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NEWSLETTER

DEMINING WITH DOGS



Photo: World Without Mines

World Without Mines supports the development of the latest GPS technology for demining using sniffer dogs.

„Find!“ – Targeting mines with GPS and dogs

To demine the world manually will take another 100 years and more. For Mikael Bold, this is far too long. He has therefore developed a new technology.

Mikael Bold, advisor at the Geneva International Centre for Humanitarian Demining (GICHD), does not have a dog himself. He would like one, preferably a Malinois, but it would not fit in with his job. Bold is away from home too often. Israel. Lebanon. Sudan. Always to do with demining. But he knows everything about dogs. How you train them. What they can do. Which in his case means: how they can best find mines and other explosive remnants of war and thus save lives.

Fascinated by the abilities of these animals, Bold has long been committed to the use of dogs in demining. They are able to smell explosives from a distance of several metres, even

if they are 30 centimetres below the ground. The animals are trained for their task over an 18-month training period. Mine detection is a game for them, associated with a reward. A dangerous game? „No,” says Bold. „The dogs are trained in such a way that they sit when they have located a mine. They don't come into contact with it.” Their body weight is also spread between four feet, so they don't reach the required activation pressure of seven to eight kilograms.

However, Bold was not really happy with the procedure used up to now. To allow the



Photo: Digger DTR

Mikael Bold works at the Geneva International Centre for Humanitarian Demining (GICHD) as an advisor on mechanical mine detection systems and mine detection using animals. He played a leading role in the development of the SMART systems and is now coordinating the implementation of the SMART project.

dog and its handler to work, the ground had to be cleared of vegetation and divided into sections of 10 metres by 10 metres; the dogs also had to be kept on a lead. Although using animals made it possible, on a daily basis, to demine an area up to fifty times larger than if it were done by hand, for Bold the system was „still too ineffective overall”.

Innovation from Switzerland

Bold came across the solution to his problem during a visit to the Swiss Digger Foundation – an organisation which produces demining machinery. He saw how well and effectively Digger uses GPS in demining. The satellite-aided location system helps with the precise manoeuvring of the machines and makes it unequivocally clear which areas have already been cleared and which have not.

Bold recognised immediately the possibilities the system offered for dogs as well. Together with Digger, he subsequently developed a GPS system weighing just 500 grams, which the mine detection dogs wear on their backs, along with a small camera and a loudspeaker, so that the animals can be guided from a distance.

The function of the GPS-guided dogs is then not to locate individual mines, but to check suspect areas generally for possible contamination. „They have a ‚yes’ or ‚no’ function.” If they find explosive remnants of war, the site is demined using traditional methods. If they don’t find anything, the area can be returned to the local population – and developed and used again, as the route to a school, a pasture or a football pitch.

For Bold, demining with the help of dogs has several key advantages. The animals can be free in carrying out their function – without a lead, without a handler. They do not need to follow a predetermined course, but can just follow their sense of smell on the selected site. The areas already searched by the animals, and those yet to be searched, can be tracked exactly using the GPS.

According to Bold, the biggest advantage is that demining can be accelerated significantly with the help of the animals. A single dog with GPS is able to check four hectares of land per day. Bold has made the following calculation: using traditional demining, it will take 100 years to free the world of the hundred million mines lurking under the ground. With the help of a sufficient number of dogs – and the corresponding financial support – this time could be reduced by approximately three quarters. „That would be great!”



Photo: World Without Mines

World Without Mines supports the SMART system for demining with dogs

The SMART system represents Swiss innovation. It has been developed by the Geneva International Centre for Humanitarian Demining (GICHD) in collaboration with Digger DTR in Tavannes. World Without Mines is impressed with the efficiency of the GPS technology and is providing 100,000 Swiss francs to fund the first 20 SMART systems.

Ideally, the implementation of the SMART systems could make mine detection up to 50 percent cheaper. The specially developed portable systems include a camera, a GPS and a WiFi system and are strapped around the dog like a rucksack. The dog handler monitors all the dog’s movements on a smartphone and registers where the dog indicates it has found a mine.

