



# PREVAIL

**PR**ecursors of **E**xplosi**V**es:

**A**dditives to **I**nhibit their use including **L**iquids



# PREVAIL

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# Call addressed by the project

## Call

- Security Research Call 2, Topic SEC-2009.1.3.3

## Funding scheme

- Collaborative project
- 10 partners

## Duration

- September 2010 – August 2013

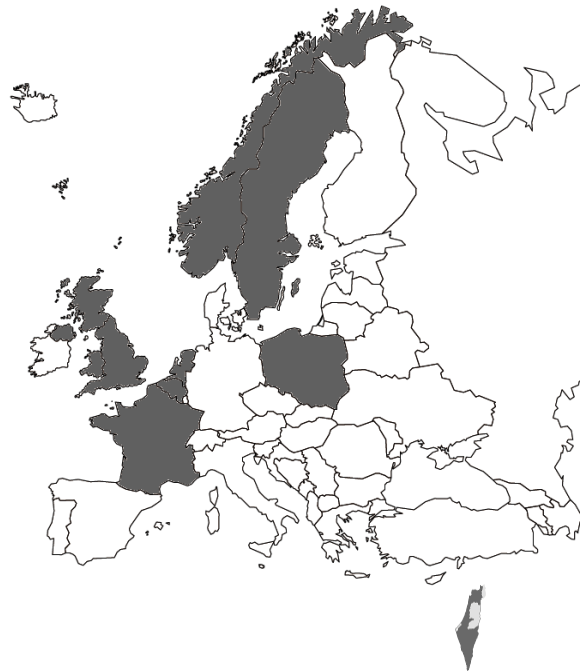
## Budget

- 4,3 M€

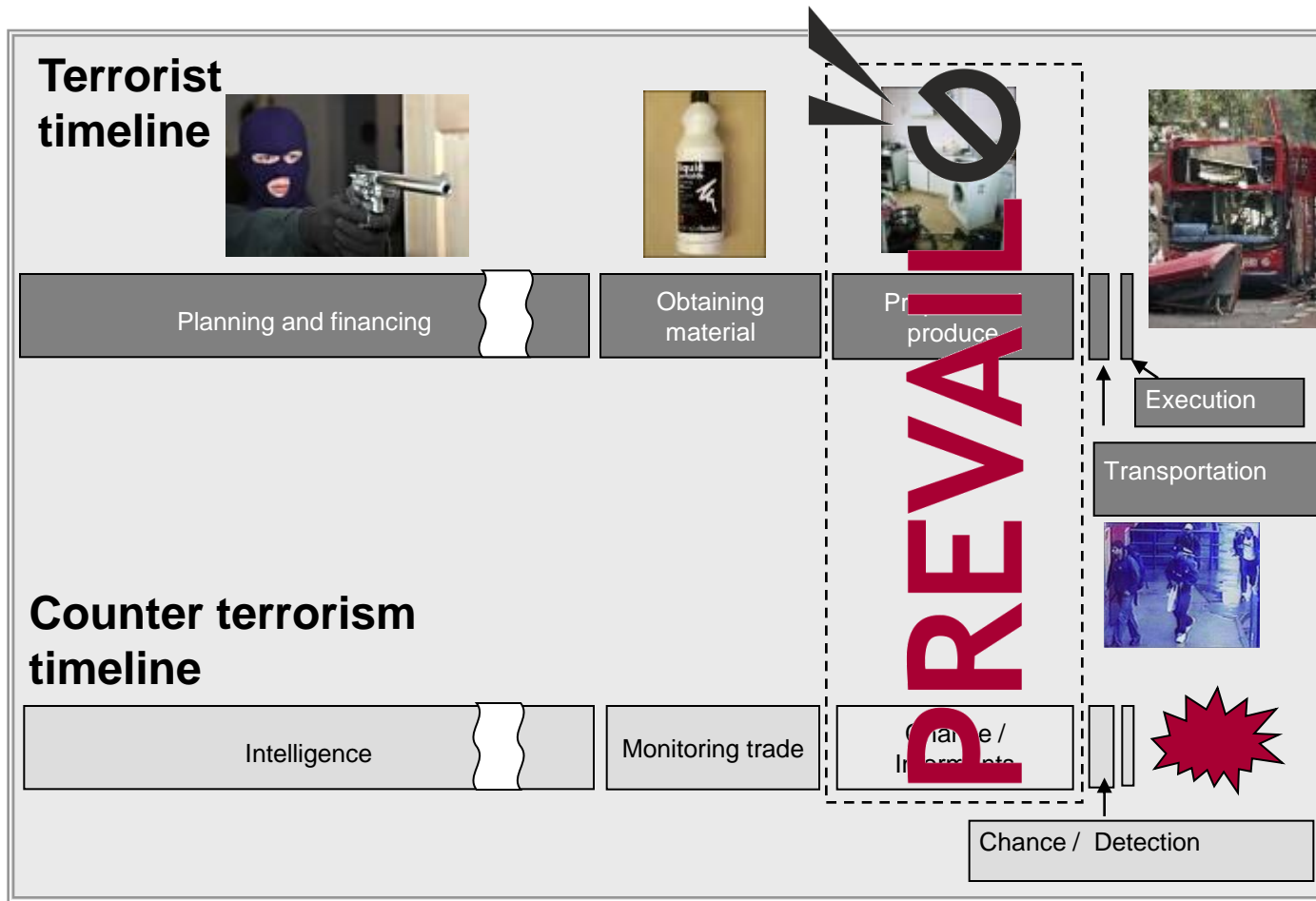
## Technical content / scope:

