United Nations Mine Action Service
Improvised Explosive Device Lexicon

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An IED lexicon for people working in environments contaminated with Improvised Explosive Devices
This lexicon is intended to provide the United Nations system with a coherent conceptual framework and operational vocabulary to address the IED threat worldwide. It encompasses the broad spectrum of IED employment scenarios, the variety of IED devices, and their critical components.

Adoption of this lexicon will improve the collection, reporting, and exploitation of IED information at the tactical, operational, and strategic levels. The lexicon will assist in:
- Standardizing terminology across IED reports and improving database content management;
- IED related education and training; and
- Development and understanding in support of IED policy and doctrine.

In order to maintain the ability to effectively communicate and understand the IED using the construct and definitions posed in this lexicon, modification of definitions and diagrams is not recommended.
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This Lexicon addresses the methodology of exploiting IEDs, which leads to a better understanding of the networks of IED builders, facilitators, and emplacers.
GENERAL TERMS

**Improvised Explosive Device (IED)**
A device placed or fabricated in an improvised manner incorporating destructive, lethal, noxious, pyrotechnic or incendiary chemicals and designed to destroy, incapacitate, harass or distract. It may incorporate military stores, but is normally devised from non-military components. Refers to a type of IED incident that involves a complete functioning device.

**Weapons Technical Intelligence (WTI)**
Intelligence derived from the processes and capabilities that collect, exploit and analyze asymmetric threat weapons systems to enable material sourcing, support to prosecution, force protection and targeting of threat networks.

**Associated Components**
Components that are: 1) part of an IED or improvised weapon system; 2) the tools required to produce the components; or 3) precursors to the manufacture of IED components to include explosives.

**Event Signature Development / Device Profiling**
The process of analyzing the tactical and technical identifiers of an IED incident to support force protection, targeting, prosecution, and sourcing.

**Explosion**
A nuclear, chemical or physical process leading to the sudden release of energy.

**Explosive Train**
A succession of initiating and igniting elements arranged to cause a charge to function.

**False**
An IED related incident that is incorrectly identified though reported in good faith as an IED, which is subsequently categorized as a false alarm after positive Explosive Ordnance Disposal (EOD) action.

**Find / Cache**
An IED related incident that involves the discovery and/or recovery of an IED not yet emplaced or employed, IED components, and/or IED paraphernalia.
Force Protection
Preventive measures taken to mitigate hostile actions against United Nations staff, Troop Contributing Countries/Police (TCC/PCC), resources, facilities, and critical information.

Hoax
An IED related incident that involves a device fabricated to look like an IED and that is intended to simulate one in order to elicit a response.

IED Related Incidents
An event that involves one or more of the following IED-related actions / activities: IED, Explosion, Find / Cache, Turn-In, Hoax, or False.

Improvised Weapons
Weapons constructed in an improvised manner designed to destroy, incapacitate, harass or distract.

Sourcing
The process of determining the origination point (such as a production facility or person, a geographic location, or a specific country of origin) for IED components.

Support to Prosecution
The process of associating related people, places, devices, or equipment to an individual for evidentiary purposes in a recognized court of law.

Tactical Characterization
The manner in which an IED incident is planned and conducted (tactical design) and the intent (purpose of device).

Tactics, Techniques and Procedures Development
Using the lessons learned from an IED attack to refine and improve the tools and methods used during all missions in which an IED may be encountered (e.g. convoys, tactical suppression efforts, Intelligence Surveillance and Reconnaissance (ISR), Counter-IED (C-IED) missions, etc.).

Targeting
The process of selecting and prioritizing targets and matching the appropriate response to them, considering operational requirements and capabilities.
Technical Categorization
A description of an IED using a hierarchical construct to identify its key components. The components identified in this categorization are the elements from which technical and forensic information is recovered and exploited.

Trend and Pattern Analysis
Using prior actions and activities to identify trends in activities or behaviors. Once identified these patterns can be used to predict future attacks or incidents, and plan intelligence surveillance, reconnaissance (ISR) activities and training.

Turn-In
An IED related incident where an IED or component is turned over to the proper authority.
The five components common to most modern IEDs.

- Container
- Power Source
- Switch
- Initiator
- Main Charge

Multiple switches are sometimes present and connected together.

A booster is sometimes present in the IED explosive train.

- Switches
  - Arming
  - Firing

- Initiator
- Booster
- Main Charge

- Heat
- Mechanical Energy
- Chemical Energy
- Electrical Energy
TWO aspects for understanding an IED incident:

1. TACTICAL CHARACTERIZATION
2. TECHNICAL CATEGORIZATION
The manner in which an IED incident is planned and conducted (tactical design) and the intent (purpose of device).
TACTICAL DESIGN

The specific design of an IED attack – including but not limited to: position of the IED, the type of IED, type of road segment used, concealment technique, use of secondary devices, the time of day, etc. Tactical design addresses the questions:
• Why here?
• Why now?
• Why in this way?

Terms used to describe a specific type of device or component of a device (e.g., VBIED) are often used to describe all or part of the tactical design.

- Method of Identification
- Method of Employment
- Method of Emplacement
- Method of Attachment
- Sensor Defeat
- Role of IED
- Attack Geography
- Incident Environmental Conditions
- Incident Atmospherics
Method of Identification

Visual Observation
- Working Animal
- Search and Detect Sensors
- Human Tip

Method of Employment

Suicide
- Proxy

Method of Emplacement

Method of Attachment

Sensor Defeat

Role of IED

EXAMPLES (Not All Inclusive)

- Optics
- Human Eye
- Dog
- Marine Mammal
- Hand-Held Detectors
- Vehicle Mounted
- Local National
- NGO Personnel

- Animal Borne
- Water Borne
- Person Borne
- Surface
- Elevated
- Magnet
- Tied
- Surgically Implanted
- Low Metallic Content
- Primary Device

- Mechanical
- Adhesive
- Anti-X-Ray
- Non Metallic Content
- Vehicle Borne
- Air Borne
- Projected
- Subsurface
- Masking Agents
Air Borne IED (ABIED)
An IED delivered by or concealed in an air-based vehicle.

Animal Borne IED
An IED delivered to a target by means of an animal.

Attack Geography
A description of the road segment, buildings, foliage, etc. Understanding the geography can indicate the use of the landscape to channel tactical response, slow friendly movement, or prevent pursuit of threat actors or spoilers.

Elevated
IED emplaced above the surface: hanging from an overpass, on a roof, etc.

Emplacement
A description of where a device was placed to attack the intended target.

Estimated Net Explosive Weight
A reference to the estimated weight of the main charge derived from observations of the blast effects and crater characteristics.

Human Tip
Information provided in an advance and/or confidential manner regarding an IED, IED related materials, or associated personnel. This information can be received from, but not limited to, the local populace or government, intelligence agency, or an inside source.

Incident Atmospherics
A description of the demeanor of the civilian population at an IED event to include mood, absence or presence, changes in previously experienced interactions, etc.

Incident Environmental Conditions
A description of the ambient surrounding conditions to include weather conditions such as temperature, precipitation, fog, dust, etc.

Method of Employment
A description of how a device was delivered to the target.
Method of Identification
The manner in which a unit located a device, components or improvised weapon via visual observation, working animal, sensor, or human tip.

Person Borne IED (PBIED)
An IED worn, carried, or housed by a person, either willingly or unwillingly.

Primary Device
The first of two or more IEDs encountered or initiated. Subsequent devices will be marked in the order found.

Proxy
A person (unwitting or coerced) who acts as a means of delivery of an IED.

Role of IED
Identifying enemy use of IEDs as a primary, secondary, or subsequent form of attack.

Search and Detect Sensors
Equipment which detects, measures, may indicate and/or record objects and activities by means of energy or particles emitted, reflected, or modified by objects for the purpose of identifying IED activity.

Secondary Device
An additional IED used to attack individuals or vehicles after the initial event.

Sensor Defeat
Methods and technologies incorporated into the device construction and employment for the purpose of defeating detection or identification methods and friendly TTPs.

Suicide
An IED initiated by the attacker at a time of their choosing in which they intentionally kill themself as part of the attack, or possibly to deny capture.
**Underbelly**
A type of IED attack in which the device is intended to target the underside of a vehicle.

**Vehicle Borne IED (VBIED)**
An IED delivered by or concealed in a ground-based vehicle.

**Visual Observation**
Attained or maintained by sight, done or executed by sight only and relating to, or employing visual aids.

**Water Borne IED (WBIED)**
An IED delivered by or concealed in a water-based vehicle.
The immediate or direct tactical effect of the IED.

