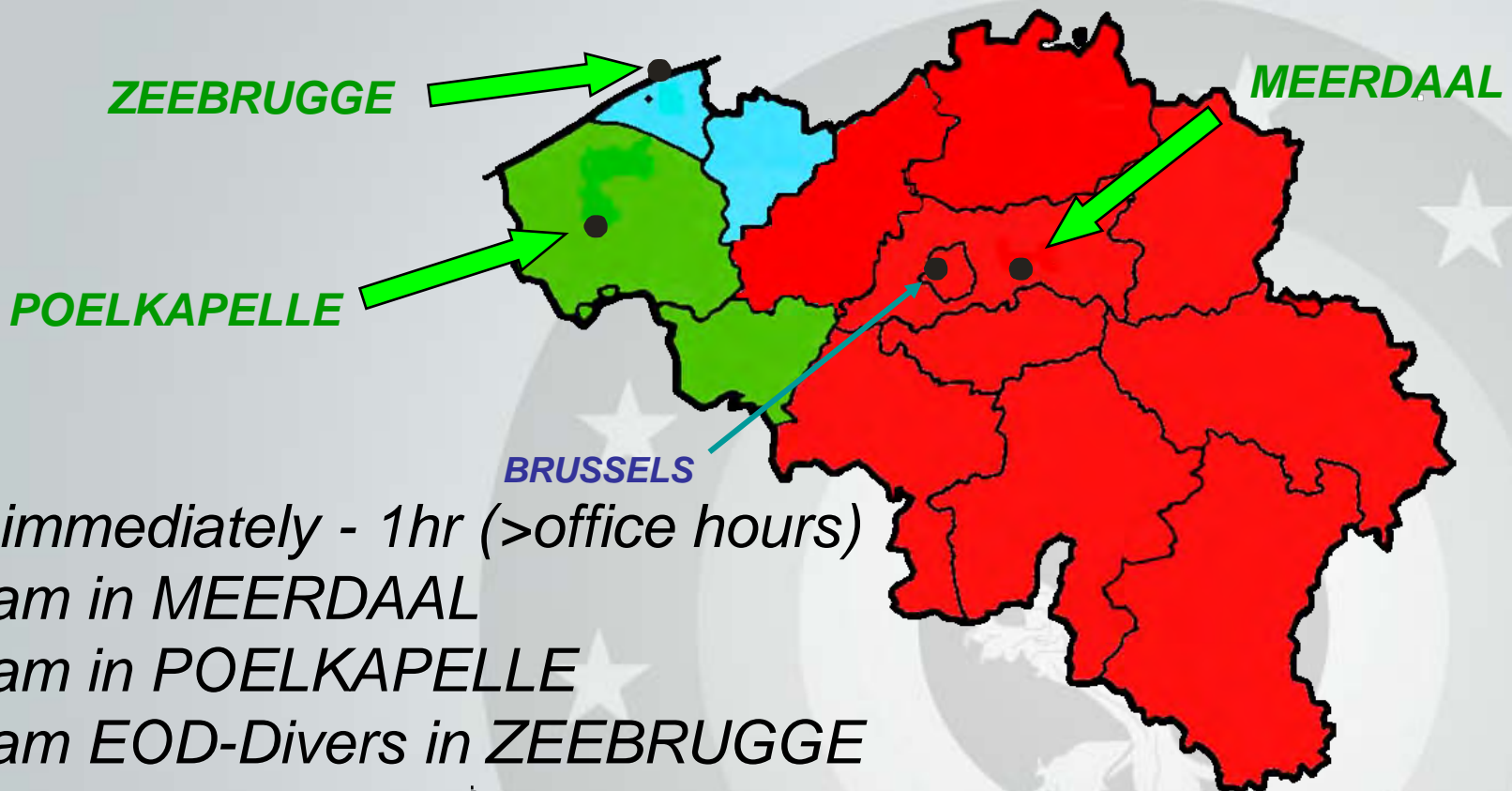
LONCIN 2007





CMD

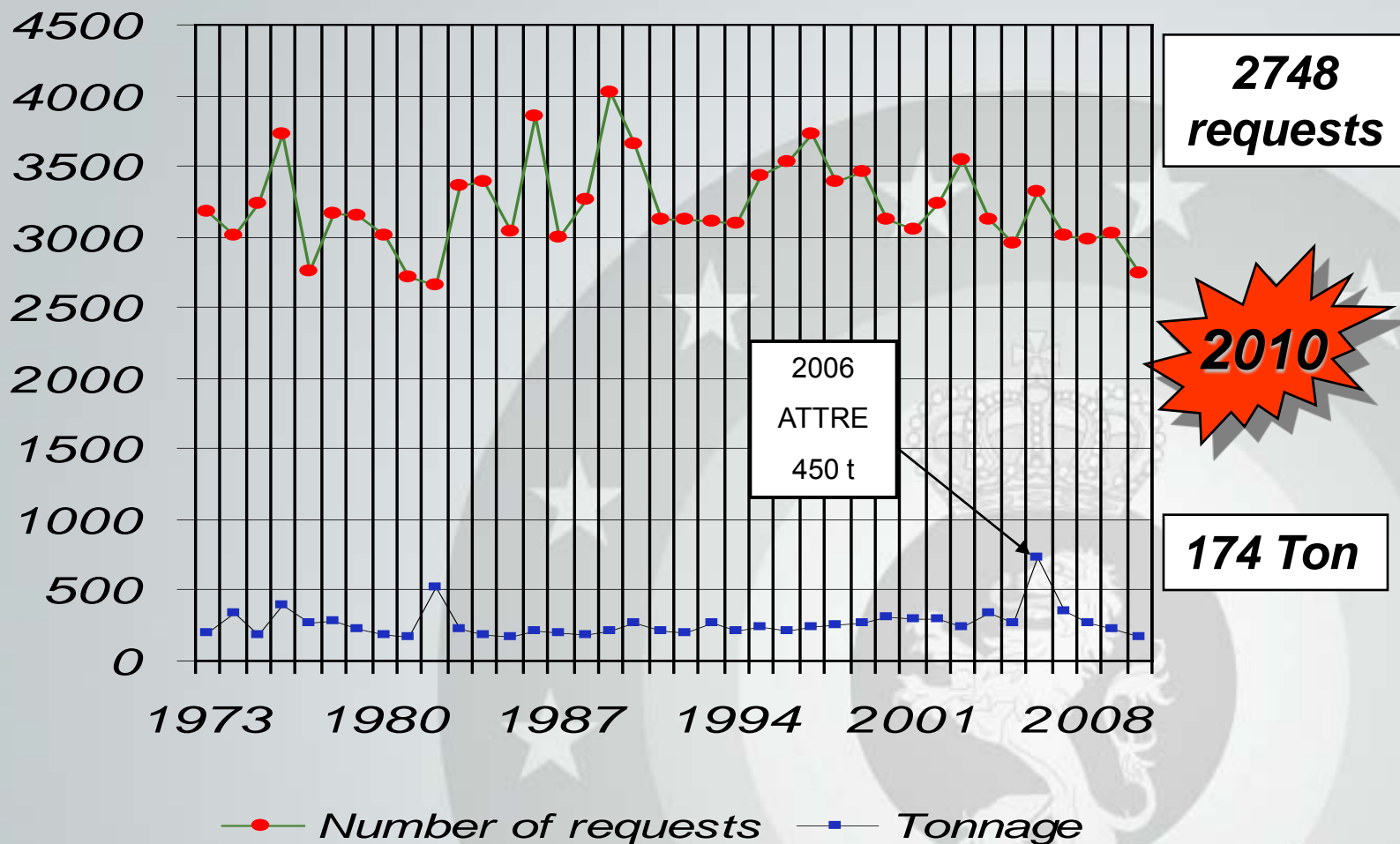
NATIONAL STAND-BY



- *NTM : immediately - 1hr (>office hours)*
- *one team in MEERDAAL*
- *one team in POELKAPELLE*
- *one team EOD-Divers in ZEEBRUGGE*
- *at home with mobile phone and ASTRID*



CMD





MAIN TASKS

- Disposal of ammunition WW I & WW II and obsolete Ammunition (*CMD*)
- **Dismantling Toxic ammunition WW I (*OCW*)**
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THE 'POELKAPELLE' PROBLEM

COUNTRY	Tox Mun		Conv. Mun		TOTAL	
	Number (millions)	%	Number (millions)	%	Number (millions)	%
GERMANY	33	6,4	485	93,6	518	35,6
FRANCE	16	4,6	334	95,4	350	24,1
GREAT-BRITAIN	4	2,2	178	97,8	182	12,5
US	1	12,5	7	87,5	8	0,5
RUSSIA	3	4,2	69	95,8	72	4,9
AUSTRIA	5	2,9	170	97,1	175	12,0
ITALY	4	2,7	146	97,3	150	10,3
TOTAL	66	4,5	1.389	95,5	1.455	100,0

- **WW I**

- 1.455 millions projectiles
- Toxic shells: 4,5%
- **30 % duds ...**

- **Today**

- 250 t / year
- 700 EA toxic shells (OCW) / year





OLD CHEMICAL WEAPONS



7,7cm (DEU)



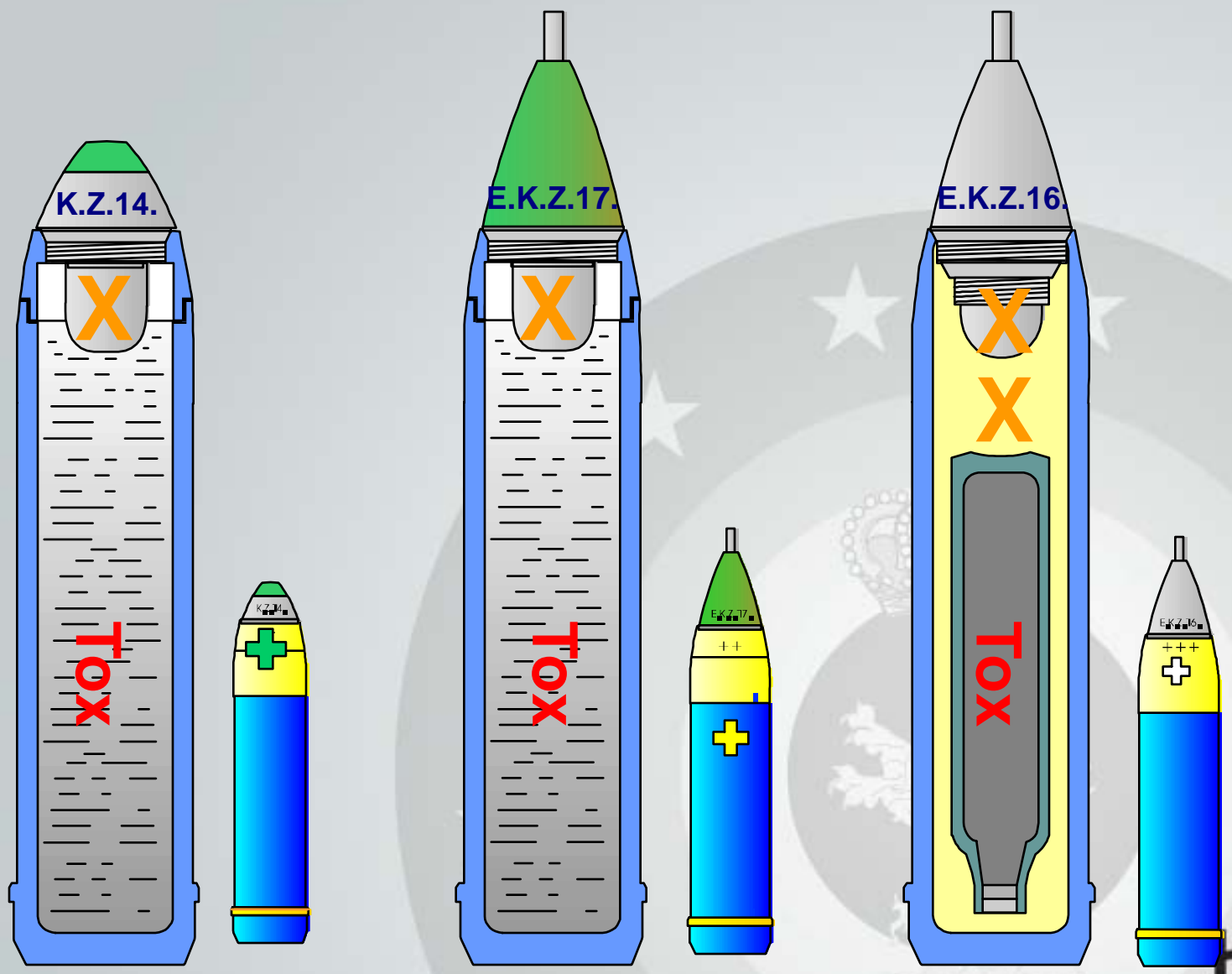
20cm LIVENS (GBR)



THE BELGIAN OCW PROGRAM

- **1989**: Government decision OCW program
- **1997 – 1999**: Intensive testing of the installation
 - Modification of process
 - Definition of new necessary investments
- **1999**: Routine identification and dismantling
- Main process : **mechanical separation**
- **2002**: introduction of **contained detonation**







Inflow

Daily found WWI
ammunitions

'Heritage'

Stockpiled supposed
OCW since 1980

High Priority

Low Priority

IDG

Non destructive IDF

OCW

Identified
OCW Platform

Non OCW
Platform

Non
OCW

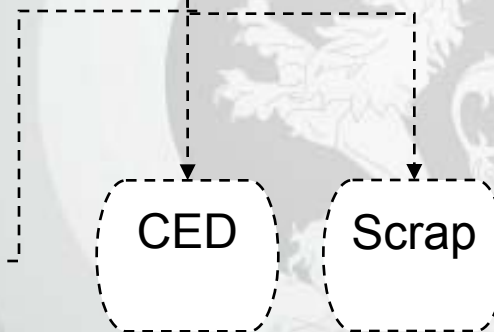
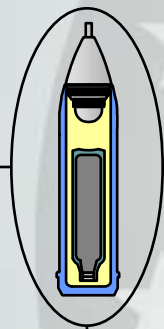
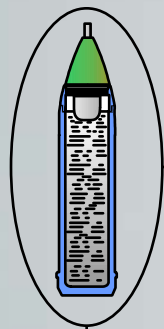
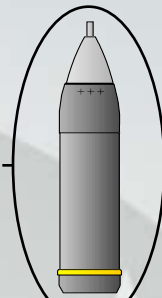
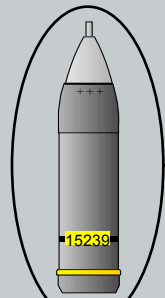
OMG

