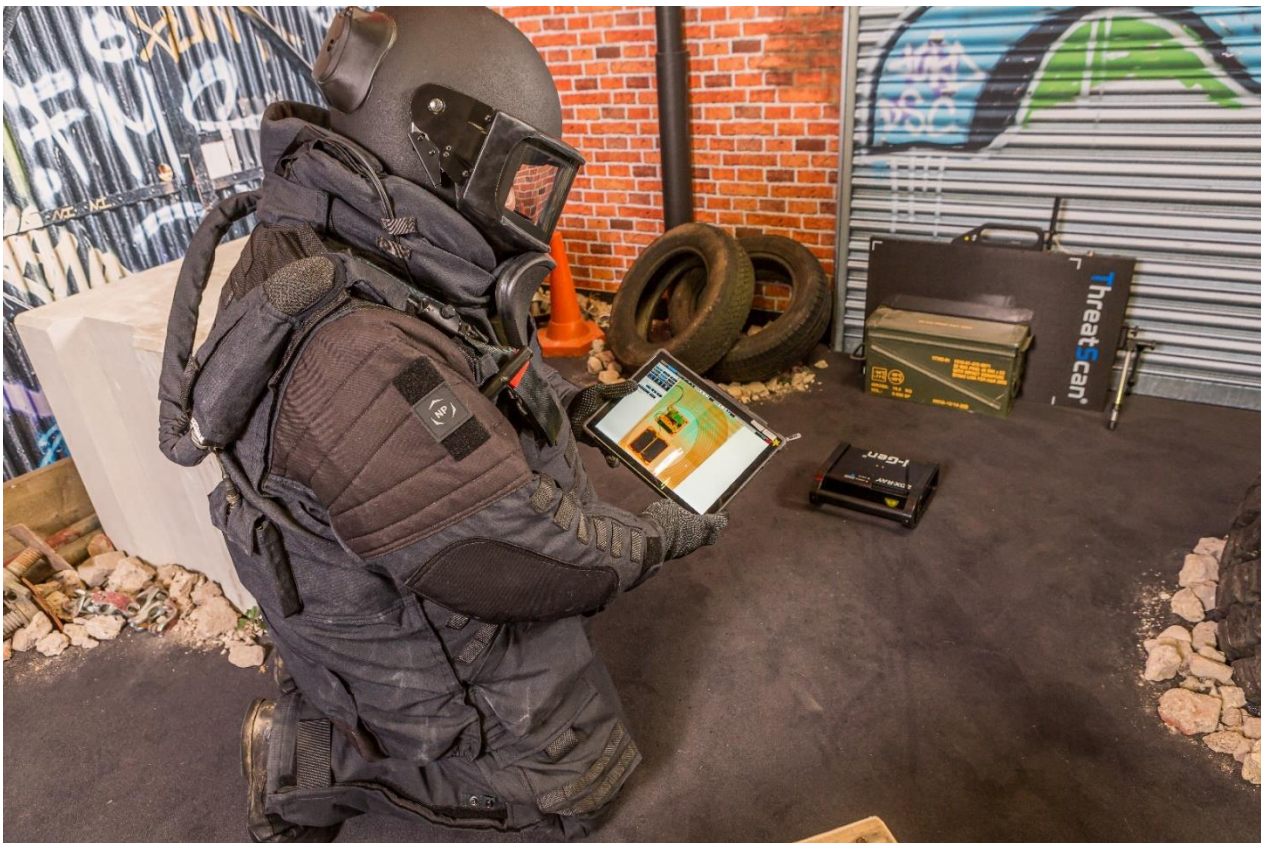


3DX-RAY

INSIGHT WHERE IT MATTERS

OPERATIONS AND TRAINING COURSE CATALOGUE

- ADVANCED X-RAY
- COUNTER IMPROVISED EXPLOSIVE DEVICES



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An **IMAGE SCAN** company

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3DX-RAY

INSIGHT WHERE IT MATTERS

Introduction to Explosives, Explosive Effects, and IED Fusing

Length of course: 8 hours (1 day)

Max number of students: 25

Terminal Learning Objective:

This course is designed to introduce the student to explosives and explosive effects. It includes basic explosive terminology, a description of military, civilian, and home-made explosives, and the effects of an explosion. This course is designed as an awareness course of the explosive threat and provides detailed information about how these explosives are used in commercial applications and by terrorist. The classroom instruction and student-centred learning environment will provide students the education required for the visual and X-ray identification of explosives. The course will also provide a basic understanding of safety considerations related to the explosive threat when identified.