- Method of Identification
- Anti-Armor
- Anti-Vehicle
- Anti-Infrastructure
- Anti-Aircraft
- Anti-Personnel
- Anti-Maritime
- Obstacle Creation
- TTP Identification
PURPOSE OF DEVICE

- Anti-Armor
- Anti-Vehicle
- Anti-Infrastructure
- Anti-Aircraft
- Anti-Personnel
- Anti-Maritime
- Obstacle Creation
- TTP Identification

- Government Officials
- Anti-EOD
- Civilian
- Military
- Anti-First Responders

- Police
- Fire
- EMS
Purpose of Device

Anti-Aircraft
An IED primarily intended to damage or destroy aircraft and/or their payload.

Anti-Armor
An IED that utilizes a directional explosive effect primarily intended to penetrate armored vehicles.

Anti-EOD
An IED primarily intended to kill or wound EOD personnel or to counter Render Safe Procedures.

Anti-First Responder
An IED primarily intended to kill or wound first responders such as police/law enforcement, medics, and firefighters.

Anti-Infrastructure
An IED primarily intended to damage or destroy physical infrastructure such as pipelines, communications towers, bridges, buildings, utility lines and/or facilities such as electrical transformers or water pump houses.

Anti-Maritime
An IED primarily intended to damage or destroy maritime vessels and/or their payload.

Anti-Personnel
An IED primarily intended to kill or wound people.

Anti-Vehicle
An IED primarily intended to damage or destroy vehicles – is not intended to penetrate a vehicle's armor.

Obstacle Creation
An IED primarily intended to create an obstacle to impede movement or channel movement into a desired location, possibly as part of a complex attack or ambush.

TTP Identification
An IED primarily intended to cause a reaction by forces in an effort to learn and understand employed tactics. This knowledge is then used by the attacker to plan new attacks incorporating the lessons learned to inflict additional casualties or to avoid countermeasures. The IED need not function to serve this purpose. A Hoax IED can have TTP Identification as its intended outcome.
TWO aspects for understanding an IED incident:

1. TACTICAL CHARACTERIZATION

2. TECHNICAL CATEGORIZATION
A description of an IED using a hierarchical construct to identify its key components. The components identified in this categorization are the elements from which technical and forensic information is recovered and exploited.
A switch is a device for making, breaking, or changing a connection in an IED.

A single switch can have multiple functions (i.e., arming and firing).

The firing switch that initiates the IED determines the device type by category (command / time / victim operated). If present, the arming switch should also be categorized.

When categorizing switches it is important to understand switches can be configured in a multitude of ways. The observed configuration of the switch should be considered when categorizing the device. Also, the same configuration of components could function in more than one way.

- Firing Switch
- Arming Switch
  - Command
  - Time
  - Victim Operated
EXAMPLES (Not All Inclusive)

- Push Button
- Rocker Switch
- Relay Board + Rocker Switch
- Push Button + Dead Man Switch
- Clothes Pin
- Motorcycle Brake Switch
- JDQBA
- RC Toy
- Garage Door Opener
- Door Bell
- PMR
- ICOM
- Taxi Radio
- Trunk Mount Radio
- LRCT
- HPCP
- GSM
- CDMA
- WICR
- MOD 1-5
- Lynx
- Maxstream
- 2 Thick Copper Plates
- Pie Tins
EXAMPLES (Not All Inclusive)

- Water Container with 2 Plates
- Chemical Pencil
- Time Fuse
- Analog
- Digital
- 99 Day Timer
- Drained Battery Collapsing Circuit
- Digital Watch
SWITCH

**Acoustic**
A sensor that passively detects and utilizes the presence of sound in order to activate an IED.

**Active Infrared**
A sensor that emits an infrared beam to a matched receiver forming an invisible link that, when broken, releases power to the initiator. These sensors act like an electronic version of a trip wire.

**Arming Switch**
A switch that prevents an IED from arming until an acceptable set of criteria has occurred and subsequently effects arming and allows functioning.

**Barometric**
A sensor that acts as a switch by the measurement of atmospheric (air / water) pressure.

**Chemical Reaction**
A switch using the reaction of chemical compounds to provide a delay before starting the initiation train.

**Clock Mechanism**
The internal working parts of a clock used in an improvised manner to function an IED.

**Collapsing Circuit**
A switch which utilizes a circuit designed to detect a failure in an active circuit by monitoring voltage or amperage levels on the target circuit (wire being cut or battery drain).

**Command**
A type of switch that is activated by the attacker in order to control the moment of initiation.

**Command Projectile**
The use of a small arms bullet to close the circuit by penetrating two metal plates. This provides standoff between the firing point and contact point.

**Command Wire IED (CWIED)**
A switch where the firing point and contact point are separate but joined together by a length of wire. A Command Wire may contain multiple power sources located near both the firing point and the contact point to overcome the resistance in the length of the wire.
Consumer Electronics
Simple radio controlled devices, readily available in the consumer marketplace, (not purpose-built for telecommunication purposes).

Crush Wire
Contact point(s) spanning a length of wire that function an IED when crushed.

Custom Radio Controlled (RC)
A purpose built radio controlled circuit board.

Displacement
A switch that utilizes a jug or other container, with two contacts, one fixed and one floating. As a substance dissipates or fills the container, the contacts meet and complete the circuit.

Dual Tone Multi-Frequency (DTMF)
A pairing of transmitter and receiver utilizing dual tones and multiple frequency hardware that allows for precision arming and firing, thus preventing unintended firing.

Firing Switch
The component that initiates the explosive train.

Hydrostatic
A switch designed to complete a circuit or force a mechanical action with the change of fluid pressure.

Light / Photo-electric
A sensor acting as a switch that is looking for a change in ambient light (either light to dark or dark to light).

Long Range Cordless Telephone (LRCT)
A switch utilizing a cordless telephone that has the capability to transmit signal significantly further than a normal telephone from the base station.

Magnetic
A proximity switch using a magnetic field to arm or fire an IED. This can sense an active field and close the switch when the field is disturbed; or react upon coming near a magnetic field.

Membrane
A switch incorporating two metal layers, separated by an insulator that functions the IED when perforated or when pressure is applied.
Movement / Anti-Disturbance
A switch that causes two parts to make contact, completing a circuit after a disturbance to the IED (tilt, vibration).

Passive Infrared
A switch that detects movement of a heat source. When the change in ambient temperature is detected, the sensor acts as a trigger to function the IED.

Plunger
A switch utilizing a shaft, like that found in a syringe, where application of pressure on the head of the device will force the shaft downward, functioning the IED.

Pressure
A switch designed to function when pressure is applied in a predetermined direction (plate, tube, plunger, crush wire).

Pressure and Pressure Release
A method for activating the device that occurs as a result of either application or reduction of pressure.

Pressure Release
A switch for activating the device that occurs as a result of reductions in pressure.

Pull
A switch that functions when a person applies tension to a firing mechanism – such as pulling a spring. The tension causes an action that releases a firing pin or activates an electrical or electronic switch.

Pyrotechnic Delay
A pyrotechnic device added to a firing system which transmits the ignition flame after a predetermined delay.

Radar
A sensor that passively detects radar signals and power, usually operating within a specific range, in order to function an IED.

Radio Controlled IED (RCIED)
A switch initiated electronically by wireless means consisting of a transmitter / receiver.

Radio Frequency Detector
A sensor that passively detects RF signals and power, usually operating within a specific range, in order to function an IED.
**Sensor**
A switch used to detect change in heat, light, movement, vibration, electromagnetic frequency, sound or magnetic field.

**Telemetry**
A switch utilizing paired RF modules that transmit and receive binary data.

**Tension**
A switch that functions when tension is applied to a firing mechanism – such as pulling a trip wire. The tension causes an action that releases a firing pin or activates an electrical or electronic switch.

**Tension Release**
A switch that functions when tension is released – such as when a taut wire or cord is cut or broken – releasing a spring-loaded firing pin or closes electrical contacts initiating the device.

**Tilt**
A switch that allows current to flow to the output wires after a conductive material (i.e., mercury or a ball bearing) is moved enough (up / down, left / right) to flow onto the switch contacts, completing the circuit.

**Time**
A type of switch that functions after a set time. Used widely against infrastructure targets.

**Time Chemical**
A chemical timing switch using a corrosive chemical with a known decomposition rate that is designed to destroy a physical restraint on a triggering device to start the initiation train.

**Time Electronic**
A timing switch using a commercial or improvised electric timer or integrated circuit to start the initiation train.

**Time Fuse / Safety Fuse**
A pyrotechnic burning at a certain rate used to transmit a flame to the non-electric detonator or a low explosive charge with a predetermined delay.

**Time Mechanical**
A timing switch constructed or modified so that physical contact between two parts of the timing mechanism complete an electrical circuit.

**Victim Operated IED (VOIED)**
A type of switch that is activated by the actions of an unsuspecting individual. These instruments rely on the intended target to carry out some form of action that will cause it to function.
Any component that may be used to start a detonation or deflagration. An initiator will be categorized as either a detonator or an igniter.