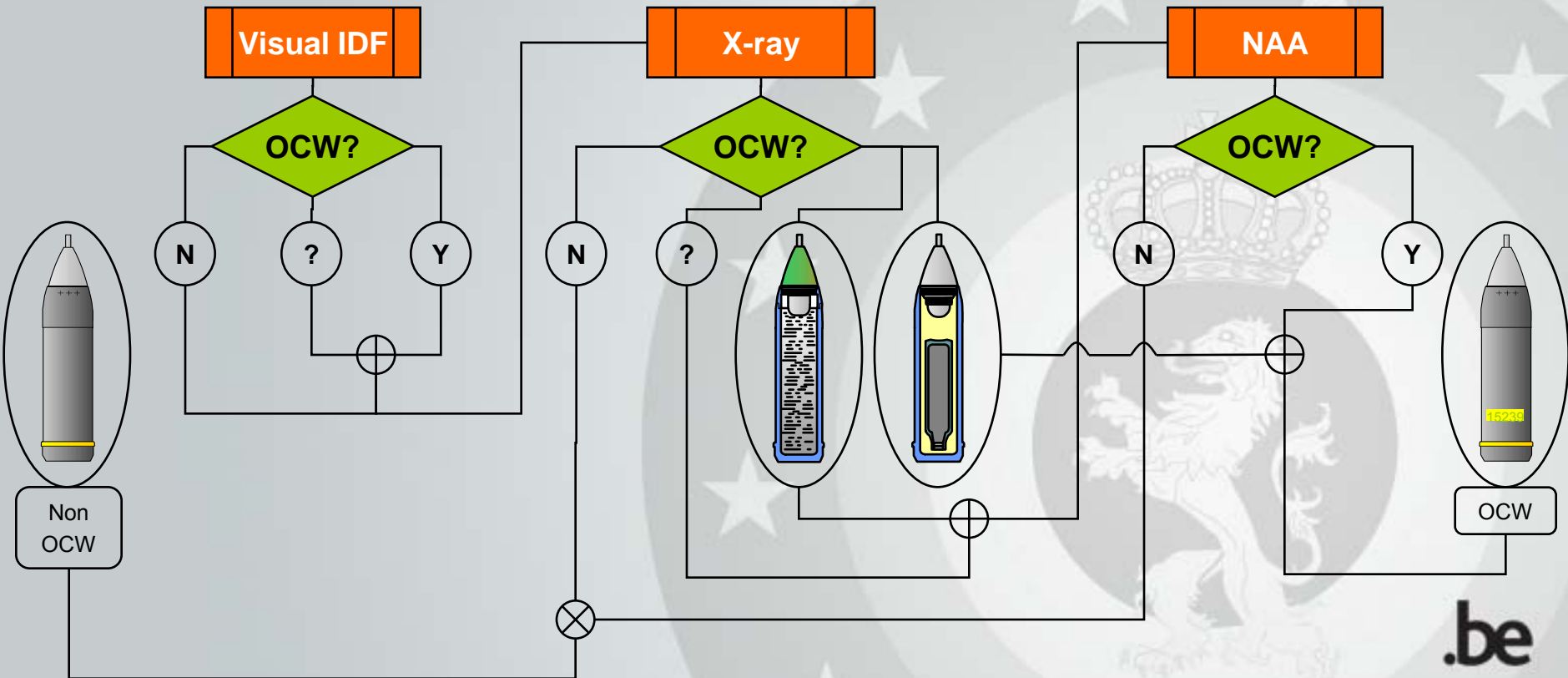
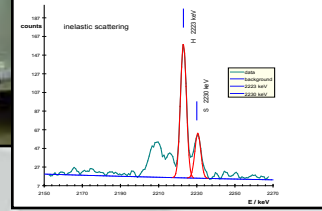
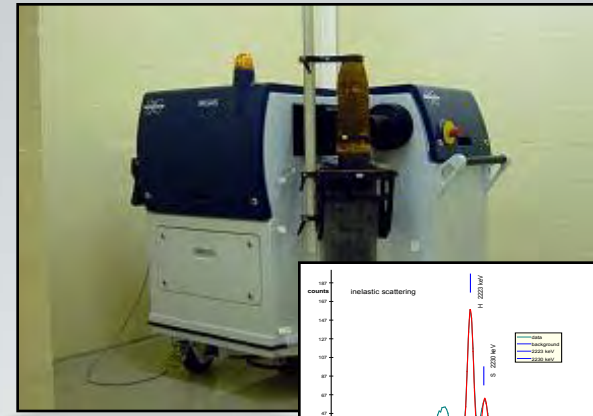
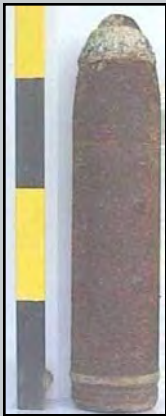
Dismantling

CDC

CED

Scrap







CDC DAVINCH 50 – KOBELCO (JAP)

- Chamber + OffGas Treatment
- $NEQ_{max} = 50 \text{ Kg}$
- $NEQ_{regime} = 25 \text{ Kg}$
- Detonation in vacuum condition
- ➔ Reduction Impulsive Load + Noise

- Target Mun
 - (2008 – 2010) : OCWs ➔ **21cm**
 - (2011 - ...)
 - Most polluting UXOs
 - Daily inflow OCWs

- DONOR : Slurry (LEDC) – 0.9 NEQ







SPIN OFF (overkill)

- To investigate some fundamental aspects of the basic functioning of a CDC and some of its operating parameters.
- Agent of choice: sulphur mustard (Yperite)
- Basic functioning & operating parameters
 - Overall: residual yperite (similar to Destruction Efficiency, DE)
 - Previous work: donor charge and “mechanical” destruction of the munitions
 - This work: **performance of the donor charge** to destroy the CWA
 - Thermal effect versus shock wave
 - Brisance of the donor, explosion temperature, importance of aluminized explosives
 - Use of additional water
 - Influence of vacuum, inert or reactive (O_2) gas
 - Ratio donor/CWA (later)

Selection of the
donor explosive

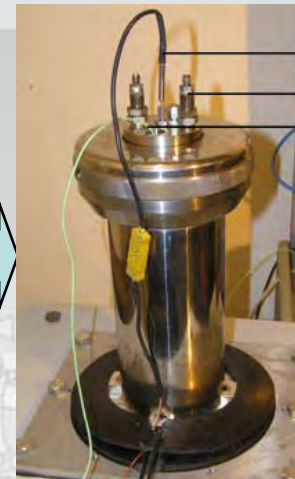
Optimizing operation
procedure



Full scale



1/7 scale model



μ-CDC



TAKE AWAY's

- Detonating donor charge has a limited additional contribution
 - In this case, about 1-% increase of DE
 - Not yet fully clear if this “1-% effect” is only due to the shock wave
 - Contribution of the shock wave could increase when the ratio “agent/donor” increases
- Residual yperite as function of temperature indicates that the high temperature in the fireball is the main factor responsible for destruction of the agent
- Appropriate detonation (i.e. brisance of the donor charge) is required for *dismantling* the item but...
- ...high destruction efficiency of the agent will be achieved with high energy energetic material.



MAIN TASKS

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- Dismantling Toxic ammunition WW I (*OCW*)
- **Disposal of IEDs (*IEDD*)**
(technical assistance to the Juridical Authorities)
- Instruction and training
- EOD support abroad



Improvised Explosive Device Disposal

NATIONAL STAND-BY 24/24 Hr

- one team in MEERDAAL barracks (NTM 15 min)
- one team at home with mobile phone and ASTRID
- up to 4 teams





NEUTRALIZATION IMPROVISED DEVICES



Vanguard



thEODor





POST-EXPLOSION investigation





TECHNICAL REPORTS



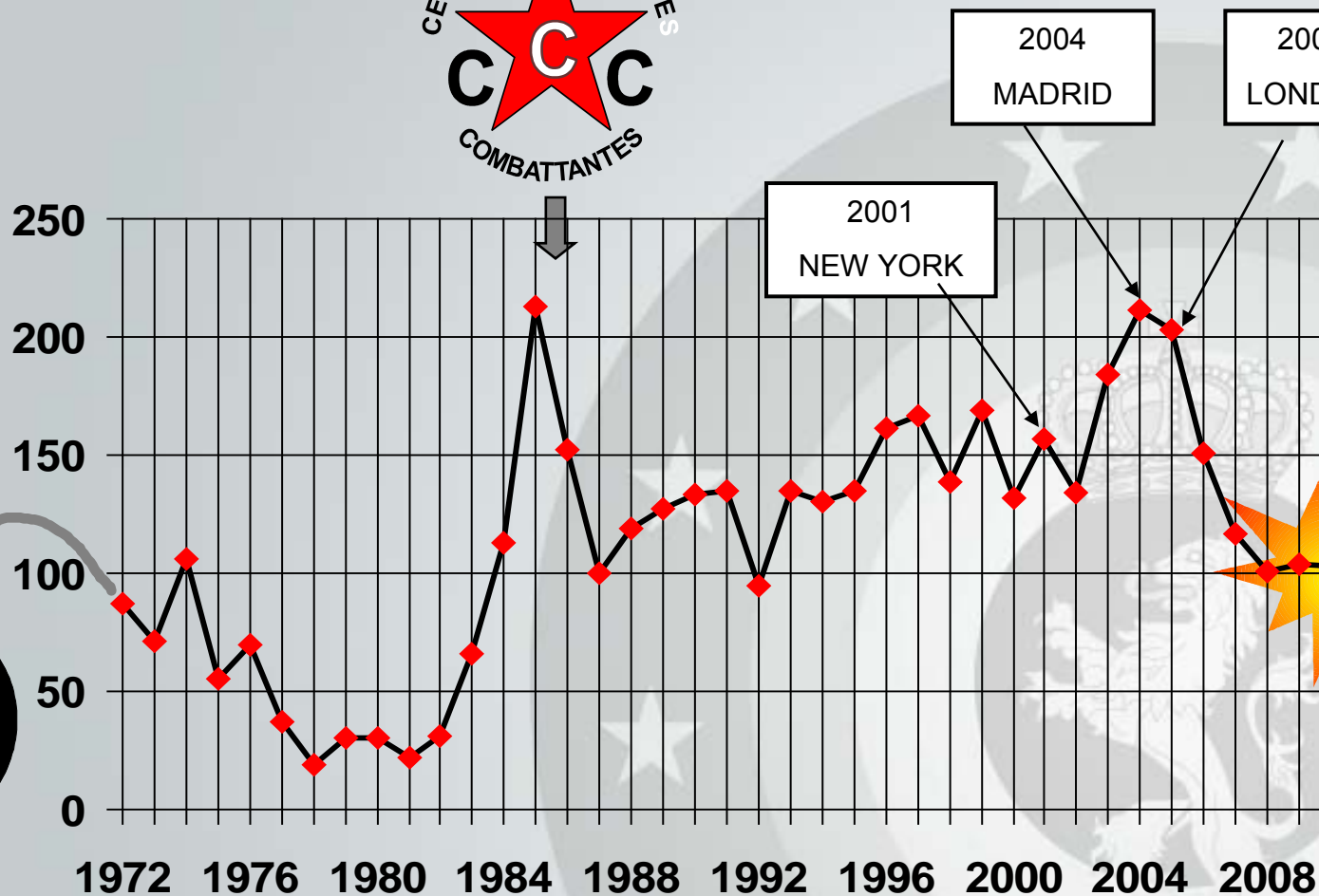


NATIONAL REPOSITORY FOR EVIDENCE





Improvised Explosive Device Disposal



2010

103 requests

57 reports





MAIN TASKS

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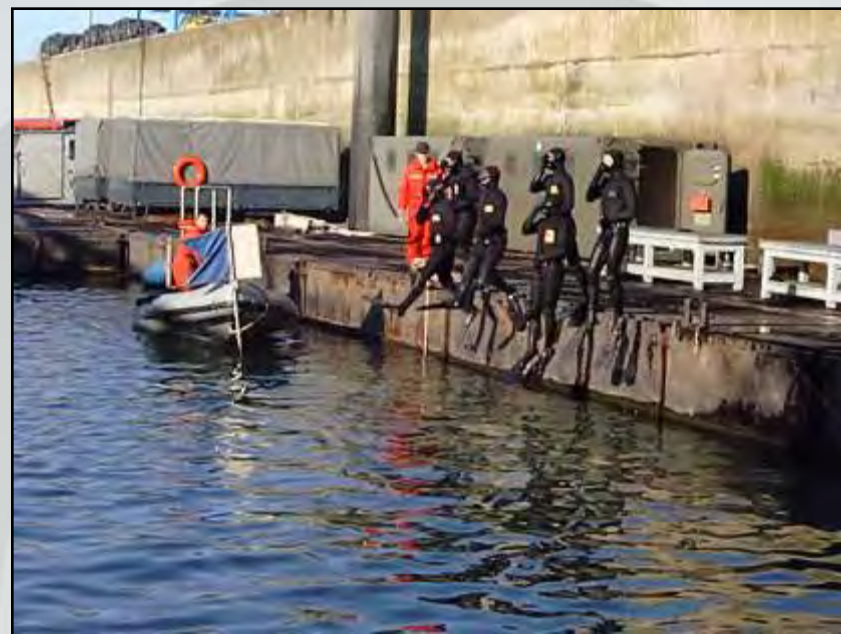


INSTRUCTION AND TRAINING

EOD SCHOOL



DIVING SCHOOL





INSTRUCTION AND TRAINING

Courses in F, N and/or E

- intra COL-2D
- intra Defense
- other Federal Departments (police, ...)
- civil authorities (Fire Service, critical infrastructure, ..)
- international (Homeland and “in country”)

! Accreditation (CHE) Police (IEDD operator)

