



# UNderstanding IEDs

Al Shifa hospital  
Mosul Iraq

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IED threat mitigation challenges

# Western Mosul – Iraq

## One year of clearance



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# 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.

July 2017 - May 2018.

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

# Slido Question 1



# 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 Controlled IEDs
- Passive Infra Red IEDs
- Suicide belts









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# What are the environmental constraints?

- Inaccessible buildings/location
- Collapsed unsafe building/floor
- Debris
- Access issues
- Security
- Weather





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# Demonstration on Search Dogs

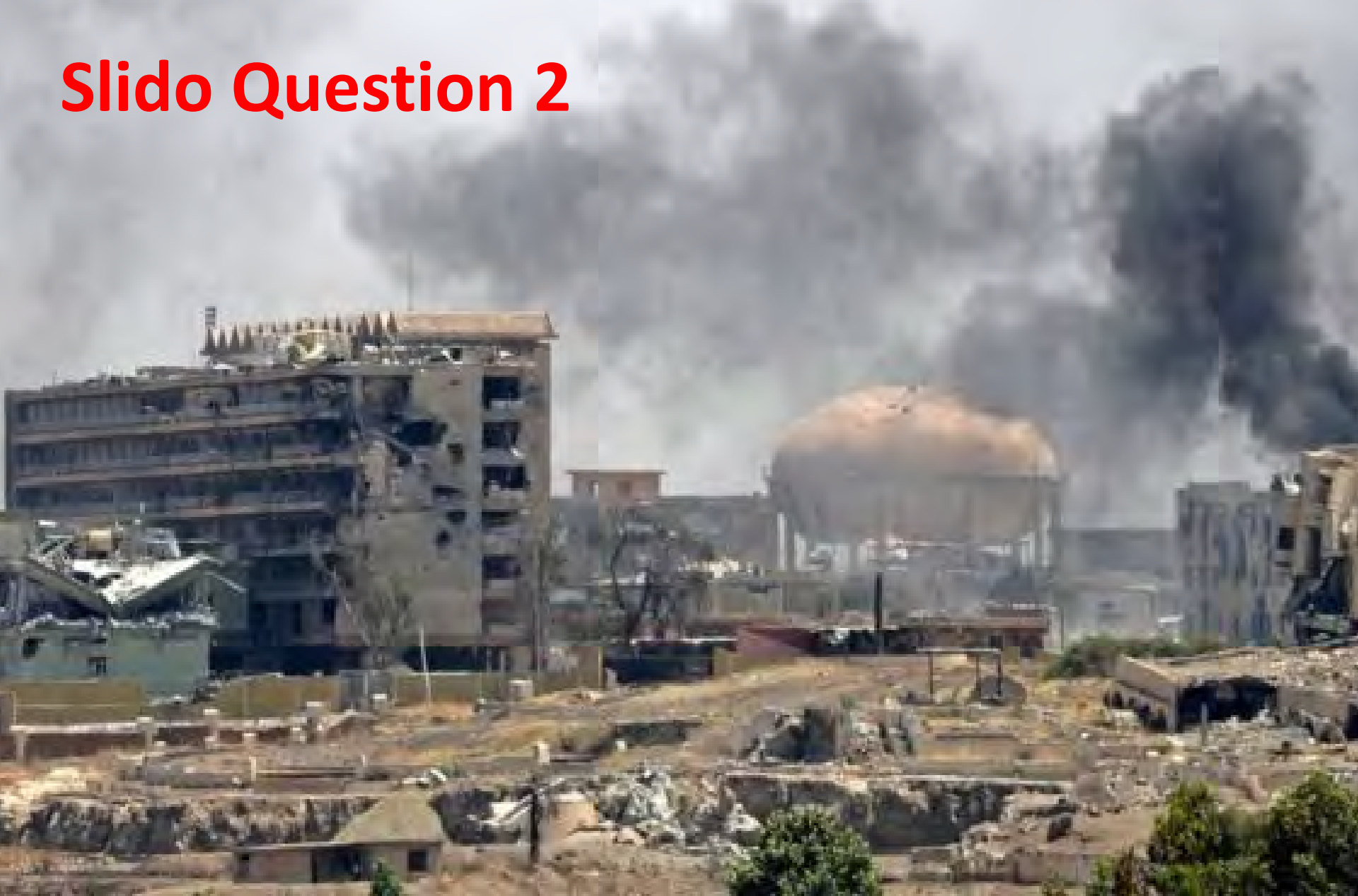


## **K9 Unit at UNHQ was started in 2004**

- 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



# Slido Question 3



UNMAS/ Lorène Georgis



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# 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: 5<sup>th</sup> percentile female to 95<sup>th</sup> percentile male
- Certified:
  - Meets and exceeds the Public Safety Bomb Suit Standard – NIJ 0117.01
- 3<sup>rd</sup> party verified