Enabling Performance Objectives:

- EPO #1: Identify different types of low, high, and HME
- EPO #2: Identify Commercial and Military explosive applications
- EPO #3: Identify Commercial detonators and initiators
- EPO #4: Identify improvised detonators and initiators
- EPO #5: Describe the effects of explosion
- EPO #6: Describe methods to mitigate the effects of an explosion

Introduction to Explosives, Explosive Effects, and IED fusing



EXPLOSIVE
1.3C
1



KAPEKS
ANFO
PATLAYICI MADDE
NET : 25 KG.
UN 0082



Explosive fusing wires



DYNO
Dyno Nobel



Explosive sticks

<https://visiconsult.de/products/security/>

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INSIGHT WHERE IT MATTERS

Advanced IED Circuits Training Course

Course Length: 8 hours (1 day)

Max number of students: 25

Terminal Learning Objective:

This course is designed to introduce the student to Improvised Explosive Device (IED) Component Identification. It includes a detailed analysis of IED components, and an in-depth description of various methods of initiation. The course also covers examples of all the different categories of IED firing circuits. Students will be exposed to all of the different IED components and provided with the tools to locate and identify these types of threats visually. The classroom instruction and student-centred learning environment will provide a basis of knowledge of IED construction to facilitate the effective visual and X-ray identification of IED components.

Enabling Performance Objectives:

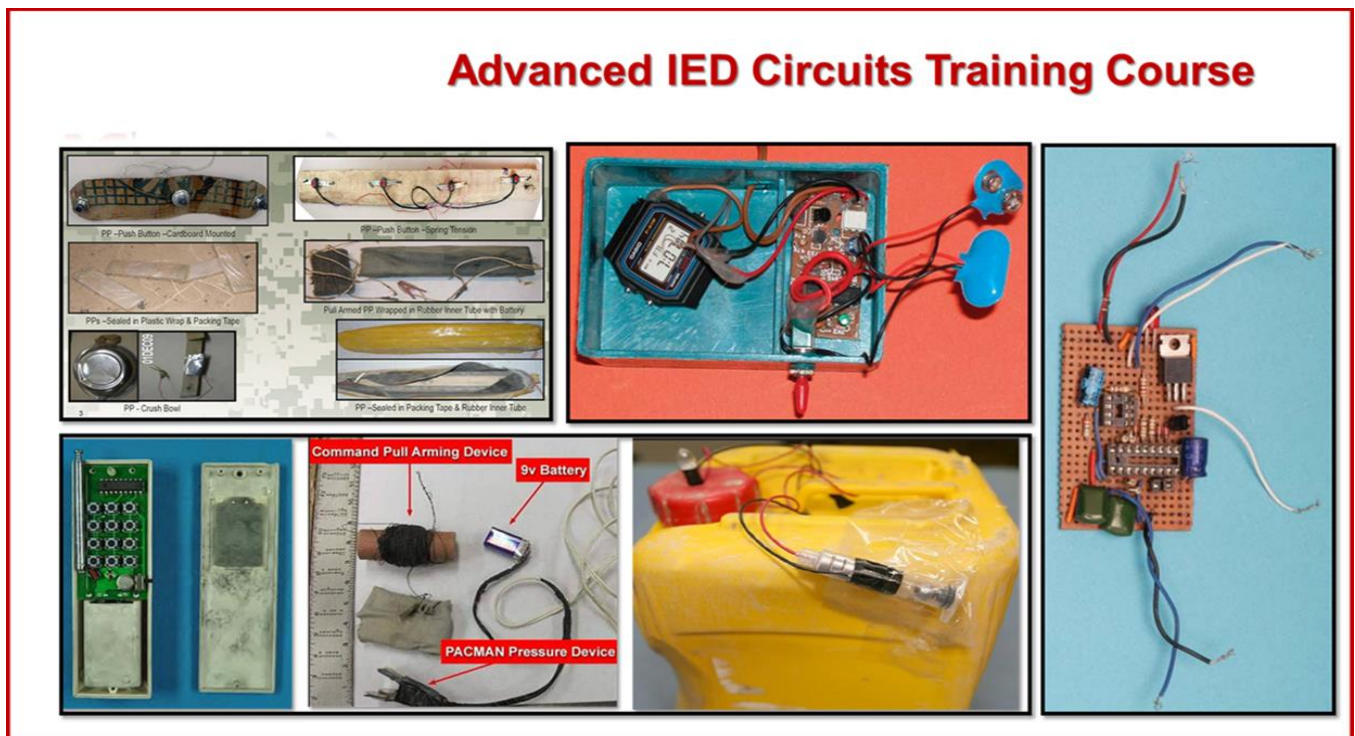
EPO #1: Identify the basic components of an IED circuit