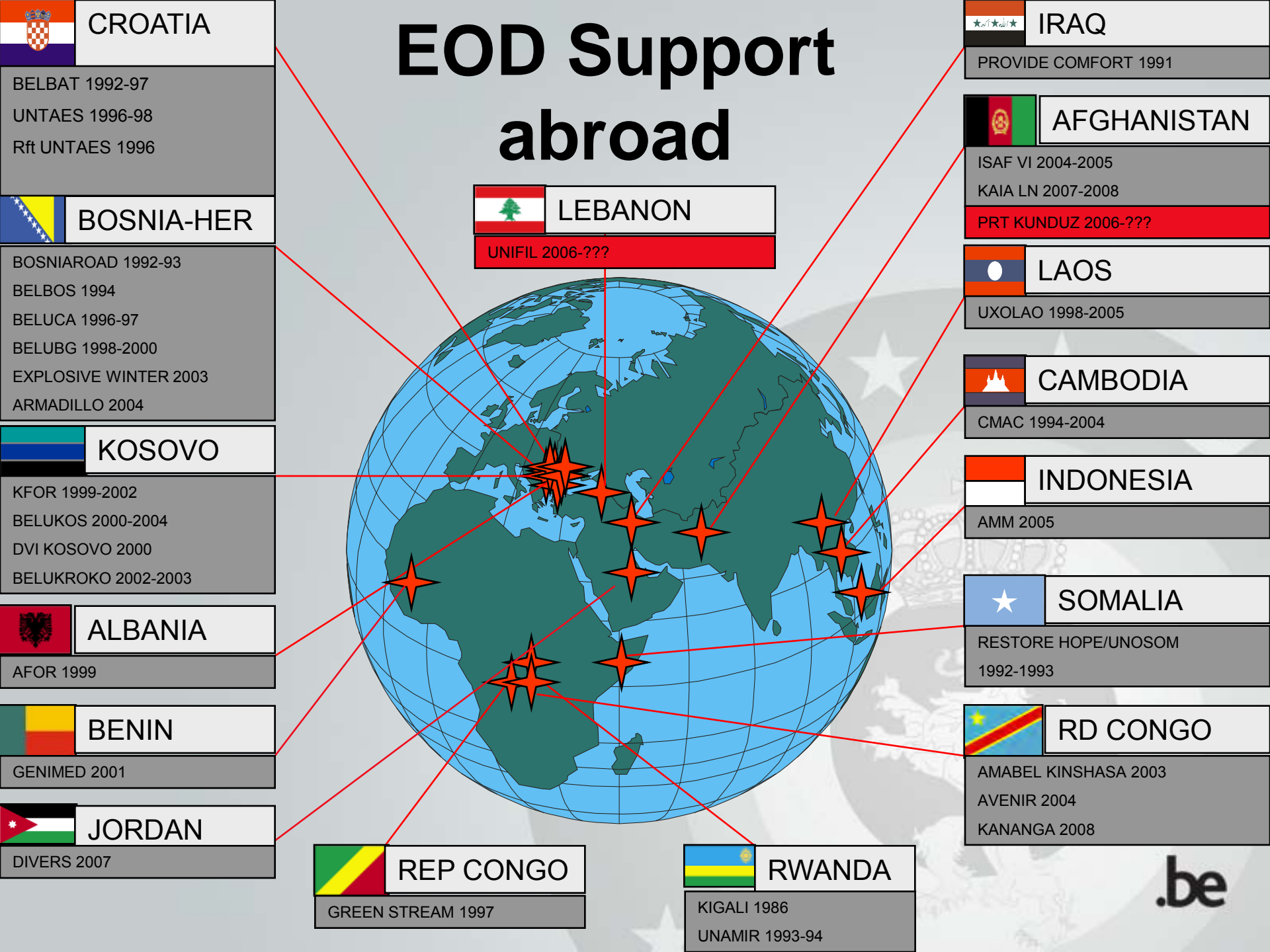
! Info IED = module basic training Police



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- **EOD support abroad**

EOD Support abroad



 CROATIA

BELBAT 1992-97
UNTAES 1996-98
Rft UNTAES 1996

 BOSNIA-HER

BOSNIAROAD 1992-93
BELBOS 1994
BELUCA 1996-97
BELUBG 1998-2000
EXPLOSIVE WINTER 2003
ARMADILLO 2004

 KOSOVO

KFOR 1999-2002
BELUKOS 2000-2004
DVI KOSOVO 2000
BELUKROKO 2002-2003

 ALBANIA

AFOR 1999

 BENIN


GENIMED 2001

 JORDAN

DIVERS 2007

 REP CONGO

GREEN STREAM 1997

 LEBANON

UNIFIL 2006-???

 IRAQ

PROVIDE COMFORT 1991

 AFGHANISTAN

ISAF VI 2004-2005
KAIA LN 2007-2008

PRT KUNDUZ 2006-???

 LAOS

UXOLAO 1998-2005

 CAMBODIA


CMAC 1994-2004

 INDONESIA

AMM 2005

 SOMALIA

RESTORE HOPE/UNOSOM
1992-1993

 RD CONGO

AMABEL KINSHASA 2003
AVENIR 2004
KANANGA 2008

 RWANDA

KIGALI 1986
UNAMIR 1993-94



AFGHANISTAN



PRT KUNDUZ : 02 teams



PRT KUNDUZ





PRT KUNDUZ





LEBANON (UNIFIL)



BELUFIL – ATIRI :

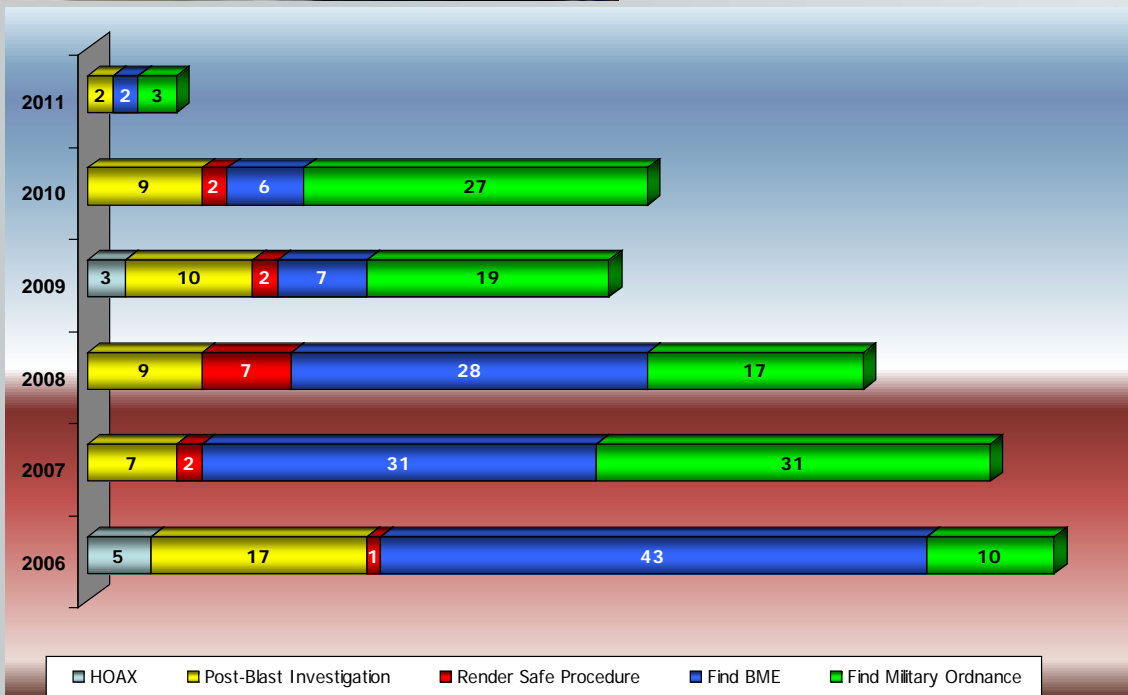
01 team



de

Attack the network

- Identify
- Analyse
- Reconstruct
- Compare



TECHNISCH VERLAG
TR 2006/24 ZAVENTEM

Inventaris van een vliegvlug bij DORMIDM op

Opdracht:
Doel: Conventie van
Naam: Nationaal MERDEK
Historie voor exploitatie en verspreiding van informatie
Baan van de vliegvlug op 10/10/2006

Contakpunt: 04500 - contact informatie op 04
T: 04500 11 00
F: 04500 11 11

Samenvatting van de inhoud:

1. Administratieve gegevens
2. Inventaris van de overblijfselen
3. Conventie van de vliegvlug
4. Technische details
5. Conclusie

ADMINISTRATIEVE GEGEVENS

1. Inventaris van de overblijfselen – Nationale GINW voor Oorlogsgruizen

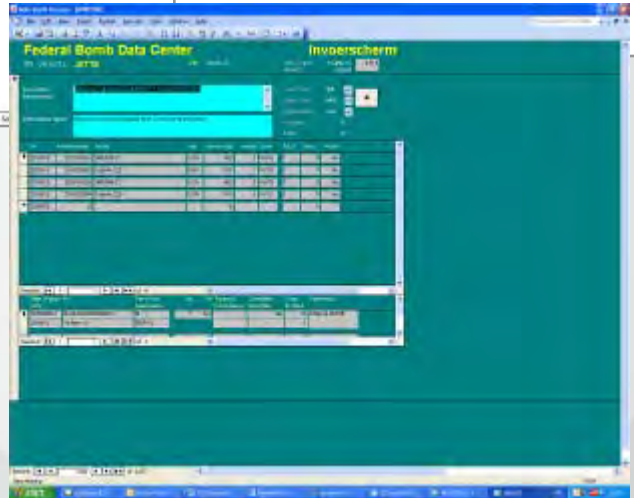
2.2 Administratieve gegevens voor de GINW

Deurcode: TR 2006/24
Deurcode: 10 11 1 100
Vliegtuig: 00-0000
Inventarisnummer: 045000 03107
Periode: 01/10/2006 tot 01/10/2006
Vliegtuig: 01/10/2006

2.3

Item	Omschrijving	Aantal	Coördinaten
1	Overblijfselen van de vliegvlug	1	04500 11 100
2	Overblijfselen van de vliegvlug	1	04500 11 100
3	Overblijfselen van de vliegvlug	1	04500 11 100
4	Overblijfselen van de vliegvlug	1	04500 11 100
5	Overblijfselen van de vliegvlug	1	04500 11 100
6	Overblijfselen van de vliegvlug	1	04500 11 100
7	Overblijfselen van de vliegvlug	1	04500 11 100
8	Overblijfselen van de vliegvlug	1	04500 11 100
9	Overblijfselen van de vliegvlug	1	04500 11 100
10	Overblijfselen van de vliegvlug	1	04500 11 100
11	Overblijfselen van de vliegvlug	1	04500 11 100
12	Overblijfselen van de vliegvlug	1	04500 11 100
13	Overblijfselen van de vliegvlug	1	04500 11 100
14	Overblijfselen van de vliegvlug	1	04500 11 100
15	Overblijfselen van de vliegvlug	1	04500 11 100

2.3.1 Overblijfselen



L2 Technical Exploitation Report



Industry / Material related issues

- **internal organization armored EOD-vehicle**
- **medium-sized RVC**
- **ECM-resistant detector**
- **containment vessel (single / multiple use)**
- **incident information database (GIS module)**



Questions?

Moerman Luc

Commanding Officer
LtCol GS
OF4 (BEL) Army

Belgian EOD Group

Naamsesteenweg 100
B-3053 Oud-Heverlee
Belgium

UNCLASS PHONE (+32) (0)16 39 5400

UNCLASS FAX (+32) (0) 16 39 5414

UNCLASS luc.moerman2@mil.be

**All that is necessary for evil to succeed is
that good men do nothing.**



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2011 Global Explosive Ordnance Disposal Conference and Exhibition



THE DEPARTMENT OF DEFENSE ***EOD and Humanitarian Mine Action***

Colonel Marue "Mo" Quick

Chief, Explosive Ordnance Disposal & Humanitarian Mine Action
OASD Partnership Strategy & Stability Operations

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POLICY

2011 Global Explosive Ordnance Disposal Conference and Exhibition

The poster features a large background image of a soldier in full combat gear kneeling in a desert environment, working on a piece of equipment. The text is overlaid on this image. At the top left is the NDIA logo. The main title is in large, bold, white letters. Below the title is the tagline in italics. On the left side, there are three smaller inset images: a soldier in a field, a soldier operating a piece of machinery, and a soldier in a trench. At the bottom, there is a red banner with white text providing event details and a small logo for the EOD Memorial Foundation.

NDIA
National Defense Industrial Association

PROMOTING NATIONAL SECURITY SINCE 1919

GLOBAL EXPLOSIVE ORDNANCE DISPOSAL CONFERENCE AND EXHIBITION

"Attacking the Network"

EMERALD COAST CONVENTION CENTER
FORT WALTON BEACH, FL
MAY 4-5, 2011
EVENT #1950

The EOD Memorial Foundation

NDIA and the EOD Memorial Foundation present the Global Explosive Ordnance Disposal Conference and Exhibition



POLICY

Purpose

To welcome, and to provide a brief overview of the DOD Explosive Ordnance Disposal Program to our attendees, industry partners, distinguished visitors, and honored guests, as we assemble for the Second Annual Global EOD Conference and Exhibition to network, exchange ideas, and remember our fallen comrades.



POLICY

Agenda

- Welcome
- What is EOD
- Attack the Network
- EOD Capabilities
- EOD Operational Deployments
- Other Missions
- EOD Training
- EOD Integration
- Challenges
- What we still need
- Summary
- EOD Heroes



POLICY

2011 Global Explosive Ordnance Disposal Conference and Exhibition



The EOD Memorial Foundation is a nonprofit organization dedicated to honoring the legacy of our fallen EOD Warriors by providing for maintenance and upkeep of the physical memorial at Eglin AFB, FL, funding and facilitating the annual EOD Memorial Ceremony & Ball, and providing scholarships to family members of active duty, former, retired, and fallen members of the EOD Community.

<http://www.eodmemorial.org/>



The National Defense Industrial Association (NDIA) is America's leading Defense Industry Association promoting national security. NDIA is proud to provide a legal and ethical forum for the exchange of information between Industry and Government on National Security issues.

www.ndia.org/

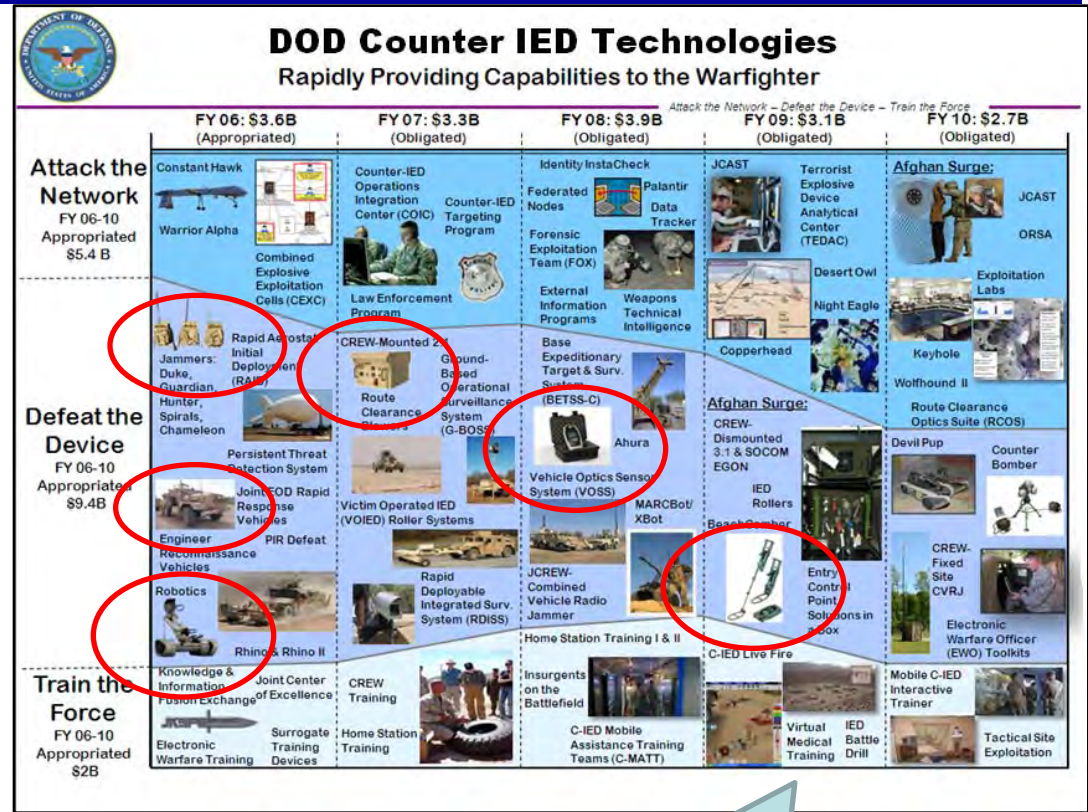


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2011 Global Explosive Ordnance Disposal Conference and Exhibition

- DoD has invested significant resources in rapidly fielding technologies to meet an ever increasing and changing IED threat.
- These technologies continue to protect our force, allow us to carry the fight to the enemy, and have significantly reduced the casualties among our EOD Members.
- It has only been through the innovation, cooperation, and diligent efforts of our industry partners that this has been able to happen.