- Electric
- Non-Electric
Blasting Cap / Detonator
A device containing a sensitive explosive intended to produce a detonation wave. Can be either electric or nonelectric (plain).

Electric
An initiator who’s function is initiated by an electrical impulse that creates heat or a spark.

Electronic
An initiator controlled or operated by the controlled flow of electrons.

Exploding Bridge Wire (EBW)
An initiator or system in which a very high-energy electrical impulse is passed through a bridge wire, literally exploding the bridge wire and releasing thermal and shock energy capable of initiating a relatively insensitive explosive in contact with the bridge wire.

Heat
A type of initiator that serves as an igniting element through the application of heat. This may include direct heat to a sensitive explosive.

Ignitor
A device designed to produce a flame or a spark to initiate an explosive train.

Light Bulb / Flash Bulb
Devices used as electric initiators that incorporate an improvised use of the bulb filament to initiate primary or low explosives.

Non-electric
An initiator that functions by other than electric means (friction, chemical, impact).

Percussion
An initiator that serves as an igniting element when mechanically struck.

Shock Tube
A thin, plastic tube of extruded polymer with a layer of powdered high explosive deposited on its interior surface that propagates a detonation wave to the blasting cap.
Initiator (continued)

Time Fuse / Safety Fuse
A pyrotechnic burning at a certain rate used to transmit a flame to the non-electric detonator or a low explosive charge with a predetermined delay.
The explosive charge which is provided to accomplish the end result in a munition. Examples for end results are: bursting a casing to provide blast and fragmentation; splitting a canister to dispense sub-munitions; or producing other effects for which it may be designed.

- High Explosives
- Low Explosives
- Main Charge Configuration
Main Charge Configuration

- High Explosive
  - Commercial Explosives
  - Military Explosives
  - Improvised Explosives / HME

- Low Explosive
  - Commercial Explosives
  - Military Explosives
  - Improvised Explosives / HME

- Directional Effect
  - Omni-Directional (Blast Effect)

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Low Explosive

Commercial Explosives
- Pyrotechnic Fireworks
- Small Arms Ammunition / Cartridge Cases

Military Explosives
- Propellants
  - Black Powder
  - Smokeless
  - Liquid
  - Triple Base
  - Cordite
- White Phosphorus
- Illuminate
- Thermites
- Napalm
- Smoke

Improvised Explosives / HME
- Explosive Mixtures
  - Propellants
  - Burning Fuses
  - Smoke
  - Incendiary

Examples (Not All Inclusive)
- Black Powder
- Smokeless Propellants
- Audio
- Visual
- Pyrotechnics
- Single Base
- Double Base
- RFNA
- Kerosene
- WP Grenades
- Flares
- Incendiary Grenade
- Grenade 308-1
- Napalm
- Napalm B
- Smoke Grenades
- HM Black Powder
- Sodium Chlorate / Sugar
- Diesel and Styrofoam
- HM Black Powder
- Sodium Chlorate / Sugar
EXAMPLES
(Not All Inclusive)

- Improvised Platter Charge (Misznay-Schardin Effect)
  - Improvised Claymore
  - EFP
  - With Metal Liner
  - Without Metal Liner

- Improvised Shape Charge (Munroe Effect)

- Omni-Directional Effect
  - Improvised Grenade
  - Improvised Mine
  - Improvised Mortar
  - Improvised Rocket

- Directional Effect
  - Improvised Rocket
  - Improvised Mortar

- Main Charge Configuration
  - Improvised Mine
  - Improvised Grenade

- Coffee Jar
- Glass Jar
- PMN
- Leg Breaker
- IRAM
- Barrack Buster
- Qassam

- DFFC
- DFC
- Copper Liner
- Steel Liner
MAIN CHARGE

Air-Dropped Bomb
Explosive article dropped from an aircraft. It may contain a flammable liquid with a bursting charge, a photo-flash composition or a bursting charge.

Binary Explosive
An explosive formed by combining two non-explosive materials (an oxidizer and a fuel).

Blasting Accessory
Devices and materials used in blasting. Examples are: cap crimpers, tamping bags, blasting machines, and blasting galvanometers.

Blasting Agent
An explosive material which meets prescribed criteria for insensitivity to initiation. Generally a non-detonator sensitive explosive that must be initiated by a booster to detonate. May be configured in cartridge form or as a mass of explosive material prepared for use on site without packaging.

Booster
A high explosive element sufficiently sensitive so as to be actuated by small explosive elements and powerful enough to cause detonation of the main charge filling (initiator » booster » maincharge).

Bulk Explosives
Manufactured explosive charges in their original packaging or that have been removed from weapons or munitions.

Cast Explosive
Any explosive poured in liquid form and allowed to harden.

Commercial Explosives
Explosives produced and used for commercial, industrial, or recreational applications.

Detonating Cord
A waterproof, flexible fabric tube containing a high explosive designed to transmit the detonation wave.

Directional Effect
Type of main charge configuration where the explosive effect is channeled to an intended area.

Dynamite
A high explosive used for blasting, consisting essentially of a mixture of, but not limited to, nitroglycerin, nitrocellulose, ammonium nitrate, sodium nitrate, and carbonaceous materials.
Explosive Compounds
Explosive compounds are homogeneous substances whose molecules contain within themselves the oxygen, carbon, and hydrogen necessary for combustion.

Explosively Formed Projectile (EFP)
Specially designed main charge configuration incorporating an explosive charge with a concave metal liner which by the force of the charge reshapes the plate into a high velocity metal slug capable of penetrating armor.

Fuel Oxidizer eXplosive (FOX) Mixture
An explosive mixture of fuel and oxidizer that deflagrates (very rapid burning) or detonates creating a blast wave.

High Explosive
A chemical compound or mixture that is capable of supporting or sustaining a detonation wave. High explosives do not require confinement as they combust instantaneously producing heat, gas, a rapid expansion of matter, and a detonation / shock wave.

Improvised Claymore
An improvised weapon, military or homemade, designed to explosively propel a pattern of ball bearings or other fragmentation in an aimed direction.

Improvised Explosive (IE) / Homemade Explosive (HME)
Non-standard explosive mixtures / compounds which have been formulated / synthesized from available ingredients. Most often utilized in the absence of commercial / military explosives.

Improvised Grenade
An improvised weapon, using military or homemade components, designed to explode when a restraint is removed (usually hand held, but can be projected).

Improvised Mortar
An improvised weapon, using military or homemade components, designed to launch an explosive charge to the target.
Improvised Rocket
An improvised weapon, using military or homemade components, designed to propel an explosive charge to the target.

Incendiary
Chemical mixtures and flammable liquids that cause fire.

Liquid Explosive
An explosive material in a liquid state. Examples include nitric acid esters (e.g. nitroglycerin, nitroglycol) and EDGN.

Low Explosive
A chemical compound or mixture that is designed to deflagrate (rapid burn) and generally require confinement to explode.

Main Charge Configuration
The arrangement or design of the main charge and other materials (usually metal) to create an effective weapon to attack personnel, vehicles, or structures.

Military Explosives
Explosives manufactured for military use.

Mine
In land mine warfare, an explosive munition designed to be placed under, on or near the ground or other surface area and to be actuated by the presence, proximity or contact of a person, land vehicle, aircraft or boat, including landing craft.

Missile
A self-propelled munition whose trajectory or course is controlled while in flight.

Misznay-Schardin Effect
A characteristic of the detonation of a broad sheet of explosive. The explosive blast expands directly away from (perpendicular to) the surface of an explosive.

Mortar Munition
The complete munition, comprised of projectile and propellant system, to be fired from the mortar. The projectile normally comprises fuze, body filled with high explosives (HE) or other filling, obturator, and tail assembly.
**Munition**
A complete device charged with explosives, propellants, pyrotechnics, initiating composition or chemical, biological, radiological or nuclear material, for use in military operations, including demolitions.

**Munroe Effect**
A focusing of blast energy caused by a hollow or void cut into the surface of an explosive.

**Omni-directional Effect**
An aspect of main charge configuration where the explosion expands in all directions.

**Plastic Explosive**
A malleable or flexible explosive at room temperature.

**Platter Charge**
The use of an explosive to propel a metal plate toward a target in a manner where the plate remains intact.

**Projectile**
An object, projected by an applied exterior force and continuing in motion by virtue of its own inertia. Projectiles can have a variety of fillers including explosives or chemicals.

**Propellant**
An explosive material that normally functions by burning to produce a controlled release of gasses used for propulsion purposes.

**Rocket**
Self-propelled ordnance that uses gas pressure from rapidly burning propellant to transport a payload (warhead) to a desired target.

**Sea Mine**
An explosive device laid in the water with the intention of damaging or sinking ships or of deterring shipping from entering an area. The term sea mine does not include devices attached to the bottom of ships or to harbor installations by personnel operating underwater.