EPO #2: Identify the different methods of triggering an IED

EPO #3: Identify component based IED systems

EPO #4: Identify holistic based IED systems

EPO #5: Describe RF/RC IED firing systems



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INSIGHT WHERE IT MATTERS

Advanced Bomb Disposal X-ray Image Interpretation Training Course (Portable X-ray Systems)

Course Length: 16 hours (2 days)

Max number of students: 20

Terminal Performance Objectives:

The course is an advanced level X-ray interpretation course that is designed to teach EOD/bomb disposal how to identify IED components in a portable X-ray image. The course will also focus on X-ray interpretation on packages and bags with contents (with clutter). Students will be presented with IED components at hard to identify angles in a cluttered bag/package. The course will also cover how to use the material discrimination imaging and how it can provide the Bomb Technician with more information vs a grey scale image. The course is a combination of classroom and hands-on training and will include practical exercises with the team's own X-ray system.

Enabling Performance Objectives:

ELO#1: IED components grey scale vs material discrimination

ELO#2: Explosives and blasting caps grey scale vs material discrimination

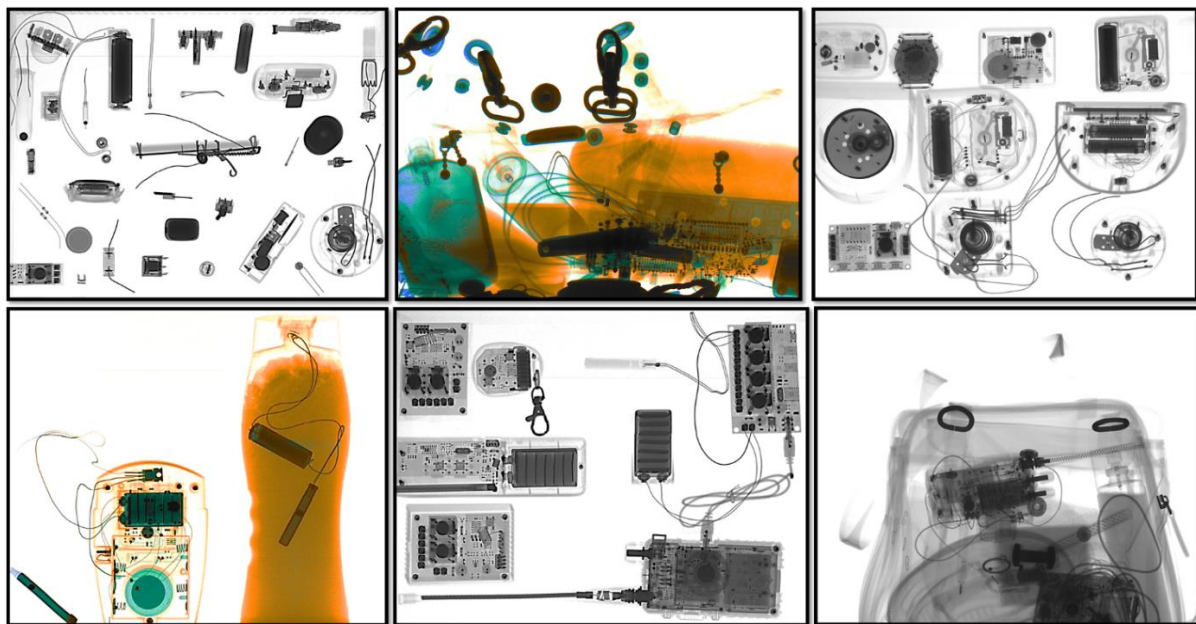
ELO#3: Material discrimination imaging (pulsed vs constant potential generators)