DOD has Invested \$16.6 Billion In Counter IED Technologies

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POLICY

Counter IED technologies



ECM / CREW



Detection Technologies



EOD Rapid Response Vehicles



HME Capabilities



Advanced Robotics Platforms

DoD invests taxpayer dollars in people and technology in response to a rapidly changing IED threat.

Results: Proven technology + better training = lives saved



POLICY

What is EOD?

“The committee recognizes the dedication and courageous professionalism of the Joint Service EOD force, and acknowledges the bravery associated with defeating IED’s, countering WMD’s, and eliminating explosives hazards from the battlefield....

...EOD forces are indispensable combat enablers and contribute significantly to security, stability, counterinsurgency, and counterterrorism objectives ...”

**National Defense Authorization Act for Fiscal Year 2011,
Report of the Committee on Armed Services, House of
Representatives, May 21, 2010**



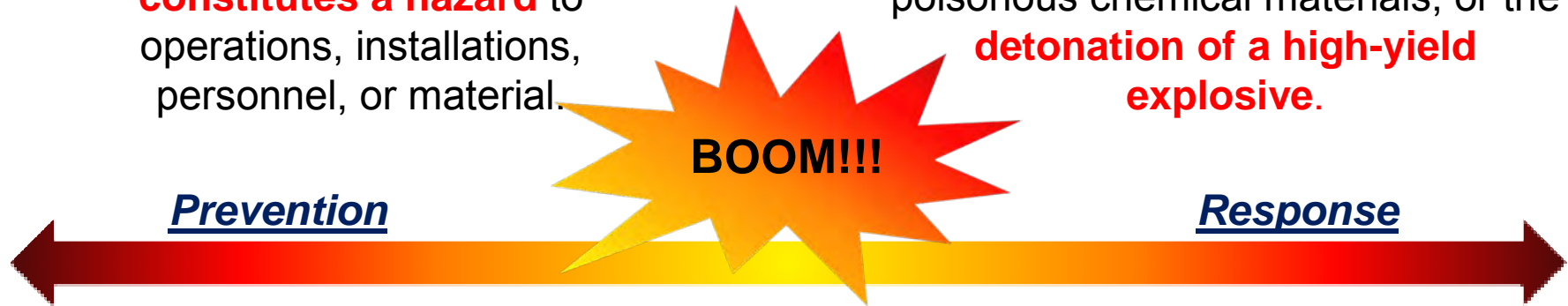
POLICY

EOD is not CBRNE

“JP 1-02 Department of Defense Dictionary of Military and Associated Terms”

EOD Incident — The **suspected** or **detected** presence of **unexploded or damaged explosive ordnance which constitutes a hazard** to operations, installations, personnel, or material.

CBRNE Incident — An emergency resulting from the **deliberate or unintentional release** of nuclear, biological, radiological, or toxic or poisonous chemical materials, or the **detonation of a high-yield explosive**.



Explosive Ordnance — **All munitions containing explosives, nuclear fission or fusion materials, and biological and chemical agents**. This includes bombs and warheads; guided and ballistic missiles; artillery, mortar, rocket, and small arms ammunition; all mines, torpedoes, and depth charges; demolition charges; pyrotechnics; clusters and dispensers; cartridge and propellant actuated devices; electro-explosive devices; **clandestine and improvised explosive devices**; and **all similar or related items or components explosive in nature**.



EOD is not Explosive Clearance

Clearing operation — An operation designed to clear or neutralize all mines and obstacles from a route or area (JP 3-15).

Clearing operations are conducted to completely eliminate obstacles, whether along a route or in a specified area. Obstacles may be explosive or non-explosive. Clearing operations involving explosive obstacles are especially difficult because the detection systems employed are imperfect and neutralization systems available are only partially effective (JP 3-15).





POLICY

EOD is a Critical Enabler

Total EOD Force Structure

Army	Navy	Air Force	USMC
1875	1634	1350	690

EOD Combat
Missions
Iraq

Over **112,500** IED
Missions Conducted
to date

EOD Combat
Missions
Afghanistan

Approximately **45,750**
IED Missions resulting
in over **20,453** Level 1
Exploitation Reports

EOD Is a **critical enabler** who
despite their small size is making a
significant impact on current combat
operations





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EOD is the Critical Link to Attacking the Network

A Five Step Process

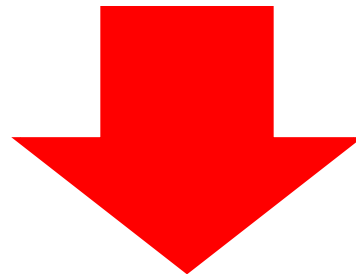
Step 1. Defeat the Device

Step 2. Collect and Exploit the Scene

Step 3. Process Technical Forensic Exploitation

Step 4. Develop Device Profiles / Identify Networks

Step 5. Disseminate Actionable Intelligence



Attack the Network

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EOD: The Critical Link



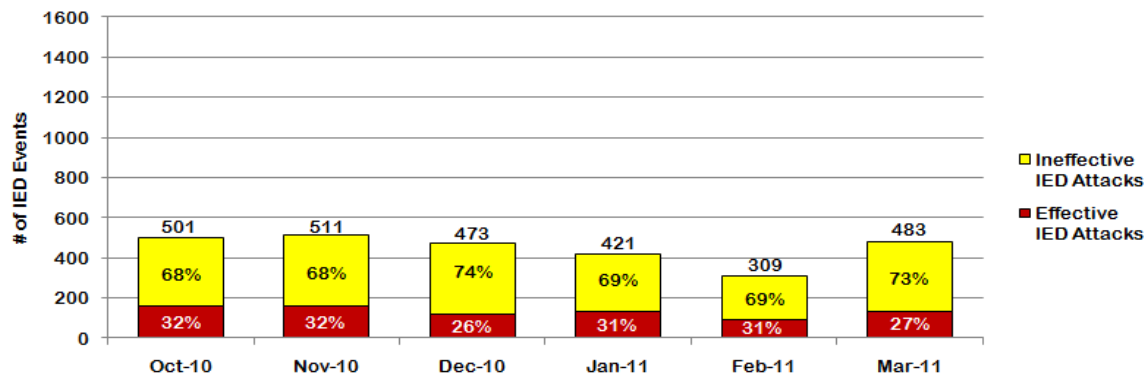
POLICY

Step 1. Defeat the Device

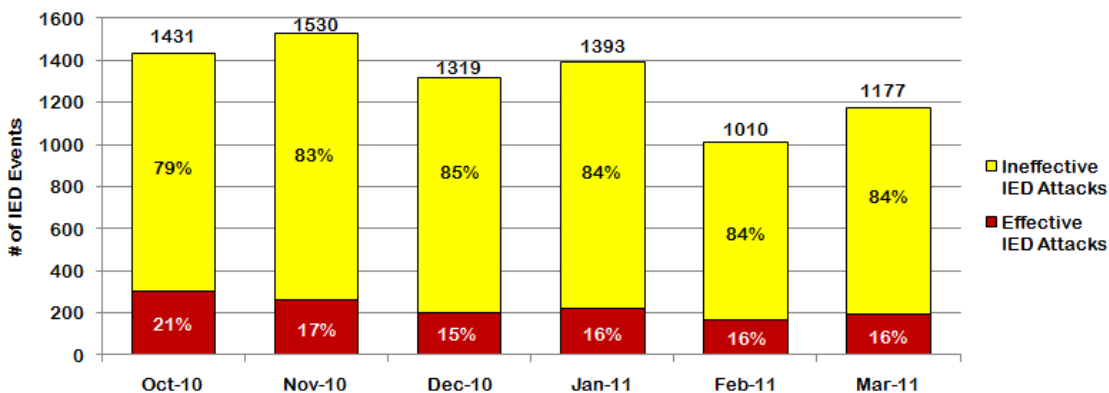


*It Begins with the
EOD Warrior*

Iraq IED Trends



Afghanistan IED Trends



EOD – Is the only authorized force trained, manned and equipped to render safe IEDs and UXOs



EOD: The Critical Link

Step 2.

Collect Information and Exploit the Scene



**In COIN, the side that learns faster and adapts more rapidly—the better learning organization—usually wins.
counterinsurgencies have been called learning competitions (FM 3-24)**



POLICY

EOD: The Critical Link

Level 1

IEDs identified, rendered safe, place, time, conditions recorded, evidence processed and photographed, tactical characterization completed

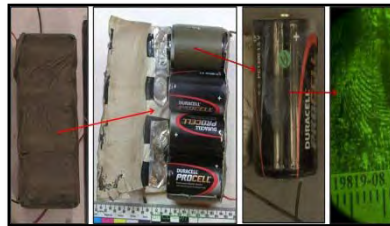
Level 2

Fingerprints, main charge identified, device type and manufacturing, electronics, and trigger analysis

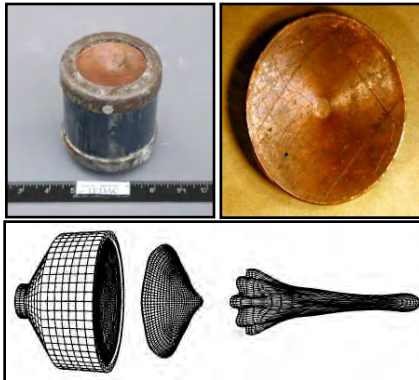
Level 3

Terrorist Explosive Device Analytical Center (TEDAC)

Fingerprints



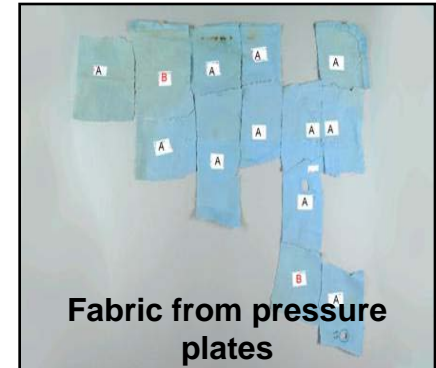
Toolmarks



DNA



Trace Evidence



Step 3
Process Technical Forensic Exploitation



POLICY

EOD: The Critical Link

Fabric Analysis

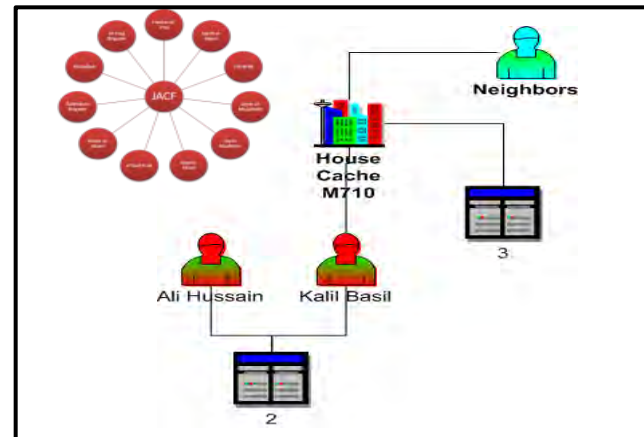


**Step 4.
Develop
Device
Profiles**

Toolmark Match



Identify Cells



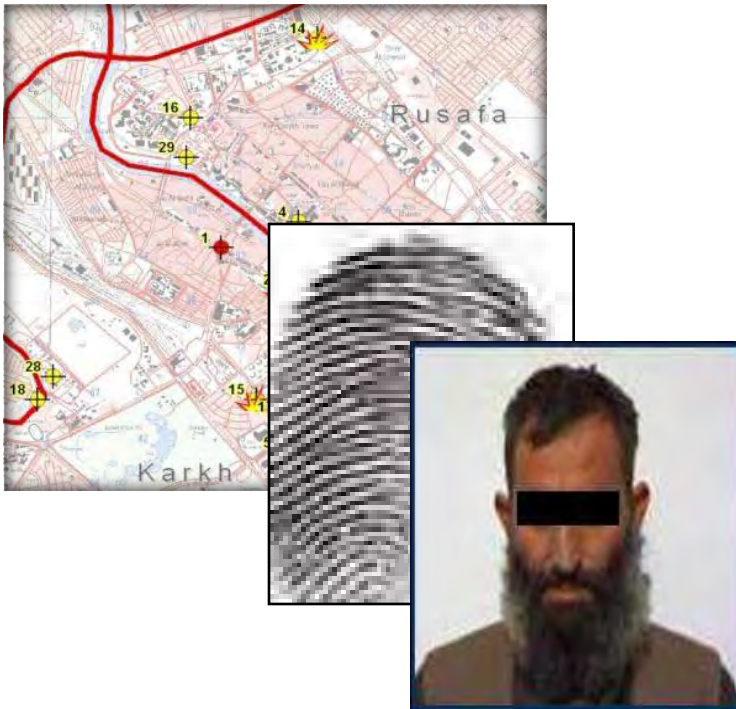
DOD in collaboration with Interagency, and Coalition partners has focused much of our investment towards these capabilities.

