

## Introduction of the German organisation "SCIENCE AGAINST MINES"



We're a group of friends in Berlin, the core group are scientists at the German Aerospace Centre (comparable to NASA in U.S.A.), who have been working there since 25 years. In 2002 they were confronted with landmine detection research during their work and discussions with colleagues. They were surprised about the absence of new technologies in the real work of demining and started to look deeper into the problem. It wasn't understandable to them that it should be possible to find water deep in the Mars, millions of kilometres away, but that there should be no solution for the landmine problem down here on the earth. The physical principles are the same.

We talked to scientists, engineers and deminers in the field. Our first investigations resulted in the project "easyMine" which we tried to setup in very close cooperation of researchers and deminers in 2003/2004. You can still find several easy Mine papers in the internet. We participated in a test trial in Croatia organised by ITEP and became known to mine action organisations.

We have also learned that the technological part of the landmine problem is highly connected to socio-economic factors, which also have to be taken into account in research.

We are convinced that there will be no real progress trying to further optimize the available detection tools. The metal detector, the prodder, the dog cannot be further refined. We want to contribute to the solution of the landmine problem by developing and applying an integrated and systematic approach and to provide knowledge and support to the people who need it.

The first name of our project was *easyMine*, meaning *Realistic and systematic Mine Detection Simulation Tool*, but unfortunately the name was often misunderstood.

When we established our new organisation in March 2005, we changed the name to *Science against Mines*, (in German *Wissen gegen Minen*). The organisation is open for members from all walks of life, we are not an

exclusive club of scientists. Our goal and our commitment remain the same: we think it is possible to make progress in mine detection by applying methods and procedures we are used to in research in general: from collecting data, to analysing, to simulation, to practical work.

Simulation tools are a key to changing technologies world wide. Today you can construct a whole car with only one tool: the computer, equipped with the right software. So why don't we shift the attention to these modern methods also for the highly dangerous work in the mine fields?

To feed the computer you need data. We propose to establish data basis functioning as independent modules of an integrating simulation tool that helps to detect mines at a higher success rate. We need data basis containing

- information about all types of mines we know, of their technical make up, chemical composition, temperature sensitivity, size, production periods, etc.
- geographical and topological data of a mined region and the single mine fields to be cleared
- meteorological information and weather conditions as exactly as possible.

Our main contribution to feeding the data basis will be the information about the roughly 20 technical methods known as promising for mine detection.

Exploring a given territory – may it be the moon, the mars, a desert, or a mine field-means applying a multisensor approach to survey an area as a whole and to single out the individual components found.

What we offer is the knowledge needed for the exploration, we want to make it available to the people in the mined countries and regions. For this purpose we have established a special wikipedia format with controlled access. This special site is under compilation in English and we are looking for partners who would seriously join us: please translate the information into your language, please discuss it in your technical colleges and universities, please ask students to write papers, to explore the methods from their point of view. Develop your own ideas and let us know if you run into problems which you cannot solve yourself.

We also offer questionnaires for the geographical conditions of each and every individual mine field, as detailed as possible. We will help you to learn how to integrate them as a module into the simulation tool.

We ask for cooperation to include the rich knowledge of deminers. They can help us to make the mine type data basis better than anybody could do it under laboratory conditions in a far away nice research institute.

We are happy to have found wiki sites in languages of landmine contaminated countries like Khmer, this makes us optimistic that a start will be possible in these countries like Cambodia very soon.

We will always be available for communication. We are interested to learn about local conditions and to cooperate.

We are convinced that together we can improve mine detection in the 21st century and make progress in the mine fields as we make progress in so many other technical fields.

Synergetic effects are possible if we want them and if we make them.

This approach is kind of up side down to what you may be used to. But we think it will be the best way to integrate, to network, to make friends, and to make progress.

Berlin, September 2005