ELO#4: IED X-ray images, no clutter and clutter

ELO#5: Locating the organic materials and potential explosive main charge

ELO#6: Peeling and stripping to identify material that is being blocked

ELO#7: Material discrimination investigative advantages



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3DX-RAY

INSIGHT WHERE IT MATTERS

Advanced X-ray image interpretation Training Course (Cabinet X-ray Systems)

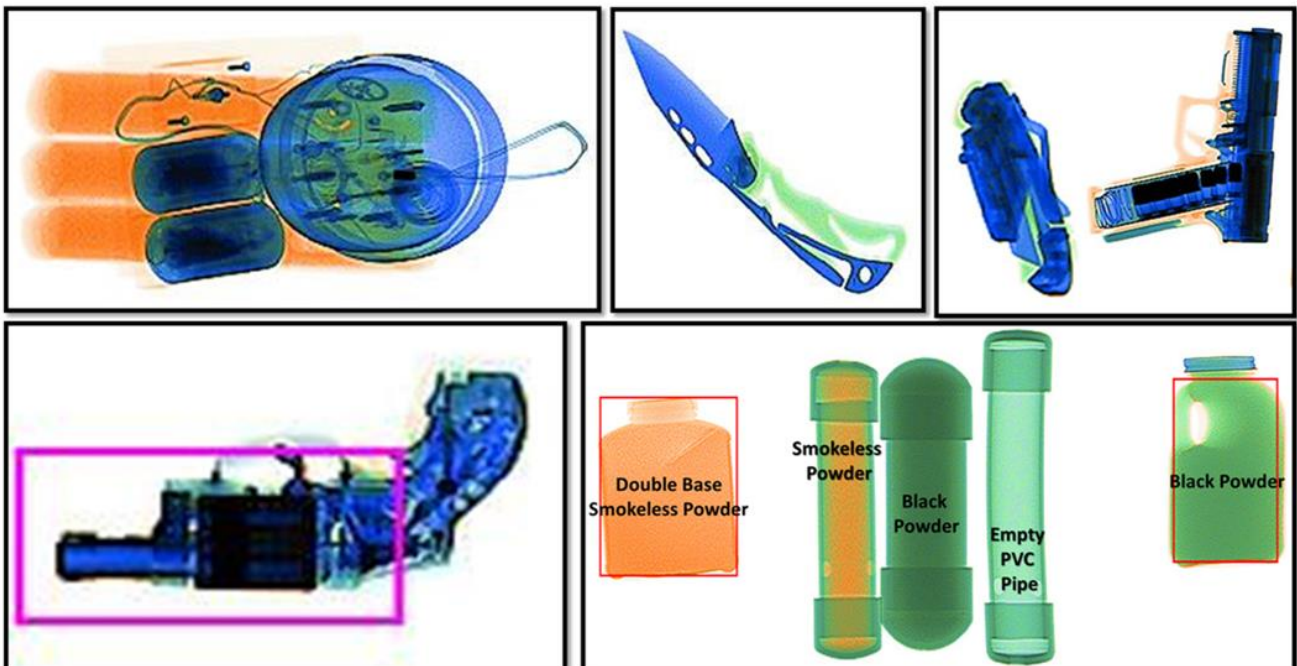
Course Length: 8 hours (1 day)
Max number of students: 25

Terminal Performance Objectives:

This course is designed to train students on how to identify potential threats with a cabinet X-ray system. The course includes identification of various Improvised Explosive Device (IED) components, such as batteries, initiators, explosives, and switches. It also includes the identification of prohibited items such as knives, guns, cameras, cell phones, and liquids. The classroom instruction and student-centred learning environment will provide an advanced level of knowledge for effective X-ray interpretation.

