FP7 PROJECT ETCETERA

Identification of Emerging Technologies and Critical Dependencies relevant to CBRN protection

BACKGROUND

Within the FP7-supported project “Evaluation of critical and emerging technologies for the elaboration of a security research agenda”, October 2011 to September 2013, two kinds of technology evaluation have been carried out:

1. Technologies that are critical for security functions in Europe were checked for dependencies on extra-European sources.
2. Technologies that are now just emerging were assessed concerning their relevance for European security, with a focus on opportunities for enhanced security functions.

EMERGING TECHNOLOGIES

Definition: Technologies that are relevant to European security and will reach maturity in 10 to 15 years

Findings: Through three different approaches, 127 Emerging Technologies were identified and sorted in 13 technology areas. Some findings related to CBRN issues are presented below. “Impact” refers to the expected influence on security issues, while the timeframe is an estimation of market availability.

Technology Area 3 “CBRN Identification”
- Lab-on-chip (high impact, probably before 2020)
- Lasers for stand-off C&CB detection (high impact, probably before 2020)

Technology Area 12 “Sensors Technology”
- Terahertz (high impact, 2015 to 2025)
- Medical Tricorder (moderate impact, 2020 to 2030)
- Carbon Nanotube Sensors (high impact, 2020 to 2025)
- Explosive Traces Integrated Sensors (high impact, 2015 to 2025)
- Sensors on Unconventional Flexible Substrates (moderate to high impact, 2020 to 2025)
- Hyperspectral Sensors and Signal Processing (moderate impact, 2015 to 2025)
- Nano Particle Sensors (high impact, 2020 to 2025)
- OTFT Sensors (moderate impact, 2015 to 2030)
- Muon Tomography (high impact, 2015 to 2025)

CRITICAL DEPENDENCIES

Definition: Technologies that are indispensable for European security, but that rely on non-European sources or providers

Findings: An overview of first results concerning Critical Dependencies relevant to CBRN protection can be found in the Weighted-Bit Assessment Table of Critical Dependencies (WBAT-CD) depicted in the table above.