EOD: The Critical Link

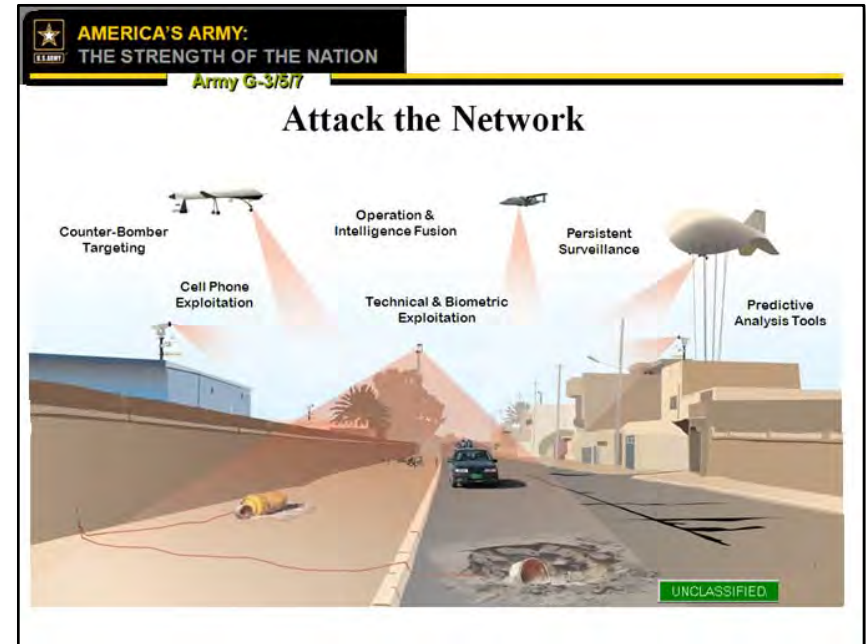


POLICY

Step 5 Disseminate Actionable Intelligence



Attack the Network



“...reduce IED attacks by eliminating the most prolific IED builders... Get the network disrupted before the emplacer gets the mission...”



POLICY

EOD: The Critical Link

*It All Starts with the
EOD Warrior*



Tactical Exploitation Partners

Level 1

EOD

WIT (AUS)
WIT (GBR)
WIT (USMC)

Level 2

EOD

CEXC
JEFF/EFL
CITP
JDEC-A

Level 3

EOD

JIEDDO
ATF
FBI
TEDAC

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Results

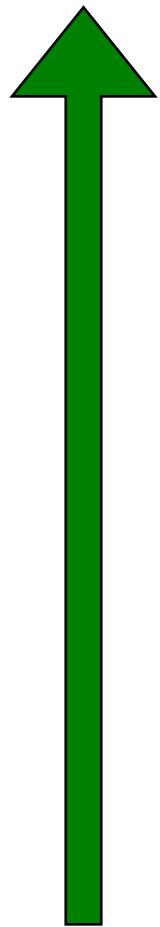
63,000	Total evidence boxes submitted
2,000	DNA profiles
300	Latent print matches
160	Trace matches
1,600	Toolmark matches
6,000	IED electronics reports
2,500	Device associations

**EOD is
integrated at
every level of
exploitation
and maneuver**



POLICY

EOD Capability Development

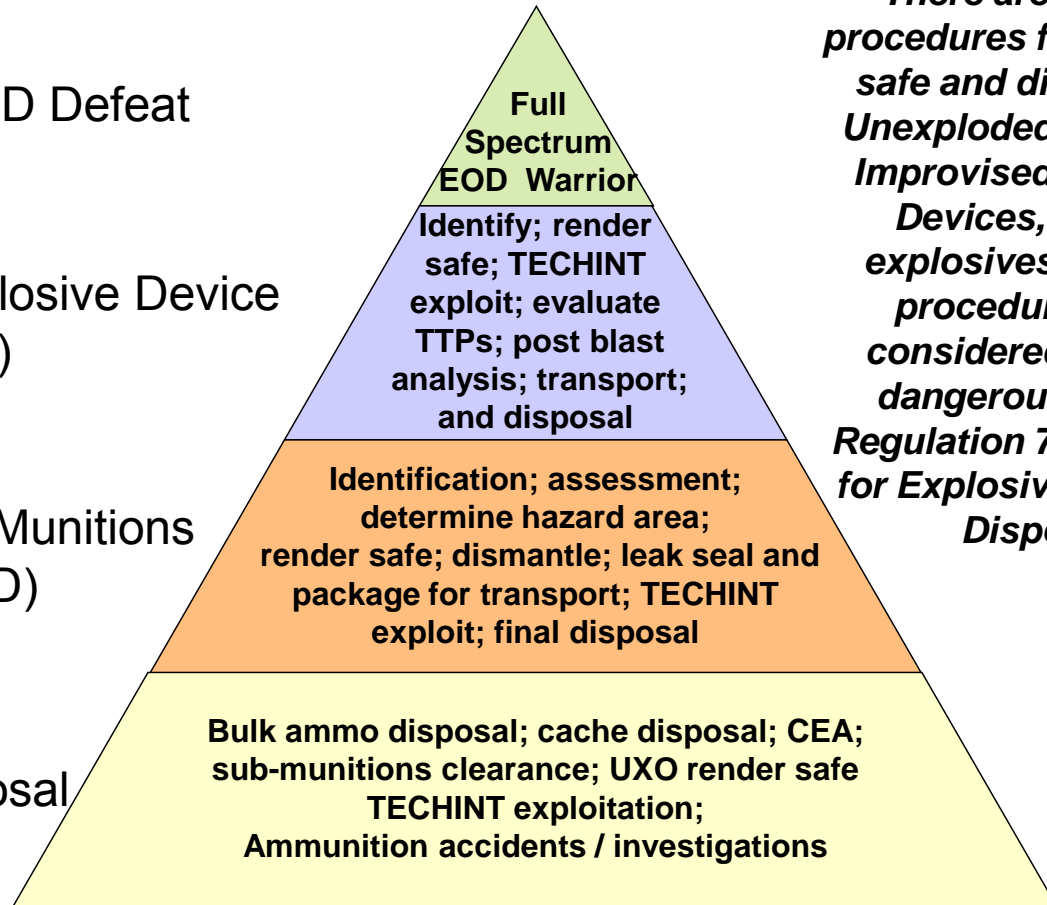


Improvised WMD Defeat

Improvised Explosive Device Disposal (IEDD)

Bio/Chem/Nuc Munitions Disposal (BCMD)

Conventional Munitions Disposal (CMD)



“There are no “safe” procedures for rendering safe and disposing of Unexploded Ordnance, Improvised Explosive Devices, or other explosives, merely a procedure that is considered the least dangerous.” (Army Regulation 75-15, Policy for Explosive Ordnance Disposal)

Increasing Technical Difficulty & Increasing Training Requirement



What makes EOD “special”

- ❑ EOD has been recognized as a critical asset in DoD and National Strategic Documents, NDAA, QDR, HSPD 19
- ❑ EOD is the only authorized force trained, manned and equipped to render safe explosive, nuclear, biological, and chemical IEDs and UXOs
- ❑ EOD is the only DOD force trained and certified to identify, render safe, and dispose of foreign ordnance
- ❑ EOD is part of a global network of EOD partners and allies NATO, Spanish, AUS, GBR, CAN, and others focused on the C-IED Fight
- ❑ EOD teams have the requisite skill and knowledge to identify WMD and WMD facilities, conduct initial exploitation, and supervise follow on specialist exploitation teams

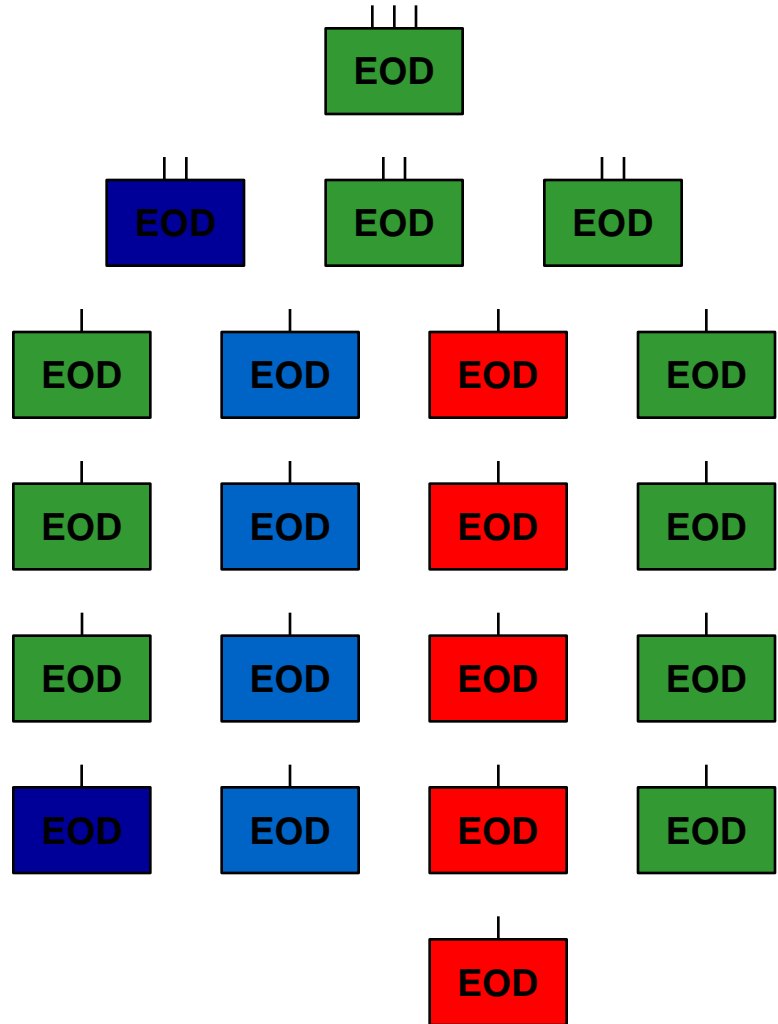
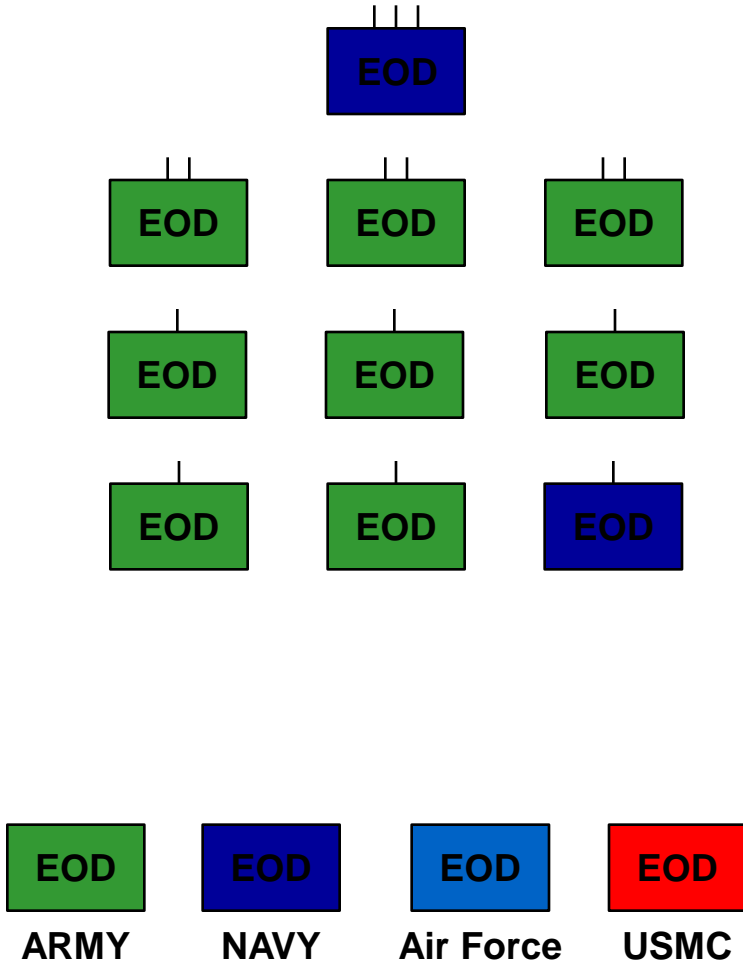


POLICY

Current Operational Deployments

Operation New Dawn

Operation Enduring Freedom





POLICY

Other Missions

- Defense Support to Civilian Authorities
- Very Important Person Protection Support
- Humanitarian Mine Action
- Training




POLICY

Defense Support of Civilian Authorities

Background

- ❑ DoD EOD has 60+ year History of Supporting Civil Authorities
- ❑ DoD EOD is the preeminent EOD Force in CONUS
- ❑ HSPD 19 Combating Terrorist Use of Explosives in CONUS calls for increased DoD / DOJ cooperation
- ❑ 2010 QDR calls for an increased C-IED capability in CONUS
- ❑ DoD Policies being updated to reflect current reality

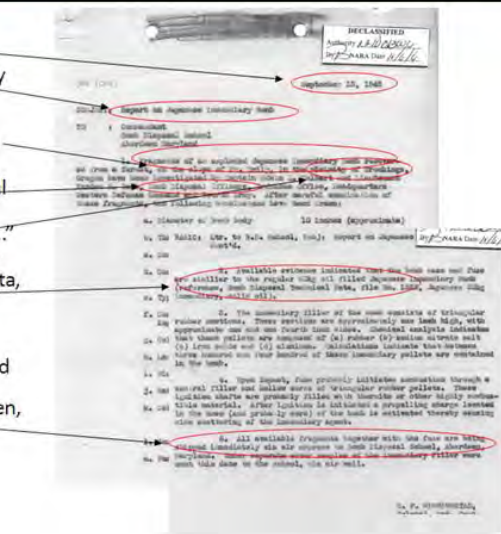


AMERICA'S ARMY:
THE STRENGTH OF THE NATION

Army G-3157

Army's First WIT Report

- "September 15, 1942"
- "Report on Japanese Incendiary Bomb"
- "Fragments of an exploded Japanese incendiary bomb.." (Post Blast Investigation)
- "Investigated by Bomb Disposal Officers,.."
- "...vicinity of Brookings, Oregon."
- Bomb case and fuse are similar to Bomb Disposal Technical Data, file No. 1523.." (reference to technical ordnance data base)
- "All available fragments, including fuse are being shipped immediately via Air Express to Bomb Disposal School, Aberdeen, Maryland."



Emerging Threat to the Homeland

Dear Iran, Wa 'Alykum as-Salam..." Similarly, the mujahidin leadership are today asking the brothers in the west specifically to attack interests in the West instead of coming here to Yemen, based on your ability, you choose the target. Your pool of targets are so large, so make sure to think of all the available options. An example of something local, easy and effective is attacking an army recruiting center, nightclub, highway, or busy shopping mall....." *Inspire, Spring 2011, Issue 5*



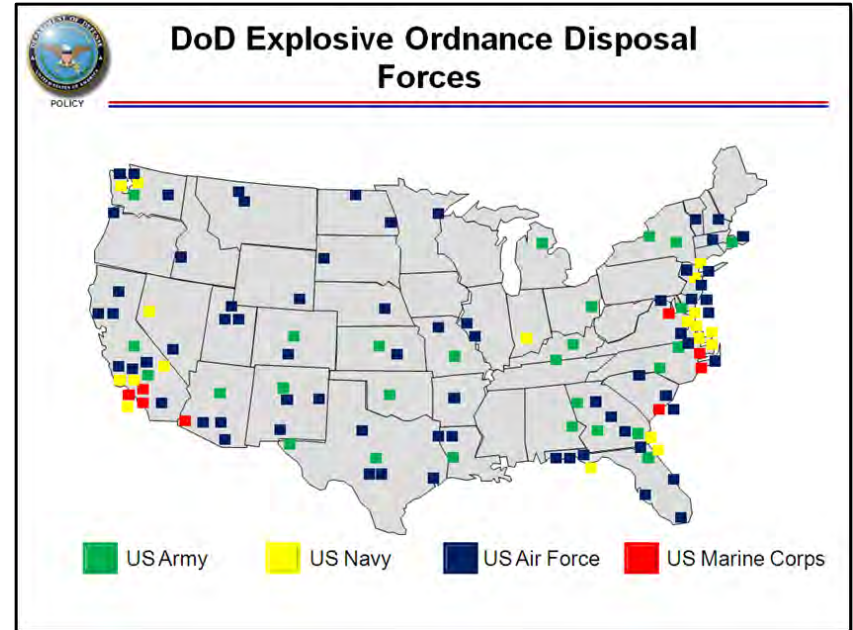
POLICY

Defense Support of Civilian Authorities

Authorities

In response to a **request for assistance** from a civil authority, under **imminently serious conditions** and if time does not permit approval from higher authority, DoD officials may provide an **immediate response** by temporarily employing the resources under their control, subject to any supplemental direction provided by higher headquarters, to **save lives, prevent human suffering, or mitigate great property damage** within the United States.

