UNderstanding IEDs
Al Shifa hospital
Mosul Iraq

Greg Robin
UNMAS Iraq Explosive Hazard Management

IED threat mitigation challenges
Western Mosul – Iraq
One year of clearance
IED threat mitigation challenges – Al Shifa hospital

Location: West Mosul – Al Shifa District.

Type: Hospital Complex, A.k.a Ibn Sena Hospital.

115 buildings & 12 outdoor sections.

Used by ISIL as a treatment center for Da’esh fighters, and to manufacture ammunition and IEDs.


Repairs and reconstruction by UNDP started in June 2018.
Why clearing Al Shifa Hospital?

- UNDP engineers conduct a damage assessment and establish that 86% of the hospital complex can be rehabilitated.
- GIZ established a temporary hospital at the site.
- Hospital equipment that was still usable was moved by the GoI Ministry of Health to another hospital.
- Restore much needed medical services to the district.
- The rehabilitation of the teaching sections of the hospital will also facilitate capacity development of future medical staff.
Al Shifa hospital
What kind of explosive hazards were found at Al Shifa hospital Al Shifa hospital?

- All types of conventional weapons
- All type of ISIL-made weapons, including Areal Delivered Improvised Munition
- Victim Operated IEDs
- Radio Controled IEDs
- Passive Infra Red IEDs
- Suicide belts
What are the environmental constraints?

• Inaccessible buildings/location
• Collapsed unsafe building/floor
• Debris
• Access issues
• Security
• Weather
K9 Unit at UNHQ was started in 2004

- We are trained and annually re-certified by the New York State Police in Cooperstown, NY
- 12 Week initial training course, where both the handler and the dog have no prior training
- We currently have 10 K9 teams in our unit
- Our dogs live with us and become part of our family. This establishes full trust and an unbreakable bond
- Our dogs are trained and certified on 8 odors: RDX, Nitrates, Chlorates, TNT, PETN, Dynamite, Propellants and Black Powder
- Our dogs are trained to alert passively
- The search and detection abilities of a trained K9 cannot be matched by anything else.
Slido Question 2
What kind of threat do you want to protect against?

- Attack (Direct/Indirect)
- IED
- Chemical hazard
- Collapsed building
- Radiological
- Biohazards
- Others
What kind of Personal Protective Equipment would you use?
Demonstration Bomb Suit

- Lighter, more ergonomic, superior overall balanced protection, EMI/EMC Compliant
- Blast, Frag, Impact and Heat
  - Up to 96% blast overpressure reduction (chest), 94% (ears)
  - Impact – T1 to L5
  - Industry’s highest levels of frag protection
- Sizing: 5th percentile female to 95th percentile male
- Certified:
  - Meets and exceeds the Public Safety Bomb Suit Standard – NIJ 0117.01
- 3rd party verified
What kind of Search/EOD/IEDD equipment?
Slido Question 4
Can you see the threat?
SLIDO Question: Why clear these grenades?
IED threat mitigation challenges – Al Shifa hospital

• Urban and rural clearance no longer just ‘surface and below’ but ‘surface and above’: “walls & wells”

• IEDs sophisticated, time consuming to clear: hidden, triggered by infrared sensors, gravity devices, etc.

• Operations vary: daily influenced by security
Al Shifa – Case Study

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<th>ITEMS</th>
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<tbody>
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<td>IED</td>
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AREA (Completed)

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<th>BAC Surface</th>
<th>2,267 m²</th>
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<tbody>
<tr>
<td>Area Clearance</td>
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AREA (Progress)

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<td>Area Clearance</td>
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Prior monitoring system and not team ID until May 2018