- Properties of improvised explosive devices (in particular liquid explosives) regarding in particular additives to precursors to explosives;
- either by adding ***inhibitors*** to **prevent them from being used** to manufacture improvised explosive devices,
- **or by adding markers to allow for easier detection.**

# The PREVAIL Consortium



# PREVAIL prevents production





# This is why

Home made explosives [HME] are easy to make from materials that are easy to buy.

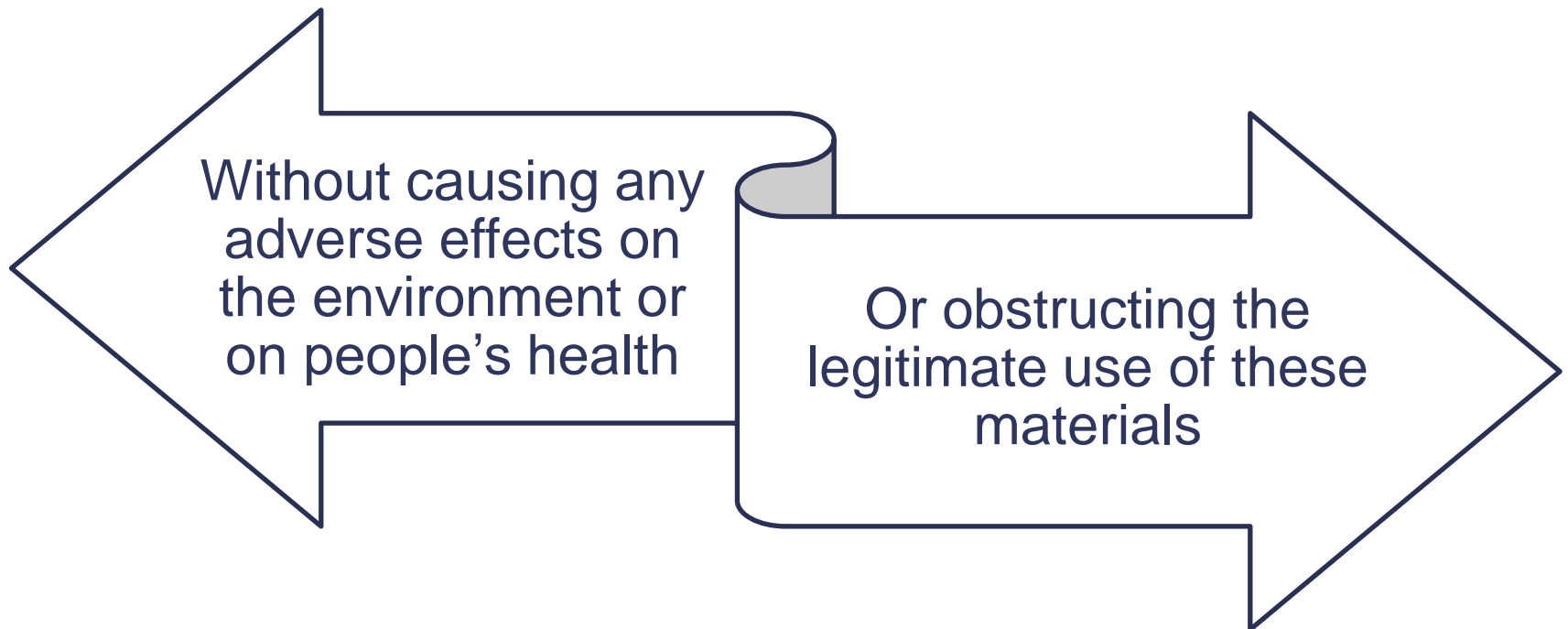


This availability attracts terrorists and criminals to manufacture and use HME.

# PREVAIL objectives

PREVAIL is an innovative approach to inhibit the use of some common materials for use as precursors to explosives and to allow for easier detection.

# PREVAIL boundary conditions





# Project outline

WP 300  
Inhibitors XX

WP 400  
Inhibitors YY

WP 500  
Novel markers/  
detection systems

WP 700  
Health and  
Environment

WP 200  
Industrial  
Acceptability

WP 600  
Risk reduction  
Roadmap for future  
work

WP 100  
Dissemination

WP 000  
Management

# WP 300 and WP 400: Inhibitors

Finding inhibitors to prevent concentration of dilute readily available products by boiling off water (WP 300).

Finding inhibitors to prevent production of home made explosives by readily available products (WP 400).

These inhibitors will be tested for function and removal in lab scale and validated in large scale testing (WP 300) or validated on a realistic scale (WP 400)

The results within these WPs will not be open to the public

# WP 500: Marker/detection system

- Markers to increase the detectability of invisible bombs will be developed.