Enabling Performance Objectives:

- EPO #1: Identify the characteristics of a knife threat in an X-ray image
- EPO #2: Identify the characteristics of a gun threat in an X-ray image
- EPO #3: Identify the characteristics of ammo in an X-ray image
- EPO #4: Identify the characteristics of bomb components in an X-ray image
- EPO #5: Identify the characteristics of explosives in an x-ray image
- EPO #6: identify the characteristics of a fully assembled bomb in an X-ray image
- EPO #7: Identify the characteristics of a concealed IED in an X-ray image
- EPO #8: Identify a threat in a bag with clutter in an X-ray image



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INSIGHT WHERE IT MATTERS

Advanced Portable X-ray Dual Energy Material Discrimination Training Course

Course Length: 8 hours

Max number of students: 25

Terminal Learning Objective:

This course is designed to introduce Bomb Disposal operators to dual energy material discrimination imaging with portable X-ray Digital Radiography (DR) X-ray systems. This course covers all of the different improvised explosive devices main charges, containers, and IED components. The course will teach the student how different materials and the IED component containing explosives will respond in a DR dual energy image. The course is a combination of classroom and hands-on training with the portable X-ray system.

Enabling Performance Objectives:

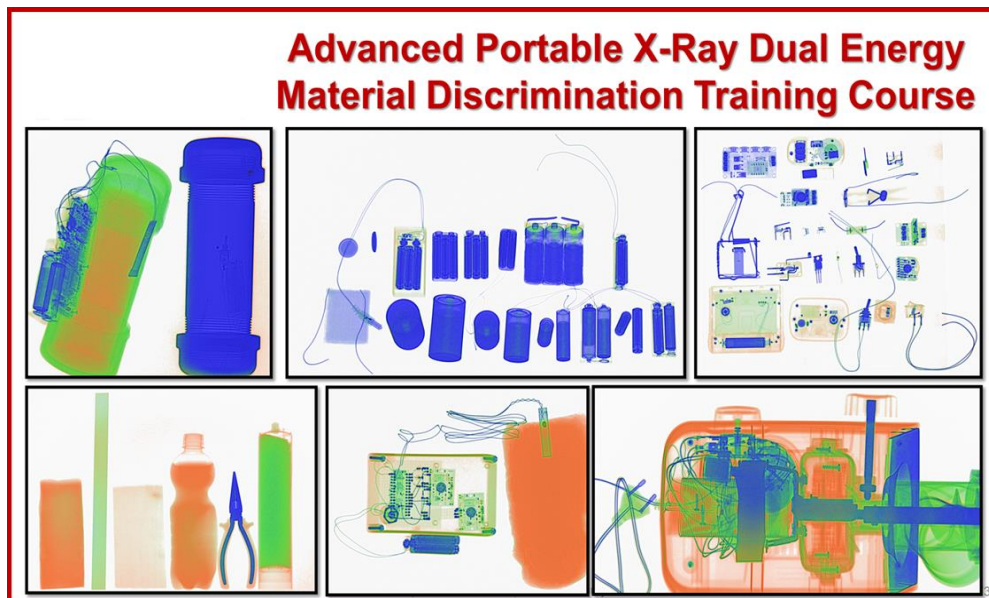
EPO #1: Describe materials discrimination imaging

EPO #2: Describe materials with Z_{eff} of 0-10

EPO #3: Describe materials with a Z_{eff} of 10-18

EPO #4: Describe materials with a Z_{eff} of 18-30

EPO #5: Describe IED threats and the colours they turn



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INSIGHT WHERE IT MATTERS

Mail Room X-ray Screening Operations Training Course

Course Length: 8 hours (1 day)

Max number of students: 25

Terminal Learning Objective:

The course is designed to train your mail room staff on the most effective way to secure your premises from postal threats, and to ensure that any staff who use X-ray screening equipment are trained and that their training is up to date. The operators and security staff who attend our courses will gain a clear understanding of how to determine if an item is "Safe or Suspect". They will know what actions and protocols are needed so that the suspect item is dealt with effectively, and with minimum impact on your business. The course is a combination of classroom and hands-on training and will include practical exercises using the X-ray system. Students will get to see actual simulated mail threat devices from our advanced mail threat X-ray training kit.

Enabling Performance Objectives:

ELO#1: Mail screening operations and safe practices

ELO#2: Types of mail threats (IED, Biological, Chemical, Radiological)

ELO#3: Mail threat visual indicators

ELO#4: Mail room X-ray screening procedures

ELO#5: Mail threat X-ray interpretation

ELO#6: Emergency action procedures

ELO#7: Threat Image Projection (TIP) and operator training systems



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INSIGHT WHERE IT MATTERS

RCIED/RF IED Build Training Course

Course Length: 16 hours

Max number of students: 10

Terminal Learning Objective:

The course is designed to train your EOD staff on Radio Frequency IED threats and how they can be constructed using commercial off-the-shelf (COTS) technology. The students will be provided with classroom and hands-on training about each one of these RF IED circuits. The course will also provide each student with all the tools and components to build these devices in a classroom setting. The course is designed to educate the student on these types of threats and the available COTS technologies that can be used in their construction. The course will provide the students with a more comprehensive understanding of the RF IED circuit type threats and potential sources of supply.

