



THE DEVELOPMENT INITIATIVE

Clearing the way for business and people

TDI Clearance Operations and the Use of 3D Printed Training Aides



What We Do

TDI was established in 2005 and provides commercial and humanitarian landmine clearance, unexploded ordnance disposal, training, mentoring, dog services and maintenance solutions in inaccessible and often hostile locations, primarily across Africa and the Middle East.



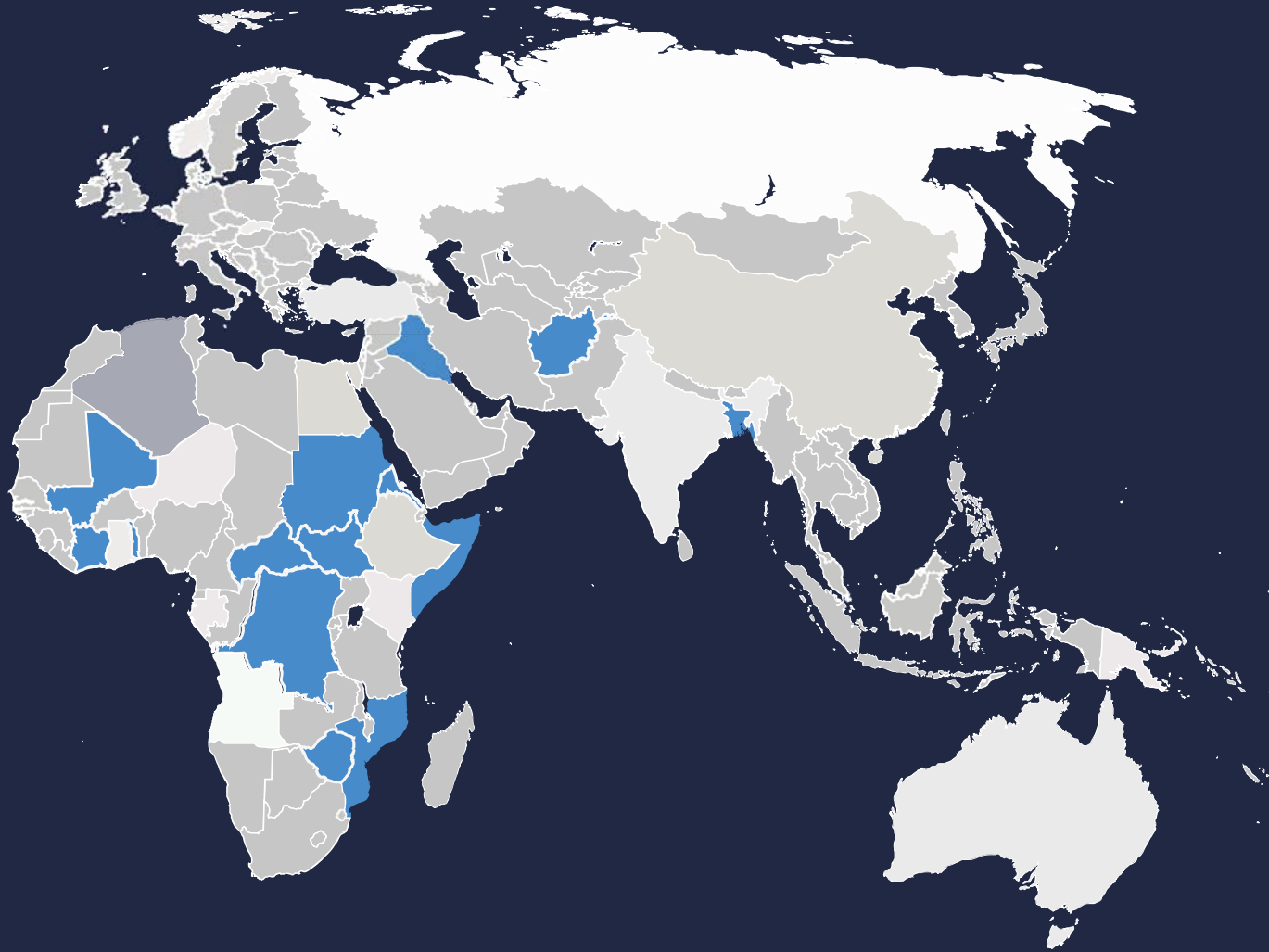
Using 3D Printed Training Aides for the first time

TDI began working with a specialist 3D printing company in 2017, with a view to developing replica mines and ordnance that could be used for training purposes.

A team of company representatives deployed to South Sudan and spent time working with actual FFE models, scanning and printing exact replica models.



Where We Have Worked



Current Clearance and Training Operations



Why do we need 3D printed training aides?



1. Training

To train the TDI deminers, they are trained on either real FFE mines or models that resemble an actual explosive object as closely as possible. When a deminer is well trained, the risk of accident is markedly reduced when they enter an active minefield.

2. Detector Calibration and Training

Whilst using the dual purpose GPR detectors, designed to locate both ferrous and minimum metal mines, our teams train on real mines that are FFE, or on identical scale models, ensuring that the deminers are capable and the detectors are properly calibrated for use during tasks in the field.

3. Explosive Ordnance Risk Education

Explosive Ordnance Risk Education is one of the pillars of mine action. All TDI teams undertake risk education training regularly. The more lifelike and realistic the model that they train with, the better our ability to educate our target audiences.



What are the challenges of using real mines?

Using real mines for training and calibration is always advantageous however, it presents numerous challenges.

- Any landmine that contains explosives presents an explosive hazard.
- In order to render them FFE this may require the carrying out a Render Safe Procedure, which can expose the operator to risk.
- Landmines that are FFE lose a large part of their composition and thus can render them ineffective as training aides on which a GPR detector can be calibrated.
- They often require special permission to be transported.



2018 – developing replica models in Mali

In 2018, the 3D printing company that TDI first began working with commenced a program in Mali producing exact replica models of PRBM3 anti-vehicle mines.

This program involved matching the exact dimensions and weight of the PRBM mine, which was soon achieved.

The TDI trained troops were consequently trained on the PRBM3 3D printed models which proved to be incredibly effective as training models. These troops have since been deployed operationally.



The Future of 3D Printed Training Aides

The past 3 years of development has proven that exact replicas of various mines can be printed in order that EOD personnel can be trained on them, with the peace of mind that they are an exact imitation of the real item.

They are easily reproduced once their elements are electronically save, transportable, and contain no explosive hazard.

TDI can provide the details of the company that makes the models whom we have no doubt will be happy to engage with you.





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