**Shaped Charge**
A main charge configuration incorporating explosives shaped so as to concentrate explosive force utilizing the Munroe Effect in a particular direction in order to cut or penetrate.

**Submunition**
Any munition that, to perform its task, separates from a parent munition. Submunitions are classified as bomblets, grenades, or mines.
A device that stores or releases electrical or mechanical energy. The key elements of information about a power source are its type and source, number of batteries and their configuration (series or parallel), its voltage (if electrical) and how it is connected to close an IED switch.

- Electrical Energy
- Mechanical Energy
Alternating Current (AC)
Electric current that flows through a circuit in both directions with the change in direction occurring with a well-defined and specified frequency.

Direct Current (DC)
Electric current that flows through a circuit in just one direction.

In Parallel
Multiple batteries or other power sources which have their positive terminals connected to one another and their negative terminals connected to one another which results in an increase in the available current.

In Series
Multiple batteries or other power sources which have one positive terminal connected to the negative terminal of the next power source which results in an increase in the available voltage.

Mechanical Energy
Stored or applied energy that results in physical movement of an IED component.

Series-Parallel Circuit
A combination of one or more series circuits and parallel circuits.
Concealment
A vessel commonly used to prevent the discovery of an IED by visual inspection. May also be used to add fragmentation.

Confinement
A vessel commonly used to hold the main charge together. May also be used to add fragmentation.
**CONTAI**

- **Concealment**
- **Type**
- **Material**
- **Color**

**EXAM**

<table>
<thead>
<tr>
<th>Material</th>
<th>Type</th>
<th>Exa<strong>ple</strong>s (Not All Inclusive)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic</td>
<td>Tire</td>
<td>Living Human</td>
</tr>
<tr>
<td>Nylon</td>
<td>Inner Tube</td>
<td>Empty Ordnance Casing</td>
</tr>
<tr>
<td>Metal</td>
<td>Jar / Jug</td>
<td>Animal Carcass</td>
</tr>
<tr>
<td>Rubber</td>
<td>Vehicle</td>
<td></td>
</tr>
<tr>
<td>Organic</td>
<td>Box</td>
<td></td>
</tr>
<tr>
<td>Cardboard</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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</tr>
</tbody>
</table>
An optional, deliberately added component as opposed to a secondary hazard which modifies the effects of the IED. The IED would be effective, yet produce a different measurable result if this material were not added. The effect can be additional physical destruction, proliferation of dangerous substances (radiation, chemicals, etc.), or other results to enhance the effect of the IED.

- Improvised
- Commercial / Toxic Industrial Materials
- Military / Weaponized

The terminology in this lexicon only applies to enhancements used as secondary effect of the IED, not Weapons of Mass Destruction (WMD), where the primary tactical outcome is the explosive effect.
The terminology in this lexicon only applies to enhancements used as secondary effect of the IED, not Weapons of Mass Destruction (WMD), where the primary tactical outcome is the explosive effect.
ENHANCEMENTS

Bio-Toxin
A toxic substance produced by and derived from plants and animals.

Biological Agent
A microorganism that causes disease in personnel, plants, or animals or causes the deterioration of materiel.

Chemical Agent
A chemical substance which is intended for use in military operations to kill, seriously injure, or incapacitate mainly through its physiological effects. The term excludes riot control agents when used for law enforcement purposes, herbicides, smoke, and flames.

Fragmentation
Small objects designed to be accelerated by explosive forces.

Fuel
An incendiary material designed to enhance the burning and visual effect of the device.

Radiological Dispersal Device (RDD)
An improvised assembly or process, other than a nuclear explosive device, designed to disseminate radioactive material in order to cause destruction, damage, or injury.

Toxic Industrial Biological (TIB)
Any biological material manufactured, used, transported, or stored by industrial, medical, or commercial processes which could pose an infectious or toxic threat.

Toxic Industrial Chemical (TIC)
A chemical developed or manufactured for use in industrial operations or research by industry, government, or academia. For example: pesticides, petrochemicals, fertilizers, corrosives, poisons, etc. These chemicals are not primarily manufactured for the specific purpose of producing human casualties or rendering equipment, facilities, or areas dangerous for human use. Hydrogen cyanide, cyanogen chloride, phosgene, and chloropicrin are industrial chemicals that can also be military chemical agents.
Toxic Industrial Material (TIM)
A generic term for toxic or radioactive substances in solid, liquid, aerosolized, or gaseous form that may be used, or stored for use, for industrial, commercial, medical, military, or domestic purposes. Toxic industrial material may be chemical, biological, or radioactive and described as toxic industrial chemical, toxic industrial biological, or toxic industrial radiological.