DoDD 3025.18



Synopsis

- ❑ DoD always acts in a supporting role
- ❑ DoD responds when the threat exceeds other local, state, and federal assets
- ❑ DoD support primarily involves response to military munitions and explosives items
- ❑ DoD maintains the capability to provide full spectrum EOD support when requested

Legislative Environment

- ❑ The **Posse Comitatus Act** of 1878 prohibits DoD from exercising law enforcement powers within the US
- ❑ Robert T. **Stafford** Disaster Relief and Emergency Assistance Act of 1988 requires Presidential approval for DoD assistance.
- ❑ DoD Directive 3025.18 provides guidance



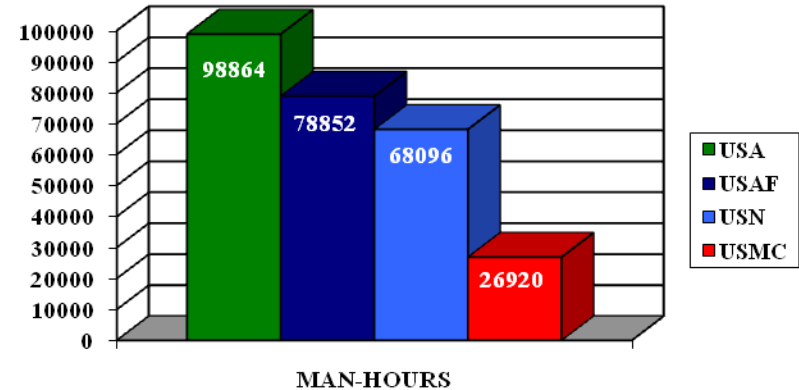
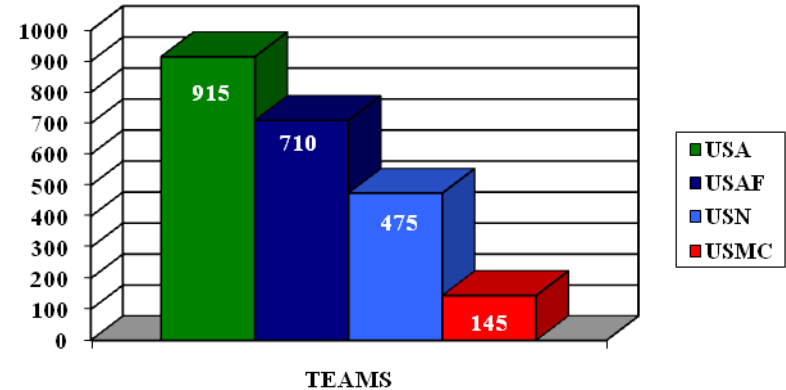
POLICY

VIP Protection Support

The Department of Defense provides Explosive Ordnance Disposal (EOD) support to the United States Secret Service (USSS) and Department of State (DOS) for the protection of very important persons.

DoD Directive 3025.13

Fiscal Year 2010



EOD Vip Support Missions

	EOD Teams	Man-hours
FY 2009	2,590	383,872
FY 2010	2,245	272,732



POLICY

Humanitarian Mine Action

EOD is the **Force of Choice** for Providing Humanitarian Mine Action Assistance to Partner Nations (CJCSI 3207.01B)

EOD Supports HMA Efforts by providing the equipment and training to build capacity in mine affected countries. Training may include;

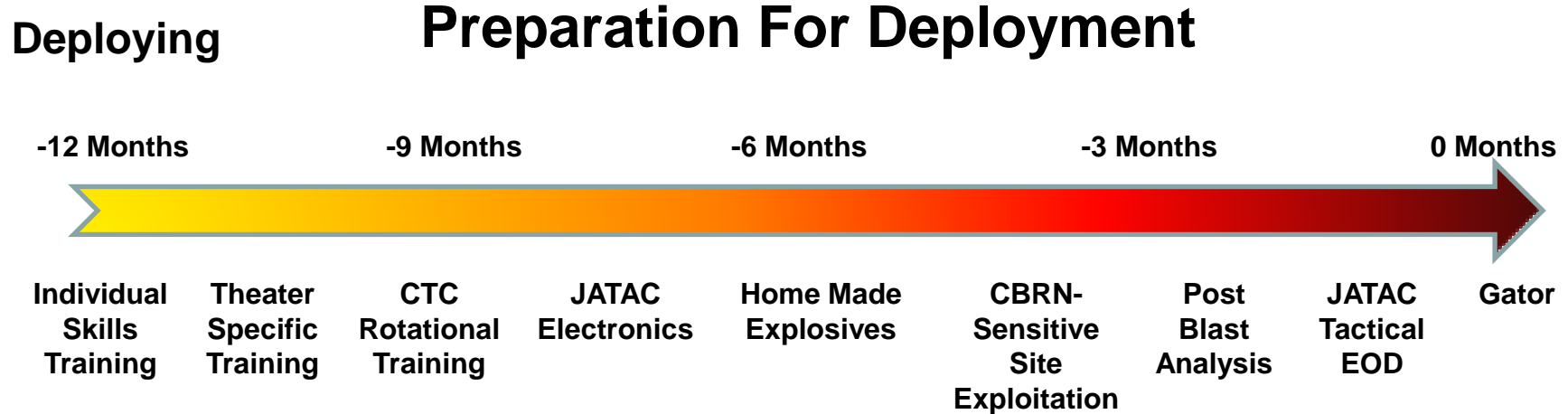
- | | |
|---|--|
| <input type="checkbox"/> Demolitions | <input type="checkbox"/> Booby traps |
| <input type="checkbox"/> Probing Techniques | <input type="checkbox"/> Demining Tools |
| <input type="checkbox"/> Minefield Marking | <input type="checkbox"/> Minefield Handoff |
| <input type="checkbox"/> Mine / UXO ID and Disposal | <input type="checkbox"/> Operation of Mine Detectors |





POLICY

EOD Operational Tempo



Non- Deploying

- Reset from Prior Deployment
- Backstop Support
- NTC/JRTC O/C Augmentation
- Installation Range Support
- DSCA Missions
- VIP Protective Support
- Humanitarian Mine Action Missions
- EOD Team Leader Certification
- Professional Development
- Required Military Service Training
- EOD Proficiency Training
- Physical Training / Weapons Qualification



POLICY

EOD Training

Naval School Explosive Ordnance Disposal 28 Weeks, 3 Days

Demo

- Explosive Safeties
- Explosive Effects
- Elec / Non Elec

Tools and Methods

- RSP Tools
- Dearmer
- Rocket Wrench
- Tape and line

Core

- Color Codes
- Ordnance ID
- AEODPS
- Recon

Ground Ordnance

- Grenades
- Rockets
- Projectiles
- Mines

Air Ordnance

- Bombs
- Guided Missiles
- Aircraft Hazards

IEDs

- Basic IEDs
- X-Ray
- Bomb Suit

Bio / Chem

- Chemical Agents
- Bio Hazards

Nukes

- Nuclear Weapons Systems

There are apx.
1161 students
currently on board
at NAVSCHEOD!

WMD

- Safeties
- Terminology
- Detection
- PPE

The Average
Student takes 246
calendar days to
graduate!



POLICY

EOD Training

Advanced Improvised Explosive Device Disposal 4 Weeks

Concept

To provide Advanced Improvised Explosive Device (AIED) TTPs to EOD Technicians and personnel from other key federal agencies. Diagnose, disable, contain and dispose of sophisticated IEDs in varied environments to include battlefield operations, peacekeeping operations and homeland defense.

Course Layout

- **Module A (2 weeks)**
 - ✓ Electronic Countermeasures
 - ✓ Robotic Operations
 - ✓ Electronics in IED/WMD design and diagnostics
 - ✓ Home Made Explosives
 - ✓ Chemical, Biological, Radiological, Nuclear (CBRN) Detectors
- **Module B (2 weeks)**
 - ✓ Scenario based, EOD team operations FTX





POLICY

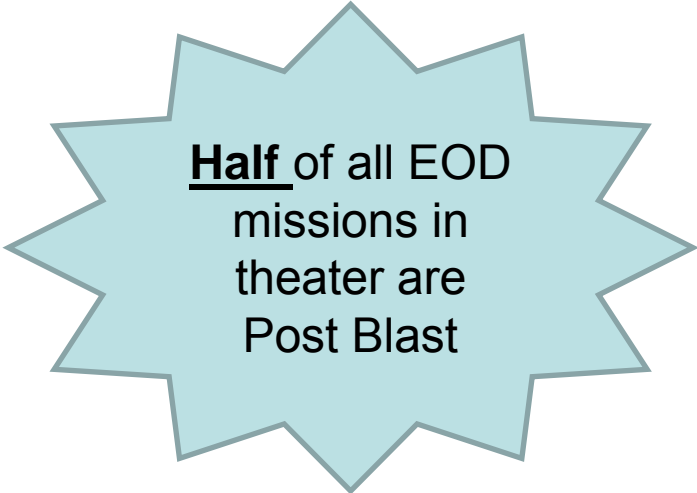
EOD Training

Tactical Post Blast Course 1 Week Concept

Formalized training on proper TTP's for post blast forensic intelligence gathering and tactical site exploitation operations conducted in non-permissive environments. Students learn their role within the Weapons Technical Intelligence process in order to provide supported maneuver commanders with critical information requirements and actionable intelligence.

Course Layout

- **EOD Resource Center Prerequisite**
 - ✓ Weapons Technical Intelligence (WTI Lexicon),
 - ✓ Crater Analysis
- **Module A (2 days in classroom)**
 - ✓ Current IEDD and Post Blast Trends
 - ✓ IED Electronic Components
- **Module B (Practical Exercise)**
 - ✓ High tempo to replicate the theater of operations
 - ✓ 15 actual blast site scenarios modeled after current enemy TTPs

A light blue starburst graphic with a dark blue outline, containing text.

Half of all EOD missions in theater are Post Blast



EOD Training

Global Anti-Terrorism Operational Readiness (GATOR) 2 Weeks

Concept

A pre-deployment training program for US Joint Service and International EOD units to hone technical render safe and other critical EOD operator skills against explosive ordnance and IED threats currently faced in combat theaters. Utilizes current threat IED construction and employment techniques;

Course Layout

- **Module A (1 week)**
 - ✓ Theater specific intelligence update focuses on IED and other explosive ordnance threats
 - ✓ New technology, tools and equipment
 - ✓ Electronic Warfare equipment employment theory
- **Module B (1 week)**
 - ✓ Scenario based, EOD team operations FTX
 - ✓ 96 hrs of night operations





POLICY

EOD Training

Joint Center of Excellence (JCOE) Counter IED Training Concept

The Joint Center of Excellence (JCOE) is the execution arm of JIEDDO's C-IED training program. JCOE is located at Fort Irwin, Ca. and has been operational since April 2006. Together with the four service-specific centers of excellence (COEs), JCOE provides deploying forces with training on rapidly fielded C-IED equipment and capabilities.

Specific Courses

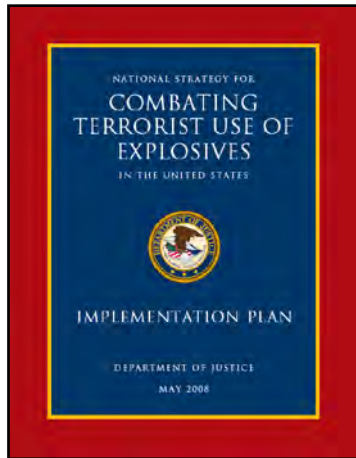
- **CBRN Sensitive Site Exploitation**
- **Tactical EOD Course**
- **Training to Identify and Report HME**
- **IED Electronics**
- **Tactical Post Blast Analysis**
- **C-IED Mobile Assistance Training Teams**



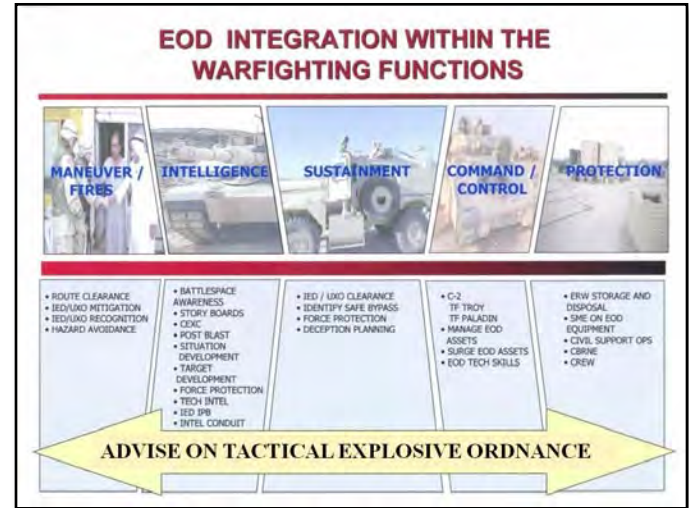


EOD Integration

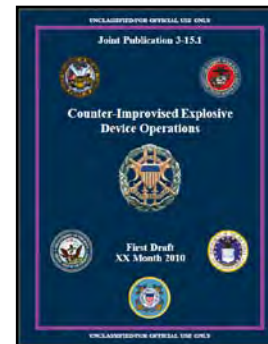
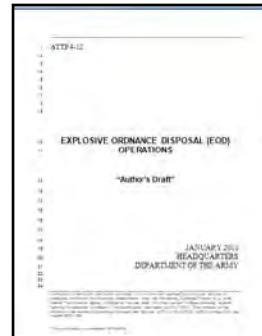
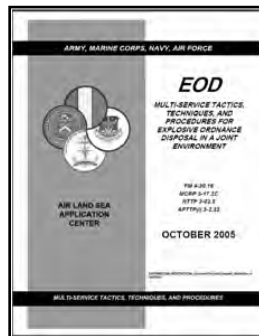
POLICY