No danger to the dogs

The dogs are never exposed to danger during mine detection, as their weight is too low to cause mines to detonate.



Photo: World Without Mines

Buzz, this 11-week-old puppy, has passed the first test and is being trained to be a mine detection dog at the Sarajevo training centre.



Photo: HALO Trust

Dorika (left) and Mudeka (right) Chifendu harvest peanuts on their land and are delighted to have safe access to their fields.

Maize instead of mines

World Without Mines has been working in Zimbabwe since 2015 and has, in collaboration with a partner organisation, already cleared over 30,000 square metres

The war of independence in the 1970s left Zimbabwe with one of the densest minefields in the world – running the length of the northern and eastern border with Mozambique. The legacy of this long-forgotten war is preventing the economic and social development of the region. The villages and fields often stop short of mined zones by no more than a few metres. The danger is correspondingly high for the people, but also for the cattle.

Daily risk in farming the fields.

Mudeka and Dorika Chifendu returned to their home village of Chisodza after the war, but the fields were full of mines. The Chifendus could not see any alternative to farming. So, the father, Mudeka, exposed himself regularly to the danger of mines in order to feed his seven children. That had consequences. While Mudeka was digging the ground a few years ago, a mine exploded, breaking his arm and seriously injuring his eyes. The accident made the situation all the more precarious: he had to sell one of his cows to pay the treatment costs and the pressure to cultivate his mined fields became even greater.

Increased safety and crop yields after demining

In the spring of this year the Chifendus’ field was finally demined. 160 landmines were found and removed!

The Chifendus are very grateful, as the demining will change their lives. They estimate that they will be able to sell 14 to 20 sacks of maize at the local market next year – for around 700 US dollars. A very welcome development. And the couple’s 20 grandchildren can now play safely in the fields.



Photo: HALO Trust

The Chifendu family’s land near the Chisodza river. The white wooden stakes each mark where a mine was found and removed.



Reto Nigg has worked for the Swiss Agency for Development and Cooperation (SDC) and Doctors Without Borders in Bosnia-Herzegovina and the Sudan. He saw the crippling effect of mines there with his own eyes. He has been working for the SDC in Berne since June 2016.



Thomas Fluri is a business economist and accountant. For many years, he has audited foundations which help less privileged people and is fascinated by their meaningful work. He has been working for the Federation of Migros Cooperatives since 2014.

„Against mines – for life“

Why are young people with demanding careers working as volunteers for World Without Mines? We spoke to our new Board members, Reto Nigg and Thomas Fluri.

What is the basis for your commitment to World Without Mines?

Reto Nigg: Voluntary work in all its facets is an important pillar of our society. And I see humanitarian work ultimately as part of the fabric that holds our world together – against all centrifugal forces. World Without Mines allows me to be involved in something meaningful, as disadvantaged people are given the opportunity of safety, free movement and economic activity as a result of our work.

Thomas Fluri: After doing Foundation work for just over a year, I would sum up my time absolutely positively: I enjoy the meaningful work and am glad to bring my expertise to it. In particular, the cooperation within the Foundation committees has far exceeded my expectations. Also, my fear that I had taken on too much has not been proved true. World With-

out Mines gives me back far more in joy and meaning than I invest in time and energy.

How can World Without Mines make a difference? Why is the Foundation important?

Reto Nigg: The professionally run Foundation focusses on a manageable number of high-quality projects away from the media spotlight. People are freed from a threat which paralyses any kind of development. For as long as mines continue to be used in conflicts, the work of World Without Mines will unfortunately also be extremely important. It would be a wonderful moment if one day the Foundation Board were able to say: „We’re not needed anymore.“

Thomas Fluri: A war usually ends at some point, but the explosive residues can prevent a society from leaving the past behind for a long time. By financing demining projects, World Without Mines gives affected people prospects for the future. Despite being a small organisation, we make a big difference with our work. Every mine less matters – that’s why World Without Mines is important.

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