Toxic Industrial Radiological (TIR)
Any radiological material manufactured, used, transported, or stored by industrial, medical, or commercial processes. For example: spent fuel rods, medical sources, etc.
<table>
<thead>
<tr>
<th>Term</th>
<th>Acronym</th>
<th>Definition</th>
<th>Page #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acoustic</td>
<td></td>
<td>A sensor that passively detects and utilizes the presence of sound in order to activate an IED.</td>
<td>23</td>
</tr>
<tr>
<td>Active Infrared</td>
<td></td>
<td>A sensor that emits an infrared beam to a matched receiver forming an invisible link that, when broken, releases power to the initiator. These sensors act like an electronic version of a trip wire.</td>
<td>23</td>
</tr>
<tr>
<td>Air Borne IED</td>
<td>ABIED</td>
<td>An IED delivered by or concealed in an air-based vehicle.</td>
<td>10</td>
</tr>
<tr>
<td>Air-Dropped Bomb</td>
<td></td>
<td>Explosive article dropped from an aircraft. It may contain a flammable liquid with a bursting charge, a photo-flash composition or a bursting charge.</td>
<td>36</td>
</tr>
<tr>
<td>Alternating Current</td>
<td>AC</td>
<td>Electric current that flows through a circuit in both directions with the change in direction occurring with a well-defined and specified frequency.</td>
<td>42</td>
</tr>
<tr>
<td>Animal Borne IED</td>
<td></td>
<td>An IED delivered to a target by means of an animal.</td>
<td>10</td>
</tr>
<tr>
<td>Anti-Aircraft</td>
<td></td>
<td>An IED primarily intended to damage or destroy aircraft and/or their payload.</td>
<td>15</td>
</tr>
<tr>
<td>Anti-Armor</td>
<td></td>
<td>An IED that utilizes a directional explosive effect primarily intended to penetrate armored vehicles.</td>
<td>15</td>
</tr>
<tr>
<td>Anti-EOD</td>
<td></td>
<td>An IED primarily intended to kill or wound EOD personnel or to counter Render Safe Procedures.</td>
<td>15</td>
</tr>
<tr>
<td>Anti-First Responder</td>
<td></td>
<td>An IED primarily intended to kill or wound first responders such as police/law enforcement, medics, and firefighters.</td>
<td>15</td>
</tr>
<tr>
<td>Term</td>
<td>Acronym</td>
<td>Definition</td>
<td>Page #</td>
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<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Anti-Infrastructure</td>
<td></td>
<td>An IED primarily intended to damage or destroy physical infrastructure such as pipelines, communications towers, bridges, buildings, utility lines and/or facilities such as electrical transformers or water pump houses.</td>
<td>15</td>
</tr>
<tr>
<td>Anti-Maritime</td>
<td></td>
<td>An IED primarily intended to damage or destroy maritime vessels and/or their payload.</td>
<td>15</td>
</tr>
<tr>
<td>Anti-Personnel</td>
<td></td>
<td>An IED primarily intended to kill or wound people.</td>
<td>15</td>
</tr>
<tr>
<td>Anti-Vehicle</td>
<td></td>
<td>An IED primarily intended to damage or destroy vehicles – is not intended to penetrate a vehicle’s armor.</td>
<td>15</td>
</tr>
<tr>
<td>Arming Switch</td>
<td></td>
<td>A switch that prevents an IED from arming until an acceptable set of criteria has occurred and subsequently effects arming and allows functioning.</td>
<td>23</td>
</tr>
<tr>
<td>Associated Components</td>
<td></td>
<td>Components that are: 1) part of an IED or improvised weapon system; 2) the tools required to produce the components; or 3) precursors to the manufacture of IED components to include explosives.</td>
<td>1</td>
</tr>
<tr>
<td>Attack Geography</td>
<td></td>
<td>A description of the road segment, buildings, foliage, etc. Understanding the geography indicates enemy use of landscape to channel tactical response, slow friendly movement, or prevent pursuit of enemy forces.</td>
<td>10</td>
</tr>
<tr>
<td>Barometric</td>
<td></td>
<td>A sensor that acts as a switch by the measurement of atmospheric (air/water) pressure.</td>
<td>23</td>
</tr>
<tr>
<td>Binary Explosive</td>
<td></td>
<td>An explosive formed by combining two non-explosive materials (an oxidizer and a fuel).</td>
<td>36</td>
</tr>
<tr>
<td>Biological Agent</td>
<td></td>
<td>A microorganism that causes disease in personnel, plants, or animals or causes the deterioration of materiel.</td>
<td>47</td>
</tr>
<tr>
<td>Bio-Toxin</td>
<td></td>
<td>A toxic substance produced by and derived from plants and animals.</td>
<td>47</td>
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<td>Term</td>
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<td>Definition</td>
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</tr>
<tr>
<td>Blasting Accessory</td>
<td></td>
<td>Devices and materials used in blasting. Examples are: cap crimpers, tamping bags, blasting machines, and blasting galvanometers.</td>
<td>36</td>
</tr>
<tr>
<td>Blasting Agent</td>
<td></td>
<td>An explosive material which meets prescribed criteria for insensitivity to initiation. Generally a non-detonator sensitive explosive that must be initiated by a booster to detonate. May be configured in cartridge form or as a mass of explosive material prepared for use on site without packaging.</td>
<td>36</td>
</tr>
<tr>
<td>Blasting Cap / Detonator</td>
<td></td>
<td>A device containing a sensitive explosive intended to produce a detonation wave. Can be either electric or nonelectric (plain).</td>
<td>29</td>
</tr>
<tr>
<td>Booster</td>
<td></td>
<td>A high explosive element sufficiently sensitive so as to be actuated by small explosive elements and powerful enough to cause detonation of the main charge filling (initiator » booster » maincharge).</td>
<td>36</td>
</tr>
<tr>
<td>Bulk Explosives</td>
<td></td>
<td>Manufactured explosive charges in their original packaging or that have been removed from weapons or munitions.</td>
<td>36</td>
</tr>
<tr>
<td>Cast Explosive</td>
<td></td>
<td>Any explosive poured in liquid form and allowed to harden.</td>
<td>36</td>
</tr>
<tr>
<td>Chemical Agent</td>
<td></td>
<td>A chemical substance which is intended for use in military operations to kill, seriously injure, or incapacitate mainly through its physiological effects. The term excludes riot control agents when used for law enforcement purposes, herbicides, smoke, and flames.</td>
<td>47</td>
</tr>
<tr>
<td>Chemical Reaction</td>
<td></td>
<td>A switch using the reaction of chemical compounds to provide a delay before starting the initiation train.</td>
<td>23</td>
</tr>
<tr>
<td>Clock Mechanism</td>
<td></td>
<td>The internal working parts of a clock used in an improvised manner to function an IED.</td>
<td>23</td>
</tr>
<tr>
<td>Collapsing Circuit</td>
<td></td>
<td>A switch which utilizes a circuit designed to detect a failure in an active circuit by monitoring voltage or amperage levels on the target circuit (wire being cut or battery drain).</td>
<td>23</td>
</tr>
<tr>
<td>Term</td>
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<td>Definition</td>
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</tr>
<tr>
<td>Command</td>
<td></td>
<td>A type of switch that is activated by the attacker in order to control the moment of initiation.</td>
<td>23</td>
</tr>
<tr>
<td>Command Projectile</td>
<td></td>
<td>The use of a small arms bullet to close the circuit by penetrating two metal plates. This provides standoff between the firing point and contact point.</td>
<td>23</td>
</tr>
<tr>
<td>Command Wire IED</td>
<td>CWIED</td>
<td>A switch where the firing point and contact point are separate but joined together by a length of wire. A Command Wire may contain multiple power sources located near both the firing point and the contact point to overcome the resistance in the length of the wire.</td>
<td>23</td>
</tr>
<tr>
<td>Commercial Explosives</td>
<td></td>
<td>Explosives produced and used for commercial, industrial, or recreational applications.</td>
<td>36</td>
</tr>
<tr>
<td>Concealment</td>
<td></td>