Integration Into National Strategic Documents



Integration Into Combatant Commander Processes and Requirements



Integration Into DoD Doctrine and Joint Publications



EOD Challenges

- ❑ Maintaining EOD capabilities and force structure in an environment of fiscal reviews and efficiencies
- ❑ Capturing best practices and lessons learned and integrating those into the individual services institutional processes
- ❑ Recruiting & maintaining quality personal
- ❑ Transitioning from a continual deployment cycle to a home based training cycle



What We Still Need

- ❑ Greater ability to detect and neutralize improvised or homemade explosives (HME)
- ❑ Next generation robotics, bomb suits, and radiographic systems
- ❑ Equipment and procedures to fight the IED fight in the Homeland, communications, vehicles, exploitation techniques, ECM, kinetic tools, etc...
- ❑ Standoff explosives detection capabilities
- ❑ Lightweight tools and explosives for dismounted operations



POLICY

Summary

- ❑ EOD Warriors are better trained and equipped now than they have ever been in the past, and are honed by nearly 10 years of continuous combat operations
- ❑ EOD Warriors are integrated at all levels of combat operations and are a critical enabler to countering IED's to permit Attacking the Network and supporting C-IED Targeting
- ❑ When not deployed EOD Warriors conduct a myriad of activities including DSCA, VIPS, HMA, installation support, and training missions, they do not sit idle waiting on the next deployment
- ❑ We have made significant progress, but still have a ways to go in improving equipment and training, and integrating lessons learned
- ❑ EOD has performed superbly in an extremely hazardous and high operational tempo environment, and for that has paid a price; we must not forget the significant sacrifices made by our entire EOD Family
- ❑ We are the OSD Advocate for all services Explosive Ordnance Disposal programs and are always looking for new and different ways to leverage the Office of the Secretary of Defense to advance the EOD cause



POLICY

The Numbers

- ❑ Since 1942 the number of EOD Warriors added, or will be added to the EOD Memorial - 269
- ❑ From Jun 1942-Sep 2001 (59 yrs) there were 177 names added to the Wall.
- ❑ From Sep 2001- Today (10 Yrs) we have added or will add an additional 92 names
- ❑ 34% of all EOD losses have occurred since Sep 2001
- ❑ Majority killed by Improvised Explosive Devices
- ❑ Since the Inaugural 2010 Global EOD Conference there have been 20 EOD Warriors killed and 94 EOD Warriors wounded in Iraq / Afghanistan



EOD Heroes

POLICY



SSgt Adam L. Perkins
26 April 1983 – 17 May 2010



SSG Shane S. Barnard
13 Dec 1971 – 19 May 2010



SSgt Jordan B. Emrick
19 Dec 1983 – 5 Nov 2010



SRA Michael J. Buras
28 July 1987 – 21 Sep 2010



SPC Wade A. Slack
22 Mar 1989– 6 May 2010



SSG Derek J. Farley
21 May 1986 – 17 Aug 2010



MSgt Daniel L. Fedder
31 July 1976 – 27 Aug 2010



GySgt Floyd E. Holley
16 Aug 1974 – 29 Aug 2010



We Remember



SGT Jason T. Smith
22 Dec 1981– 19 Nov 2010



SSgt Joshua J. Cullins
25 March 1982 – 19 Oct 2010



CPT Jason T. McMahon
24 Oct 1974 – 5 Sep 2010



GySgt Justin J. Schmalstieg
16 May 1982 – 15 Dec 2010



SRA Daniel Johnson
20 June 1987– 5 Oct 2010



SSG Matthew J. West
20 May 1974 – 30 Aug 2010



GySgt Christopher Eastman
21 Sep 1981 – 18 July 2010



POLICY

Questions?



COL Marue "Mo" Quick
marue.quick@us.army.mil
703-614-5824

Lets keep them off the wall !!!

Export Enforcement

- Attacking the Network



Rick Shimon
Special Agent In Charge
Washington Field Office



Export Enforcement

...task is to prevent the export of U.S. goods and technology that may be used by rogue states or terrorists to make chemical, biological or nuclear weapons



OEE Priorities

- WMD Proliferation
- Terrorism/Terrorist Support
- Unauthorized Military/Govt Use



Export Enforcement Field Offices

- Nine Offices nationwide
- Staff...
 - Federal Agents who are criminal investigators empowered to make arrests, carry firearms, execute search warrants, and seize goods about to be exported illegally.**
- Work closely with FBI, CBP, ICE, and other LE agencies





Why do we need export controls?



Improvised Explosive Devices

Three major components:

- **Trigger system**
- **Initiator (fuse)**
- **Explosive**

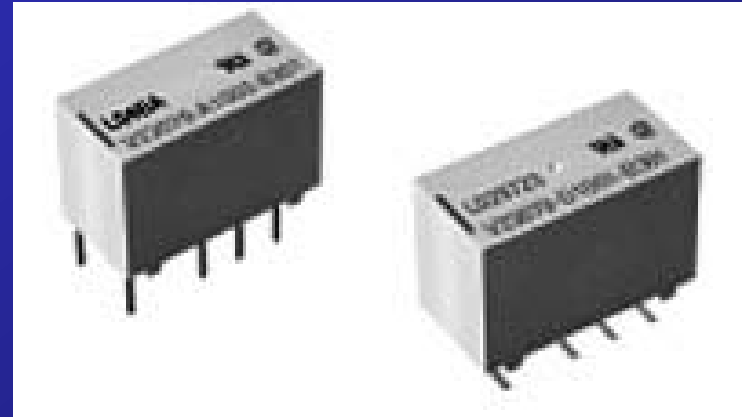




Improvised Explosive Devices

Trigger Devices

- P2 V23079 Telecom Relay
- Used in office equipment and consumer electronics
- Produced in Pennsylvania





Improvised Explosive Devices

Trigger Devices

- PIC16F84A
- 18-pin Enhanced FLASH/EEPROM
- 8-bit Microcontroller
- Unlimited civil uses
- Produced in Arizona





Mayrow Case Indictment

UNITED STATES DISTRICT COURT

Grand Jury

INDICTMENT

“On or about January 14, 2004, Defendant Majidco ordered through the Amsterdam, Netherlands office of a Chandler, Arizona, company, 7500 Microchip brand microcontrollers (PIC16F84A-04I/P), which have applications in and have been found in IEDs in Iraq”



IED Investigation Results

- **Executed over 100 search warrants**
 - **Analyzed more than 500,000 email messages**
- **39 companies and individuals indicted**
- **Three US citizens and one British citizen have been convicted**
- **One US citizen in custody pending trial**
- **One German citizen pending extradition**

Top Cape Technologies Cape Town South Africa

Owner: Asher Karni, (b 1954)

- Israeli citizen -- MBA from Tel Aviv Univ
- Major in the Israeli military ('71 to '85)
- Emigrated to South Africa to work for a Jewish charity
- Lived on Ocean View Drive, Cape Town SA in exclusive "Millionaires' Row"



Pakland PME Corporation

Islamabad, Pakistan

Owner: Humayun Khan



- Supplies Pakistan's conventional and nuclear weapons programs
- Connected to Al Jammu and Kashmir Muslim Conference: Pakistani opposition party that supports extremist fighters in Kashmir, a disputed territory between Pakistan and India

The Commodity

Triggered Spark Gap

- ECCN 3A228
- South Africa
Q - Is License Required?
- Pakistan
Q - Is License Required?
- \$447 a piece



Civil Use – Spark Gaps

- High speed electrical switches capable of sending synchronized electronic pulses
- Can be used in the medical field as part of lithotripter machines to break up kidney stones



WMD Use – Spark Gaps

Can be used as part of a triggering system for detonating a nuclear device

SPARK GAPS



+



=



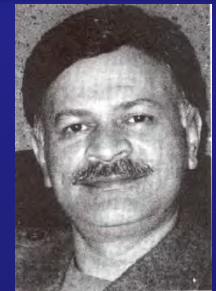
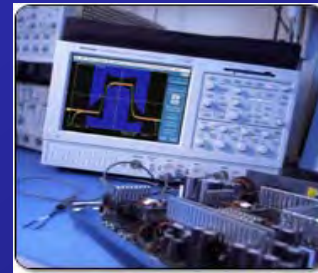
The Crime...



Players: Asher Karni and Humayun Khan

Crime: Conspired to ship 200 nuclear trigger devices to nuclear end users in Pakistan

The Diversion Scheme...





The rest of the story...

Asher Karni

- Arrested...Jan 04
- Guilty Plea...Aug 04
- Sentenced 3 years Fed Prison...
 - Released Jan 07
 - Old Sentencing Guidelines
- “I felt shock and horror...how such a devout Jew could be supplying nuclear triggers for the nuclear weapons of a staunch Islamic country.”
 - Michael Bagraim, Chairman of the South African Jewish Board of Deputies



ASHER KARNI
Inmate # 32338-016



**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA**

**Grand Jury
INDICTMENT**

UNITED STATES OF AMERICA

v.

HUMAYUN A. KHAN, Defendant



VIOLATIONS:

18 U.S.C. § 371 (Conspiracy)

50 U.S.C. (Export Admin Act)



Go on the Offensive...

Detect, Deny, Disrupt terrorist & rogue state procurement activities

- **Investigative Tools**
- **Regulatory Tools**

**Prosecute bad actors both
at home and abroad**



Detect...using all sources

Criminal Investigators working Informants

- **Intel Community**
- **Industry Tip-Offs**
- **Hot-Line calls...fired employees, mistresses**

Criminal Investigative Tools

- **Search Warrants**
- **Administrative Subpoenas**
- **Overseas visits**



Deny...using enforcement tools

Regulatory Controls...No Court Order Required

- **Redelivery Orders**

Direct both US and Foreign shippers (land, sea, air) to locate and return shipments to OEE Agents

- **Export Enforcement Agents can detain any outgoing shipment suspected of being illegal**



Disrupt...using criminal and civil penalties

Criminal Investigations - Every case

Criminal Sanctions

- Criminal fines up to \$1,000,000 per shipment**
- Jail time up to 20 years**

Civil Sanctions

- Civil fines up to \$250,000 per shipment or...
twice the amount of the transaction**
- Denial of export privileges**



Proliferation Shopping List

- **System Controllers**
- **IC microcontrollers**
- **Model plane/car remote controls**
- **UAV Autopilots**
- **Exploding Foil Initiators**
- **Blue Chip Detonators**
- **Spark Gaps**
- **EMP shock generator**



Report Suspicious Transactions

Washington Field Office – 703.487.9300

24 Hour Hot Line - 800.424.2980

www.bis.doc.gov



WELCOME

Global Explosive Ordnance Disposal Conference and Exhibition

Fort Walton Beach, FL
May 4 - 5, 2011

**National Defense Industrial Association
Explosive Ordnance Disposal Planning Committee**

AGENDA

- **NDIA EOD Planning Committee Mission**
- **FY2011 National Defense Authorization Act – Explosive Ordnance Disposal Appropriations**
- **EOD Strategy Map**

MISSION STATEMENT

The mission of NDIA's EOD Planning Committee is to assist industry, government, and the public in understanding the role of Explosive Ordnance Disposal Forces in our national security strategy and how these forces are integrated within our national military structure; and how they conduct joint, interagency, and multinational interoperability operations.

H.R. 5136 National Defense Authorization Act for FY2011 Explosive Ordnance Disposal Specific (Thousands)

Title I Procurement

Army Line 138 EOD Equipment	\$54,093
Navy Line 018 Underwater EOD Programs	\$15,908
Navy Line 117 EOD Equipment	\$58,228
Marine Line 047 EOD Systems	\$64,093
Air Force Line 007 Explosive Ordnance Disposal	\$ 3,383

Title II Research, Development, Test & Evaluation

+ Advanced Component Development & Prototypes

Navy Line 053 Joint Service Explosive Ordnance \$25,873

+ System Development & Demonstration

Navy Line 117 Joint Service Explosive Ordnance \$10,489

+ Note: Secretary of the Navy is Single Service Manager for
Explosive Ordnance Disposal Training and Technology

H.R. 2647 National Defense Authorization Act for FY2011

Explosive Ordnance Disposal Specific (Thousands)

Title XV Overseas Contingency Operations – Procurement Programs

Army Line 138 EOD Equipment	\$ - 0 -
Navy Line 117 EOD Equipment	\$132,386
Marine Line 047 EOD Systems	\$213,985
Air Force Line 007 Explosive Ordnance Disposal	\$ 4,800
Navy Line 053 Joint Service Explosive Ordnance Development	\$ 1,000

Military Construction Authorizations

Marine NC Camp Lejeune EOD Unit Addition	\$ 7,420
Army VA Fort A.P. Hill Light Demolition Range	\$ 4,100

Investment of \$595,758,000.00

Vision: Achieve Dominant Full-Spectrum Capable EOD Combat Power in Service to the Nation

DOD Mission: Provide Highly Trained EOD Forces and Capabilities to Combatant Commanders and Other Governmental Agencies in Support of the National Security and Defense Strategies

ENDS

Provide Relevant and Ready EOD Power for The 21st Century Operational Environment

Support Global Operations with Relevant and Ready EOD Forces

Build a Campaign Quality, Modular EOD Force with Joint & Expeditionary Capabilities for *Today and Tomorrow*

Leverage Coalition & Inter-Governmental Operations by Conducting Unit Exchanges / Exercises

Integrate EOD Operations into AG / DOJ / FBI Joint Terrorism Task Forces (Presidential Decision Directive on National Preparedness)

Increase Title 32 Full-Time AGR Daily EOD "Prevention" Capabilities & Capacity (HSPD-19 Combat Terrorist Use of Explosives in the Homeland)

Train and Equip EOD Operators to Serve as Warriors and Grow Adaptive Leaders

Reinforce Our Centerpiece: EOD Operators as Warrior Battlefield Explosives Experts (IED, UXO, WMD)

+ Strategic level: Promote Flag / General Officer EOD Officers

+ Operational level: COCOMs Staff: Resource an EOD Planner
+ Tactical level: Equip and Train our EOD Warriors for Soft Power Missions

Revitalize the Service's Core EOD Competencies (Blue Water, WMD Take-Back, Defense Support of Civil Authorities)

Push EOD Joint Inter-Operability and Combined Arms Integration at Combat Tng Centers

Invest in Construction of World Class Training Facilities
+ ARMY EOD School Move to Virginia (FY2011)
+ NAVSCOLEOD WMD Facility (FY2015)

Sustain an All – Volunteer EOD Force Composed of Highly Competent Warriors That are Provided an Equally High Quality of Life

Recruit the All-Volunteer EOD Force by Boosting In-Service Recruiting

Retain the All-Volunteer EOD Force by Establishing EOD Re-Enlistment Offices

DOD Sustain the All-Volunteer EOD Force by Compensation with Career Incentive / Special Duty Assignment / Hazardous Duty Pays

