

## **SPIEZ LABORATORY symposium: "Car bomb protection"**

**The SPIEZ LABORATORY has developed an instrument which the Swiss security forces and emergency services can use to carry out a simple assessment of the risk posed by car bombs and effectively evaluate the corresponding countermeasures.**

Today car bombs, or **Vehicle-Borne Improvised Devices (VBIEDs)** as they are known in military and security circles, are one of the cheapest, most effective and most dangerous weapons of terror. Conventional explosives are easy to come by and the destructive power of such devices is high. For example, depending on its distance from the target, a car primed with a mixture of nitrogen fertiliser and diesel fuel (**ammonium nitrate fuel oil**, or ANFO for short) can completely demolish a building. A bomb attack has far-reaching psychological repercussions, regardless of its magnitude. Such attacks kill indiscriminately and leave behind little useable criminal evidence.

Cars, small vans and lorries are particularly well-suited to carry bombs, as they are mobile and inexpensive to acquire. In addition, even large quantities of explosives can be easily concealed within such vehicles. Since the end of the 1990s, the frequency of car bomb attacks against civilians and infrastructures has risen dramatically. In Iraq VBIEDs have already killed hundreds and injured countless others. It is impossible to fully defend town and city centres against suicide car bombers, because many buildings and public areas cannot be protected by vehicle exclusion zones, concrete bollards or other types of reinforcement measures.

Experts from the SPIEZ LABORATORY, the scientific research unit of the Zurich metropolitan police and an external engineering firm have jointly created an instrument, which will enable the Swiss security forces and emergency response services to develop a systematic and scientifically-based response to the risk of car bomb attacks. In a concise, easy-to-understand and practical format, the instrument presents technical data on both passive protective devices and the force of explosive charges of differing magnitudes. It is also accompanied by documentation on the pressure effect of explosions, the oncoming vehicle impact and the effectiveness of a range of structural measures to protect against car bomb attacks.

This new instrument is targeted primarily at those working in the fields of prevention and civil engineering, as well as the on-site emergency response services, who must define the exclusion zone and evacuation limits as efficiently and precisely as possible, should such an attack occur. On 22 November 2007 in Spiez, these documents were presented to around 60 Civil Protection representatives, in particular the cantonal police commanders.