<td>A vessel commonly used to prevent the discovery of an IED by visual inspection. May also be used to add fragmentation.</td>
<td>43</td>
</tr>
<tr>
<td>Confinement</td>
<td></td>
<td>A vessel commonly used to hold the main charge together. May also be used to add fragmentation.</td>
<td>43</td>
</tr>
<tr>
<td>Consumer Electronics</td>
<td></td>
<td>Simple radio controlled devices, readily available in the consumer marketplace, (not purpose-built for telecommunication purposes).</td>
<td>24</td>
</tr>
<tr>
<td>Crush Wire</td>
<td></td>
<td>Contact point(s) spanning a length of wire that function an IED when crushed.</td>
<td>24</td>
</tr>
<tr>
<td>Custom Radio Controlled</td>
<td>RC</td>
<td>A purpose built radio controlled circuit board.</td>
<td>24</td>
</tr>
<tr>
<td>Detonating Cord</td>
<td></td>
<td>A waterproof, flexible fabric tube containing a high explosive designed to transmit the detonation wave.</td>
<td>36</td>
</tr>
<tr>
<td>Direct Current</td>
<td>DC</td>
<td>Electric current that flows through a circuit in just one direction.</td>
<td>42</td>
</tr>
<tr>
<td>Directional Effect</td>
<td></td>
<td>Type of main charge configuration where the explosive effect is channeled to an intended area.</td>
<td>36</td>
</tr>
<tr>
<td>Term</td>
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<td>Definition</td>
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</tr>
<tr>
<td>Displacement</td>
<td></td>
<td>A switch that utilizes a jug or other container, with two contacts, one fixed and one floating. As a substance dissipates or fills the container, the contacts meet and complete the circuit.</td>
<td>24</td>
</tr>
<tr>
<td>Dual Tone Multi-Frequency</td>
<td>DTMF</td>
<td>A pairing of transmitter and receiver utilizing dual tones and multiple frequency hardware that allows for precision arming and firing, thus preventing unintended firing.</td>
<td>24</td>
</tr>
<tr>
<td>Dynamite</td>
<td></td>
<td>A high explosive used for blasting, consisting essentially of a mixture of, but not limited to, nitroglycerin, nitrocellulose, ammonium nitrate, sodium nitrate, and carbonaceous materials.</td>
<td>36</td>
</tr>
<tr>
<td>Electric</td>
<td></td>
<td>An initiator who's function is initiated by an electrical impulse that creates heat or a spark.</td>
<td>29</td>
</tr>
<tr>
<td>Electronic</td>
<td></td>
<td>An initiator controlled or operated by the controlled flow of electrons.</td>
<td>29</td>
</tr>
<tr>
<td>Elevated</td>
<td></td>
<td>IED emplaced above the surface: hanging from an overpass, on a roof, etc.</td>
<td>10</td>
</tr>
<tr>
<td>Emplacement</td>
<td></td>
<td>A description of where a device was placed to attack the intended target.</td>
<td>10</td>
</tr>
<tr>
<td>Enhancements</td>
<td></td>
<td>An optional, deliberately added component as opposed to a secondary hazard which modifies the effects of the IED. The IED would be effective, yet produce a different measurable result if this material were not added.</td>
<td>45</td>
</tr>
<tr>
<td>Estimated Net Explosive Weight</td>
<td></td>
<td>A reference to the estimated weight of the main charge derived from observations of the blast effects and crater characteristics.</td>
<td>10</td>
</tr>
<tr>
<td>Event Signature Development / Device Profiling</td>
<td></td>
<td>The process of analyzing the tactical and technical identifiers of an IED incident to support force protection, targeting, prosecution, and sourcing.</td>
<td>1</td>
</tr>
<tr>
<td>Term</td>
<td>Acronym</td>
<td>Definition</td>
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</tr>
<tr>
<td>Exploding Bridge Wire</td>
<td>EBW</td>
<td>An initiator or system in which a very high-energy electrical impulse is passed through a bridge wire, literally exploding the bridge wire and releasing thermal and shock energy capable of initiating a relatively insensitive explosive in contact with the bridge wire.</td>
<td>29</td>
</tr>
<tr>
<td>Explosion</td>
<td></td>
<td>A nuclear, chemical or physical process leading to the sudden release of energy.</td>
<td>1</td>
</tr>
<tr>
<td>Explosive Compounds</td>
<td></td>
<td>Explosive compounds are homogeneous substances whose molecules contain within themselves the oxygen, carbon, and hydrogen necessary for combustion.</td>
<td>37</td>
</tr>
<tr>
<td>Explosive Train</td>
<td></td>
<td>A succession of initiating and igniting elements arranged to cause a charge to function.</td>
<td>1</td>
</tr>
<tr>
<td>Explosively Formed Projectile</td>
<td>EFP</td>
<td>Specially designed main charge configuration incorporating an explosive charge with a concave metal liner which by the force of the charge reshapes the plate into a high velocity metal slug capable of penetrating armor.</td>
<td>37</td>
</tr>
<tr>
<td>False</td>
<td></td>
<td>An IED related incident that is incorrectly identified though reported in good faith as an IED, which is subsequently categorized as a false alarm after positive Explosive Ordnance Disposal (EOD) action.</td>
<td>1</td>
</tr>
<tr>
<td>Find / Cache</td>
<td></td>
<td>An IED related incident that involves the discovery and/or recovery of an IED not yet emplaced or employed, IED components, and/or IED paraphernalia.</td>
<td>1</td>
</tr>
<tr>
<td>Firing Switch</td>
<td></td>
<td>The component that initiates the explosive train.</td>
<td>24</td>
</tr>
<tr>
<td>Force Protection</td>
<td></td>
<td>Preventive measures taken to mitigate hostile actions against Department of Defense personnel (to include family members), resources, facilities, and critical information.</td>
<td>2</td>
</tr>
<tr>
<td>Fragmentation</td>
<td></td>
<td>Small objects designed to be accelerated by explosive forces.</td>
<td>47</td>
</tr>
<tr>
<td>Fuel</td>
<td></td>
<td>An incendiary material designed to enhance the burning and visual effect of the device.</td>
<td>47</td>
</tr>
<tr>
<td>Term</td>
<td>Acronym</td>
<td>Definition</td>
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</tr>
<tr>
<td>Fuel Oxidizer eXplosive</td>
<td>FOX Mixture</td>
<td>An explosive mixture of fuel and oxidizer that deflagrates (very rapid burning) or detonates creating a blast wave.</td>
<td>37</td>
</tr>
<tr>
<td>Heat</td>
<td></td>
<td>A type of initiator that serves as an igniting element through the application of heat. This may include direct heat to a sensitive explosive.</td>
<td>29</td>
</tr>
<tr>
<td>High Explosive</td>
<td></td>
<td>A chemical compound or mixture that is capable of supporting or sustaining a detonation wave. High explosives do not require confinement as they combust instantaneously producing heat, gas, a rapid expansion of matter, and a detonation / shock wave.</td>
<td>37</td>
</tr>
<tr>
<td>Hoax</td>
<td></td>
<td>An IED related incident that involves a device fabricated to look like an IED and is intended to simulate one in order to elicit a response.</td>
<td>2</td>
</tr>
<tr>
<td>Human Tip</td>
<td></td>
<td>Information provided in an advance and/or confidential manner regarding an IED, IED related materials, or associated personnel. This information can be received from, but not limited to, the local populace or government, intelligence agency, or an inside source.</td>
<td>10</td>
</tr>
<tr>
<td>Hydrostatic</td>
<td></td>
<td>A switch designed to complete a circuit or force a mechanical action with the change of fluid pressure.</td>
<td>24</td>
</tr>
<tr>
<td>IED Related Incidents</td>
<td></td>
<td>An event that involves one or more of the following IED-related actions / activities: IED, Explosion, Find / Cache, Turn-In, Hoax, or False.</td>
<td>2</td>
</tr>
<tr>
<td>Ignitor</td>
<td></td>
<td>A device designed to produce a flame or a spark to initiate an explosive train.</td>
<td>29</td>
</tr>
<tr>
<td>Improvised Claymore</td>
<td></td>
<td>An improvised weapon, military or homemade, designed to explosively propel a pattern of ball bearings or other fragmentation in an aimed direction.</td>
<td>37</td>
</tr>
</tbody>
</table>
### GLOSSARY (continued)