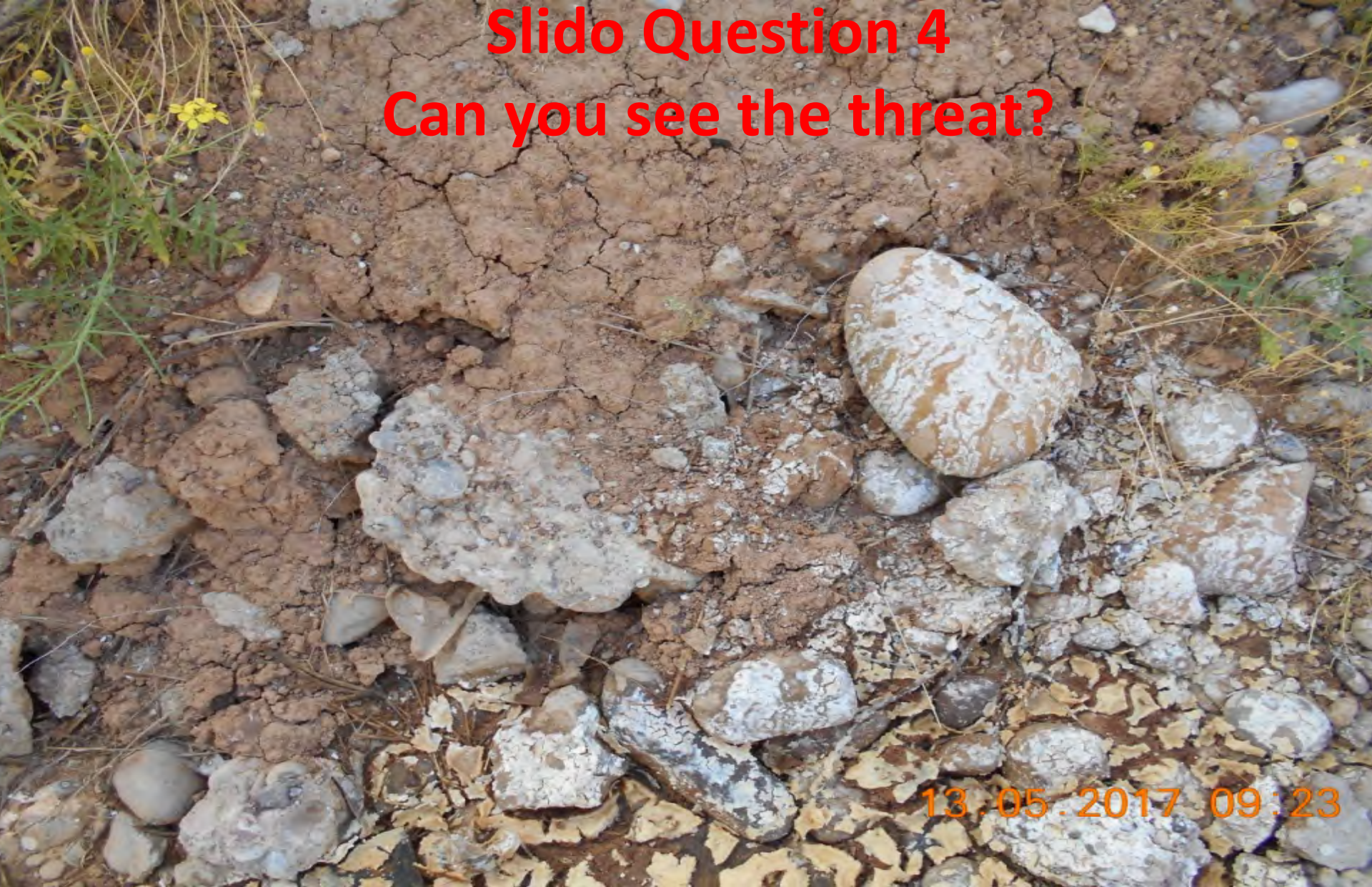


# What kind of Search/EOD/IEDD equipment?



# Slido Question 4

## Can you see the threat?



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SLIDO Question: Why clear these grenades?



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**ISIS BOMBLETS**







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SLIDO Question: What is this?



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# 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

ITEMS	
IED	23
SB	33
MC	21
ERW	1553
SAA	5995

AREA (Completed)	
BAC Surface	2,267 m <sup>2</sup>
Area Clearance	23,158 m <sup>2</sup>
AREA (Progress)	
BAC Surface	273,310 m <sup>2</sup>
Area Clearance	15,877 m <sup>2</sup>



Prior monitoring system and not team ID until May 2018



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