Enabling Performance Objectives:

ELO #1: Describe and build a Long Range RFT-2 IED Circuit

ELO #2: Describe and build a Wireless Doorbell IED RF Circuit

ELO#3: Describe and build a Dual Tone Modulating Frequency (DTMF) Cell phone/Radio IED circuit

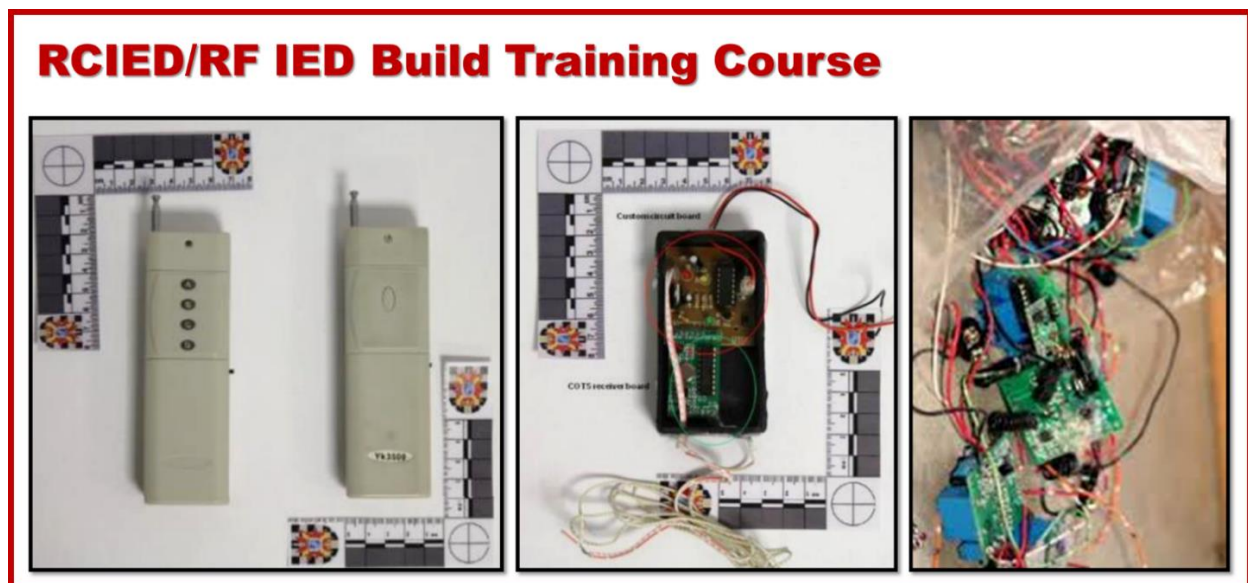
ELO #4: Describe and build a key fob garage door opener RF IED circuit

ELO #5: Describe and build a Personal Mobile Radio (PMR) RF IED circuit

ELO #6: Describe and build a RF Toy Car IED circuit

ELO #7: Describe and build a long-range cordless telephone (LRCT) IED circuit

Note: Only certified EOD/Bomb Disposal personnel are authorised to take this course.



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Train the Trainer Training Courses

All of the advanced 3DX-RAY training courses can be provided in a Train the Trainer package format.

Train the Trainer course students will be provided with all of the lesson plans, testings, and practical exercises that apply to the courses in order to be certified as an Instructor for that specific course topic.

Class size is limited to 5 students to ensure that each student attending the course has extensive interaction with the course material and instructor.

All of the 3DX-RAY training course are taught by certified Bomb Disposal Technicians who are also certified Instructors. The 3DX-RAY staff are subject matter experts on X-ray and counter IED operations, and will provide your students with the highest level of training available on the market.



All of the training courses can be provided at your location. Please contact us if you would like more information about any of our advanced training courses or to receive a quote:

<https://www.3dx-ray.com/contact-us/>

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