<table>
<thead>
<tr>
<th>Term</th>
<th>Acronym</th>
<th>Definition</th>
<th>Page #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvised Explosive Device</td>
<td>IED</td>
<td>A device placed or fabricated in an improvised manner incorporating destructive, lethal, noxious, pyrotechnic or incendiary chemicals and designed to destroy, incapacitate, harass or distract. It may incorporate military stores, but is normally devised from non-military components. Refers to a type of IED incident that involves a complete functioning device.</td>
<td>1</td>
</tr>
<tr>
<td>Improvised Explosive / Homemade Explosive</td>
<td>IE / HME</td>
<td>Non-standard explosive mixtures / compounds which have been formulated / synthesized from available ingredients. Most often utilized in the absence of commercial / military explosives.</td>
<td>37</td>
</tr>
<tr>
<td>Improvised Grenade</td>
<td></td>
<td>An improvised weapon, using military or homemade components, designed to explode when a restraint is removed (usually hand held, but can be projected).</td>
<td>37</td>
</tr>
<tr>
<td>Improvised Mortar</td>
<td></td>
<td>An improvised weapon, using military or homemade components, designed to launch an explosive charge to the target.</td>
<td>37</td>
</tr>
<tr>
<td>Improvised Rocket</td>
<td></td>
<td>An improvised weapon, using military or homemade components, designed to propel an explosive charge to the target.</td>
<td>38</td>
</tr>
<tr>
<td>Improvised Weapons</td>
<td></td>
<td>Weapons constructed in an improvised manner designed to destroy, incapacitate, harass or distract.</td>
<td>2</td>
</tr>
<tr>
<td>In Parallel</td>
<td></td>
<td>Multiple batteries or other power sources which have their positive terminals connected to one another and their negative terminals connected to one another which results in an increase in the available current.</td>
<td>42</td>
</tr>
<tr>
<td>In Series</td>
<td></td>
<td>Multiple batteries or other power sources which have one positive terminal connected to the negative terminal of the next power source which results in an increase in the available voltage.</td>
<td>42</td>
</tr>
<tr>
<td>Incendiary</td>
<td></td>
<td>Chemical mixtures and flammable liquids that cause fire.</td>
<td>38</td>
</tr>
<tr>
<td>Incident Atmospherics</td>
<td></td>
<td>A description of the demeanor of the civilian population at an IED event to include mood, absence or presence, changes in previously experienced interactions, etc.</td>
<td>10</td>
</tr>
<tr>
<td>Term</td>
<td>Acronym</td>
<td>Definition</td>
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</tr>
<tr>
<td>Incident Environmental Conditions</td>
<td></td>
<td>A description of the ambient surrounding conditions to include weather conditions such as temperature, precipitation, fog, dust, etc.</td>
<td>10</td>
</tr>
<tr>
<td>Initiator</td>
<td></td>
<td>Any component that may be used to start a detonation or deflagration. An initiator will be categorized as either a detonator or an igniter</td>
<td>27</td>
</tr>
<tr>
<td>Light / Photo-electric</td>
<td></td>
<td>A sensor acting as a switch that is looking for a change in ambient light (either light to dark or dark to light).</td>
<td>24</td>
</tr>
<tr>
<td>Light Bulb / Flash Bulb</td>
<td></td>
<td>Devices used as electric initiators that incorporate an improvised use of the bulb filament to initiate primary or low explosives.</td>
<td>29</td>
</tr>
<tr>
<td>Liquid Explosive</td>
<td></td>
<td>An explosive material in a liquid state. Examples include nitric acid esters (e.g. nitroglycerin, nitroglycol) and EDGN.</td>
<td>38</td>
</tr>
<tr>
<td>Long Range Cordless Telephone</td>
<td>LRCT</td>
<td>A switch utilizing a cordless telephone that has the capability to transmit signal significantly further than a normal telephone from the base station.</td>
<td>24</td>
</tr>
<tr>
<td>Low Explosive</td>
<td></td>
<td>A chemical compound or mixture that is designed to deflagrate (rapid burn) and generally require confinement to explode.</td>
<td>38</td>
</tr>
<tr>
<td>Magnetic</td>
<td></td>
<td>A proximity switch using a magnetic field to arm or fire an IED. This can sense an active field and close the switch when the field is disturbed; or react upon coming near a magnetic field.</td>
<td>24</td>
</tr>
<tr>
<td>Main Charge</td>
<td></td>
<td>The explosive charge which is provided to accomplish the end result in a munition. Examples for end results are: bursting a casing to provide blast and fragmentation; splitting a canister to dispense sub-munitions; or producing other effects for which it may be designed.</td>
<td>31</td>
</tr>
<tr>
<td>Main Charge Configuration</td>
<td></td>
<td>The arrangement or design of the main charge and other materials (usually metal) to create an effective weapon to attack personnel, vehicles, or structures.</td>
<td>38</td>
</tr>
<tr>
<td>Mechanical Energy</td>
<td></td>
<td>Stored or applied energy that results in physical movement of an IED component.</td>
<td>42</td>
</tr>
<tr>
<td>Term</td>
<td>Acronym</td>
<td>Definition</td>
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</tr>
<tr>
<td>Membrane</td>
<td></td>
<td>A switch incorporating two metal layers, separated by an insulator that functions the IED when perforated or when pressure is applied.</td>
<td>24</td>
</tr>
<tr>
<td>Method of Employment</td>
<td></td>
<td>A description of how a device was delivered to the target.</td>
<td>10</td>
</tr>
<tr>
<td>Method of Identification</td>
<td></td>
<td>The manner in which a unit located a device, components or improvised weapon via visual observation, working animal, sensor, or human tip.</td>
<td>11</td>
</tr>
<tr>
<td>Military Explosives</td>
<td></td>
<td>Explosives manufactured for military use.</td>
<td>38</td>
</tr>
<tr>
<td>Mine</td>
<td></td>
<td>In land mine warfare, an explosive munition designed to be placed under, on or near the ground or other surface area and to be actuated by the presence, proximity or contact of a person, land vehicle, aircraft or boat, including landing craft.</td>
<td>38</td>
</tr>
<tr>
<td>Missile</td>
<td></td>
<td>A self-propelled munition whose trajectory or course is controlled while in flight.</td>
<td>38</td>
</tr>
<tr>
<td>Misznay-Schardin Effect</td>
<td></td>
<td>A characteristic of the detonation of a broad sheet of explosive. The explosive blast expands directly away from (perpendicular to) the surface of an explosive.</td>
<td>38</td>
</tr>
<tr>
<td>Mortar Munition</td>
<td></td>
<td>The complete munition, comprised of projectile and propellant system, to be fired from the mortar. The projectile normally comprises fuze, body filled with high explosives (HE) or other filling, obturator, and tail assembly.</td>
<td>38</td>
</tr>
<tr>
<td>Movement / Anti-Disturbance</td>
<td></td>
<td>A switch that causes two parts to make contact, completing a circuit after a disturbance to the IED (tilt, vibration).</td>
<td>25</td>
</tr>
<tr>
<td>Munition</td>
<td></td>
<td>A complete device charged with explosives, propellants, pyrotechnics, initiating composition or chemical, biological, radiological or nuclear material, for use in military operations, including demolitions.</td>
<td>39</td>
</tr>
<tr>
<td>Munroe Effect</td>
<td></td>
<td>A focusing of blast energy caused by a hollow or void cut into the surface of an explosive.</td>
<td>39</td>
</tr>
<tr>
<td>Non-electric</td>
<td></td>
<td>An initiator that functions by other than electric means (friction, chemical, impact).</td>
<td>29</td>
</tr>
<tr>
<td>Term</td>
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</tr>
<tr>
<td>Obstacle Creation</td>
<td></td>
<td>An IED primarily intended to create an obstacle to impede movement or channel movement into a desired location, possibly as part of a complex attack or ambush.</td>
<td>15</td>
</tr>
<tr>
<td>Omni-directional Effect</td>
<td></td>
<td>An aspect of main charge configuration where the explosion expands in all directions.</td>
<td>39</td>
</tr>
<tr>
<td>Passive Infrared</td>
<td></td>
<td>A switch that detects movement of a heat source. When the change in ambient temperature is detected, the sensor acts as a trigger to function the IED.</td>
<td>25</td>
</tr>
<tr>
<td>Percussion</td>
<td></td>
<td>An initiator that serves as an igniting element when mechanically struck.</td>
<td>29</td>
</tr>
<tr>
<td>Person Borne IED</td>
<td>PBIED</td>
<td>An IED worn, carried, or housed by a person, either willingly or unwillingly.</td>
<td>11</td>
</tr>
<tr>
<td>Plastic Explosive</td>
<td></td>
<td>A malleable or flexible explosive at room temperature.</td>
<td>39</td>
</tr>
<tr>
<td>Platter Charge</td>
<td></td>
<td>The use of an explosive to propel a metal plate toward a target in a manner where the plate remains intact.</td>
<td>39</td>
</tr>
<tr>
<td>Plunger</td>
<td></td>
<td>A switch utilizing a shaft, like that found in a syringe, where application of pressure on the head of the device will force the shaft downward, functioning the IED.</td>
<td>25</td>
</tr>
<tr>
<td>Power Source</td>
<td></td>
<td>A device that either stores or releases electrical or mechanical energy. The key elements of information about a power source are its type/ source, number of batteries and their configuration (series or parallel), its voltage (if electrical) and how it is connected to close an IED switch.</td>
<td>40</td>
</tr>
<tr>
<td>Pressure</td>
<td></td>
<td>A switch designed to function when pressure is applied in a predetermined direction (plate, tube, plunger, crush wire).</td>
<td>25</td>
</tr>
<tr>
<td>Pressure and Pressure Release</td>
<td></td>
<td>A method for activating the device that occurs as a result of either application or reduction of pressure.</td>
<td>25</td>
</tr>
<tr>
<td>Pressure Release</td>
<td></td>
<td>A switch for activating the device that occurs as a result of reductions in pressure.</td>
<td>25</td>
</tr>
<tr>
<td>Primary Device</td>
<td></td>
<td>The first of two or more IEDs encountered or initiated. Subsequent devices will be marked in the order found.</td>
<td>11</td>
</tr>
</tbody>
</table>
### GLOSSARY (continued)