Increase Opportunities to Attend Leadership and Special Skill / Badge Training

Perform Personnel Exchange Programs / Liaison with Partner Countries

Import Best Practices from Training With Industry / Intelligence Communities

Taking Care of EOD Warriors and Their Families to Enable the EOD Force to Fulfill its Strategic Roles and Missions

Move EOD Units into World Class Facilities & Installations

Craft the Plan for Personnel Management of The EOD Force & Minimize Personnel Turbulence (PERSTEMPO)

Stabilize the EOD Force Planning Construct & Reduce Continual Reliance Upon "In Lieu Of" Request For Forces (RFF) (OPEMPO)

Write the EOD Strategic Communication Campaign Plan to Inform the COCOMs, Joint and Interagency Community of Capabilities and Functions of EOD

Power-up Alliance with Industry and Propel the EOD Force Forward

ENDS

WAYS

MEANS

Commit Resources, Reorganize the Strategic Effort and Refine Legislative Authorities to Achieve OASD SOLIC & IC and the Services' EOD Program Objectives

MEANS



U.S. Marine Corps EOD Program

Global Explosive Ordnance Disposal Conference & Exhibition

5 May 2011



MGySgt Michael Todd
Headquarters U.S. Marine Corps (LPE)



Agenda



- EOD Mission
- Current EOD Support Operations
- EOD Manpower increases
- MARSOC EOD
- EOD Company Standup
- EOD locations
- Marine EOD Specific Formal Training
- Concerns



USMC EOD Mission



- To support the Marine Air Ground Task Force, Supporting Establishment, Homeland Defense, and Special Operations Forces, by locating, accessing, identifying, rendering safe, neutralizing, and disposing of hazards from foreign and domestic, Chemical Biological Radiological Nuclear and High-Yield Explosive (CBRNE), Unexploded Explosive Ordnance (UXO), Improvised Explosive Device (IED), and Weapons of Mass Destruction (WMD) that present a threat to operations, installations, personnel, or materiel. (MCO 3571.2G)
 - Note: *USMC EOD units are authorized to conduct field disassembly and inerting operations for the purpose of exploitation and intelligence gathering.*



Current EOD Support Operations



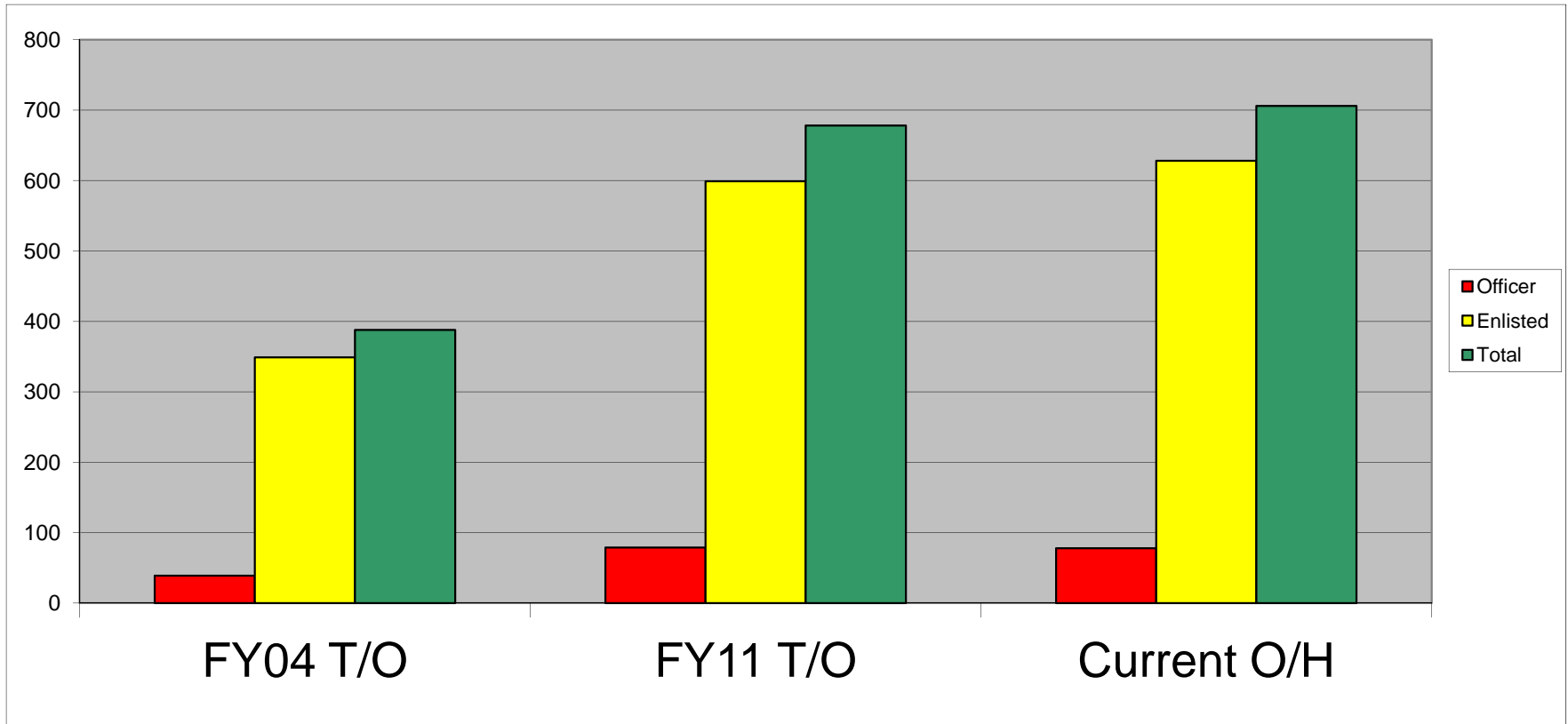
- OEF - Afghanistan (Operational demand over 100 EOD Marines per rotation)
- Seven standing MEUs (EOD Section per MEU)
- MARSOC - EOD Marines deploy with each MSOC, plus CJSOTF requirements
- Continuous VIPPSA missions (POTUS, DOS, etc.)
- Joint POW/MIA Accounting Command (JPAC)



EOD Manpower Increases



- Marine Corps has increased EOD strength several times since 2004. (FSRG 2004, MARSOC, and 202K)





MARSOC EOD



- EOD is organic to each MSOB
- Supports all missions;
 - Direct Action (DA)
 - Special Reconnaissance (SR)
 - Foreign Internal Defense (FID)
 - Counterterrorism (CT)
 - Unconventional Warfare (UW)
- EOD Marines deploy with MSOC, plus CJSOTF requirements





ESB EOD Company Standup



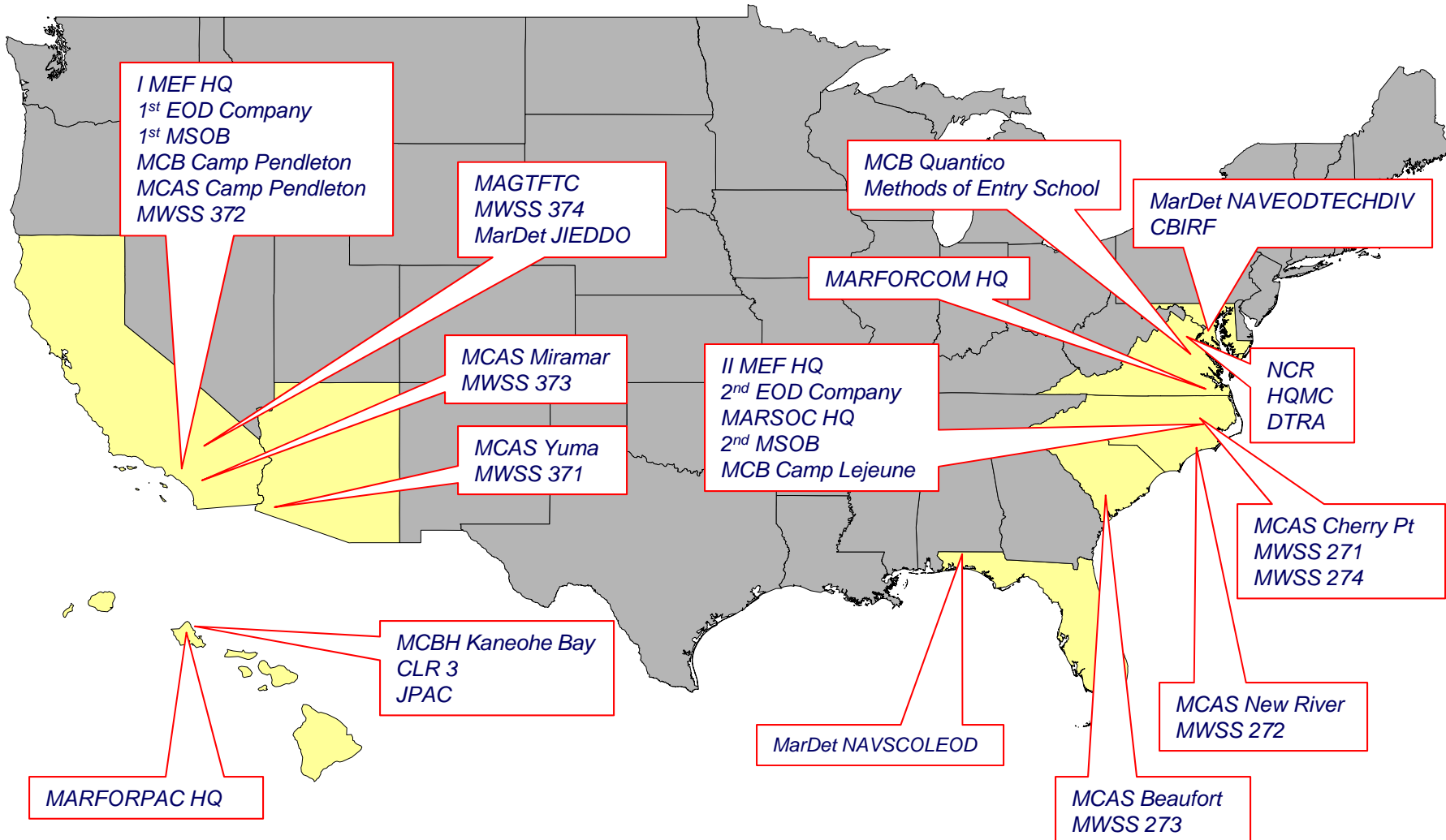
- EOD Company activated within in each active MLG

CAMP LEATHERNECK, Afghanistan-
Capt. Timothy M. Callahan, Commanding
Officer of 2nd EOD Company, unfurls the
company guidon.



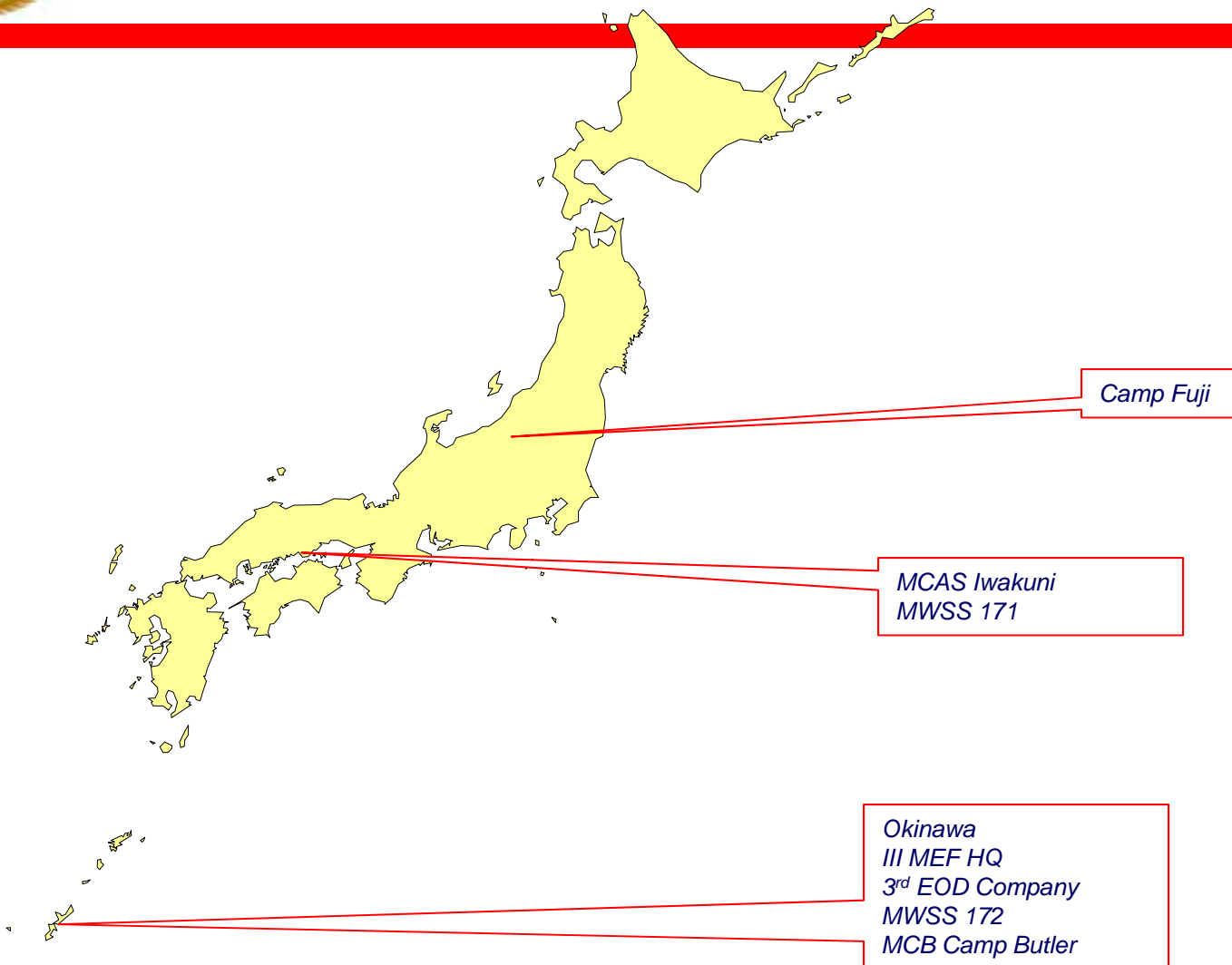


Locations





Locations (Cont)





EOD Advanced Formal Training



- EOD Advanced Training Center (EODATC)
 - Currently standing up
 - Located at MAGTF-TC, Twenty-nine Palms CA
 - Formal Courses will include
 - EOD Supervisors Course (SSgt – GySgt)
 - EOD Managers Course (MSgt)
 - EOD Officers Course (WO – Capt)
 - Explosive Ordnance Exploitation Course (All)



Concerns



- Almost all EOD Ops are dismounted
 - It must be man portable
 - It must be light weight
 - Every pound counts
- Low Metallic / No Metallic detection





Questions