- These markers will be developed to suit specific detectors.
- These markers will be environmentally friendly, non-toxic and bio degradable
- The results will not be open to the public



Bee Biodetector



Quartz Crystal  
Microbalance detectors



Fluorescence marker

# WP 700: Health and Environment

The suggested additives and markers must be non-toxic and safe to health and environment

PREVAIL includes a theoretical study including chemical and physical properties, mechanism of toxic action, toxicokinetics, risk assessment and dose-response analysis

When necessary, screening tests will be performed

# WP 200: Industrial acceptability

This project will strongly influence manufacturers, users, legislators and governmental security agencies

PREVAIL provides a bridge between the project and the stakeholders by means of presentations and workshops

PREVAIL will identify if added inhibitors and markers need extra testing for safety

# WP 600: Precursor Risk Reduction Strategy

- A roadmap for future R&D and actions will be prepared
- PREVAIL identifies criteria for industrial implementation of inhibitors and markers
- Usefulness of developed additives for other precursors will be addressed
- Required future research will be proposed



# WP 000 & WP 100: Management and Dissemination

## WP 000

will ensure a well functioning communication and project management of the project. As well as being responsible for maintaining a proper security level.

## WP 100

will disseminate project results. PREVAIL is a security restricted project and only certain results of the project can be publicly disseminated.

# Acknowledgements

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