<table>
<thead>
<tr>
<th>Term</th>
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</thead>
<tbody>
<tr>
<td>Projectile</td>
<td></td>
<td>An object, projected by an applied exterior force and continuing in motion by virtue of its own inertia. Projectiles can have a variety of fillers including explosives or chemicals.</td>
<td>39</td>
</tr>
<tr>
<td>Propellant</td>
<td></td>
<td>An explosive material that normally functions by burning to produce a controlled release of gasses used for propulsion purposes.</td>
<td>39</td>
</tr>
<tr>
<td>Proxy</td>
<td></td>
<td>A person (unwitting or coerced) who acts as a means of delivery of an IED.</td>
<td>11</td>
</tr>
<tr>
<td>Pull</td>
<td></td>
<td>A switch that functions when a person applies tension to a firing mechanism – such as pulling a spring. The tension causes an action that releases a firing pin or activates an electrical or electronic switch.</td>
<td>25</td>
</tr>
<tr>
<td>Purpose of Device</td>
<td></td>
<td>The immediate or direct tactical effect of the IED.</td>
<td>13</td>
</tr>
<tr>
<td>Pyrotechnic Delay</td>
<td></td>
<td>A pyrotechnic device added to a firing system which transmits the ignition flame after a predetermined delay.</td>
<td>25</td>
</tr>
<tr>
<td>Radar</td>
<td></td>
<td>A sensor that passively detects radar signals and power, usually operating within a specific range, in order to function an IED.</td>
<td>25</td>
</tr>
<tr>
<td>Radio Controlled IED</td>
<td>RCIED</td>
<td>A switch initiated electronically by wireless means consisting of a transmitter / receiver.</td>
<td>25</td>
</tr>
<tr>
<td>Radio Frequency Detector</td>
<td></td>
<td>A sensor that passively detects RF signals and power, usually operating within a specific range, in order to function an IED.</td>
<td>25</td>
</tr>
<tr>
<td>Radiological Dispersal Device</td>
<td>RDD</td>
<td>An improvised assembly or process, other than a nuclear explosive device, designed to disseminate radioactive material in order to cause destruction, damage, or injury.</td>
<td>47</td>
</tr>
<tr>
<td>Rocket</td>
<td></td>
<td>Self-propelled ordnance that uses gas pressure from rapidly burning propellant to transport a payload (warhead) to a desired target.</td>
<td>39</td>
</tr>
<tr>
<td>Role of IED</td>
<td></td>
<td>Identifying enemy use of IEDs as a primary, secondary, or subsequent form of attack.</td>
<td>11</td>
</tr>
<tr>
<td>Term</td>
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<tr>
<td>Sea Mine</td>
<td></td>
<td>An explosive device laid in the water with the intention of damaging or sinking ships or of deterring shipping from entering an area. The term sea mine does not include devices attached to the bottom of ships or to harbor installations by personnel operating underwater.</td>
<td>39</td>
</tr>
<tr>
<td>Search and Detect Sensors</td>
<td></td>
<td>Equipment which detects, measures, may indicate and/or record objects and activities by means of energy or particles emitted, reflected, or modified by objects for the purpose of identifying IED activity.</td>
<td>11</td>
</tr>
<tr>
<td>Secondary Device</td>
<td></td>
<td>An additional IED used to attack individuals or vehicles after the initial event.</td>
<td>11</td>
</tr>
<tr>
<td>Sensor</td>
<td></td>
<td>A switch used to detect change in heat, light, movement, vibration, electromagnetic frequency, sound or magnetic field.</td>
<td>26</td>
</tr>
<tr>
<td>Sensor Defeat</td>
<td></td>
<td>Methods and technologies incorporated into the device construction and employment for the purpose of defeating detection or identification methods and friendly TTPs.</td>
<td>11</td>
</tr>
<tr>
<td>Series-Parallel Circuit</td>
<td></td>
<td>A combination of one or more series circuits and parallel circuits.</td>
<td>42</td>
</tr>
<tr>
<td>Shaped Charge</td>
<td></td>
<td>A main charge configuration incorporating explosives shaped so as to concentrate explosive force utilizing the Munroe Effect in a particular direction in order to cut or penetrate.</td>
<td>39</td>
</tr>
<tr>
<td>Shock Tube</td>
<td></td>
<td>A thin, plastic tube of extruded polymer with a layer of powdered high explosive deposited on its interior surface that propagates a detonation wave to the blasting cap.</td>
<td>29</td>
</tr>
<tr>
<td>Sourcing</td>
<td></td>
<td>The process of determining the origination point (such as a production facility or person, a geographic location, or a specific country of origin) for IED components.</td>
<td>2</td>
</tr>
<tr>
<td>Submunition</td>
<td></td>
<td>Any munition that, to perform its task, separates from a parent munition. Submunitions are classified as bomblets, grenades, or mines.</td>
<td>39</td>
</tr>
<tr>
<td>Term</td>
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</tr>
<tr>
<td>Suicide</td>
<td></td>
<td>An IED initiated by the attacker at a time of their choosing in which they intentionally kill themself as part of the attack, or possibly to deny capture.</td>
<td>11</td>
</tr>
<tr>
<td>Support to Prosecution</td>
<td></td>
<td>The process of associating related people, places, devices, or equipment to an individual for evidentiary purposes in a recognized court of law.</td>
<td>2</td>
</tr>
<tr>
<td>Switch</td>
<td></td>
<td>A device for making, breaking, or changing a connection in an IED. A single switch can have multiple functions (i.e., arming and firing).</td>
<td>18</td>
</tr>
<tr>
<td>Tactical Characterization</td>
<td></td>
<td>The manner in which an IED incident is planned and conducted (tactical design) and the intent (purpose of device).</td>
<td>2</td>
</tr>
<tr>
<td>Tactical Design</td>
<td></td>
<td>The specific design of an IED attack – including but not limited to: position of the IED, the type of IED, method of actuation, type of road segment used, concealment technique, use of secondary devices, the time of day, etc. Tactical design addresses the questions of “why here, why now, and why in this way.” Terms used to describe a specific type of device or component of a device (e.g., VBIED) are often used to describe all or part of the tactical design.</td>
<td>10</td>
</tr>
<tr>
<td>Tactics, Techniques and</td>
<td></td>
<td>Using the lessons learned from an IED attack to refine and improve the tools and methods used during all missions in which an IED may be encountered (e.g. convoys, tactical suppression efforts, ISR, CounterIED (C-IED) missions, etc.).</td>
<td>2</td>
</tr>
<tr>
<td>Procedures Development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Targeting</td>
<td></td>
<td>The process of selecting and prioritizing targets and matching the appropriate response to them, considering operational requirements and capabilities.</td>
<td>2</td>
</tr>
<tr>
<td>Technical Categorization</td>
<td></td>
<td>A description of an IED using a hierarchical construct to identify its key components. The components identified in this categorization are the elements from which technical and forensic information is recovered and exploited.</td>
<td>3</td>
</tr>
<tr>
<td>Telemetry</td>
<td></td>
<td>A switch utilizing paired RF modules that transmit and receive binary data.</td>
<td>26</td>
</tr>
<tr>
<td>Term</td>
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</tr>
<tr>
<td>Tension</td>
<td></td>
<td>A switch that functions when tension is applied to a firing mechanism – such as pulling a trip wire. The tension causes an action that releasing a firing pin or activates an electrical or electronic switch.</td>
<td>26</td>
</tr>
<tr>
<td>Tension Release</td>
<td></td>
<td>A switch that functions when tension is released – such as when a taut wire or cord is cut or broken – releases a spring-loaded firing pin or closes electrical contacts initiating the device.</td>
<td>26</td>
</tr>
<tr>
<td>Tilt</td>
<td></td>
<td>A switch that allows current to flow to the output wires after a conductive material (i.e., mercury or a ball bearing) is moved enough (up / down, left / right) to flow onto the switch contacts, completing the circuit.</td>
<td>26</td>
</tr>
<tr>
<td>Time</td>
<td></td>
<td>A type of switch that functions after a set time. Used widely against infrastructure targets.</td>
<td>26</td>
</tr>
<tr>
<td>Time Chemical</td>
<td></td>
<td>A chemical timing switch using a corrosive chemical with a known decomposition rate that is designed to destroy a physical restraint on a triggering device to start the initiation train.</td>
<td>26</td>
</tr>
<tr>
<td>Time Electronic</td>
<td></td>
<td>A timing switch using a commercial or improvised electric timer or integrated circuit to start the initiation train.</td>
<td>26</td>
</tr>
<tr>
<td>Time Fuse / Safety Fuse</td>
<td></td>
<td>A pyrotechnic burning at a certain rate used to transmit a flame to the non-electric detonator or a low explosive charge with a predetermined delay.</td>
<td>26</td>
</tr>
<tr>
<td>Time Mechanical</td>
<td></td>
<td>A timing switch constructed or modified so that physical contact between two parts of the timing mechanism complete an electrical circuit.</td>
<td>26</td>
</tr>
<tr>
<td>Toxic Industrial</td>
<td>TIB</td>
<td>Any biological material manufactured, used, transported, or stored by industrial, medical, or commercial processes which could pose an infectious or toxic threat.</td>
<td>47</td>
</tr>
<tr>
<td>Term</td>
<td>Acronym</td>
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</tr>
<tr>
<td>Toxic Industrial Chemical</td>
<td>TIC</td>
<td>A chemical developed or manufactured for use in industrial operations or research by industry, government, or academia. For example: pesticides, petrochemicals, fertilizers, corrosives, poisons, etc. These chemicals are not primarily manufactured for the specific purpose of producing human casualties or rendering equipment, facilities, or areas dangerous for human use. Hydrogen cyanide, cyanogen chloride, phosgene, and chloropicrin are industrial chemicals that can also be military chemical agents.</td>
<td>47</td>
</tr>
<tr>
<td>Toxic Industrial Material</td>
<td>TIM</td>
<td>A generic term for toxic or radioactive substances in solid, liquid, aerosolized, or gaseous form that may be used, or stored for use, for industrial, commercial, medical, military, or domestic purposes. Toxic industrial material may be chemical, biological, or radioactive and described as toxic industrial chemical, toxic industrial biological, or toxic industrial radiological.</td>
<td>48</td>
</tr>
<tr>
<td>Toxic Industrial Radiological</td>
<td>TIR</td>
<td>Any radiological material manufactured, used, transported, or stored by industrial, medical, or commercial processes. For example: spent fuel rods, medical sources, etc.</td>
<td>48</td>
</tr>
<tr>
<td>Trend and Pattern Analysis</td>
<td></td>
<td>Using prior actions and activities to identify trends in activities or behaviors. Once identified these patterns can be used to predict future enemy actions, and plan intelligence surveillance, reconnaissance (ISR) activities and training.</td>
<td>3</td>
</tr>
<tr>
<td>TTP Identification</td>
<td></td>
<td>An IED primarily intended to cause a reaction by forces in an effort to learn and understand employed tactics. This knowledge is then used by the attacker to plan new attacks incorporating the lessons learned to inflict additional casualties or to avoid countermeasures. The IED need not function to serve this purpose. A Hoax IED can have TTP Identification as its intended outcome.</td>
<td>15</td>
</tr>
<tr>
<td>Turn-In</td>
<td></td>
<td>An IED related incident where an IED or component is turned over to friendly forces.</td>
<td>3</td>
</tr>
<tr>
<td>Underbelly</td>
<td></td>
<td>A type of IED attack in which the device is intended to target the underside of a vehicle.</td>
<td>12</td>
</tr>
<tr>
<td>Vehicle Borne IED</td>
<td>VBIED</td>
<td>An IED delivered by or concealed in a ground-based vehicle.</td>
<td>12</td>
</tr>
<tr>
<td>Term</td>
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</tr>
<tr>
<td>Victim Operated IED</td>
<td>VOIED</td>
<td>A type of switch that is activated by the actions of an unsuspecting individual. These instruments rely on the intended target to carry out some form of action that will cause it to function.</td>
<td>26</td>
</tr>
<tr>
<td>Visual Observation</td>
<td></td>
<td>Attained or maintained by sight, done or executed by sight only and relating to, or employing visual aids.</td>
<td>12</td>
</tr>
<tr>
<td>Water Borne IED</td>
<td>WBIED</td>
<td>An IED delivered by or concealed in a water-based vehicle.</td>
<td>12</td>
</tr>
<tr>
<td>Weapons Technical Intelligence</td>
<td>WTI</td>
<td>Intelligence derived from the processes and capabilities that collect, exploit and analyze asymmetric threat weapons systems to enable material sourcing, support to prosecution, force protection and targeting of threat networks.</td>
<td>1</td>
</tr>
</tbody>
</table>