



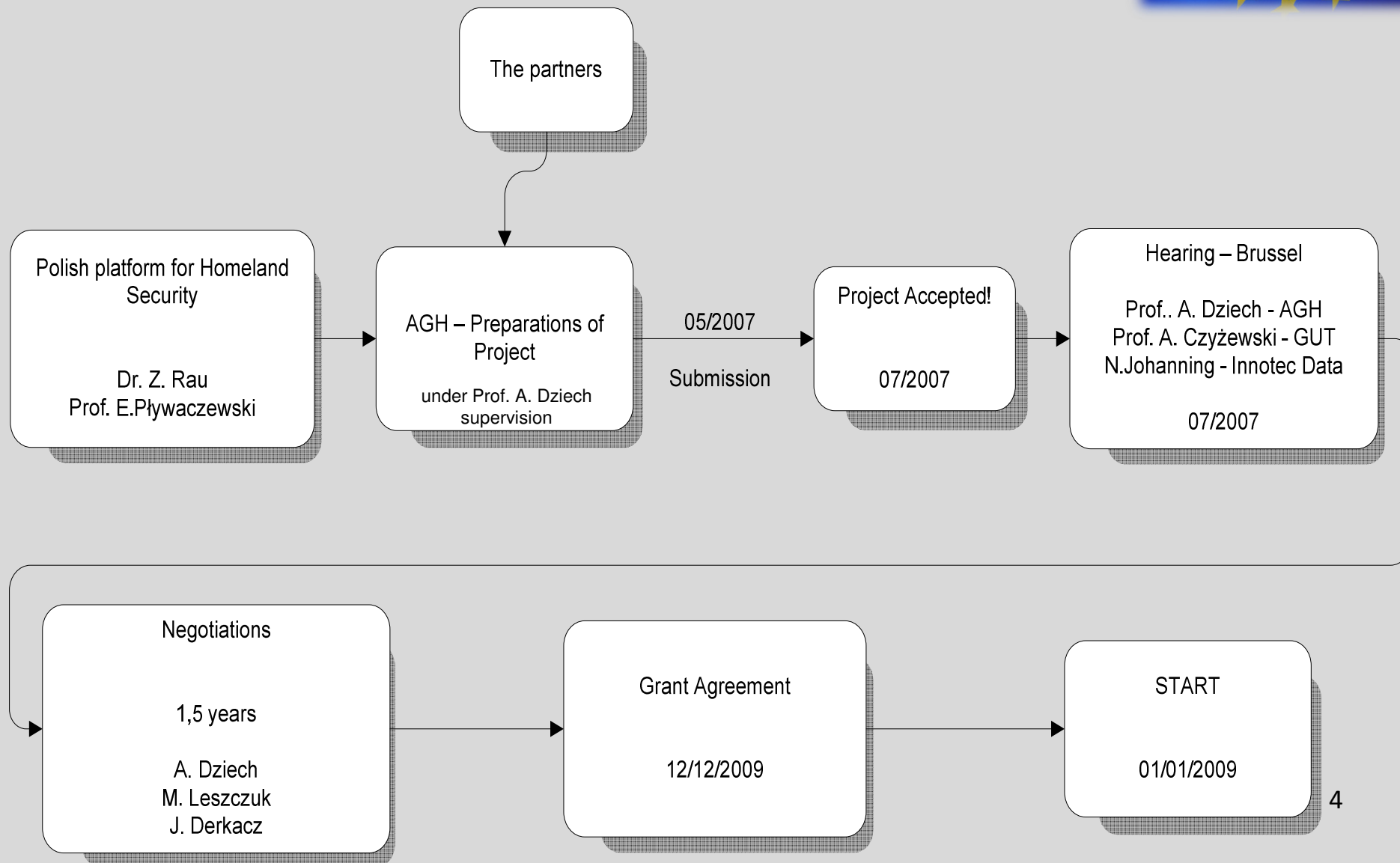
INDECT

Intelligent information system supporting observation, searching and detection for security of citizens in urban environment

**Prof. dr hab. inż. Andrzej Dziech
INDECT Coordinator**



Short History of INDECT Project Submission

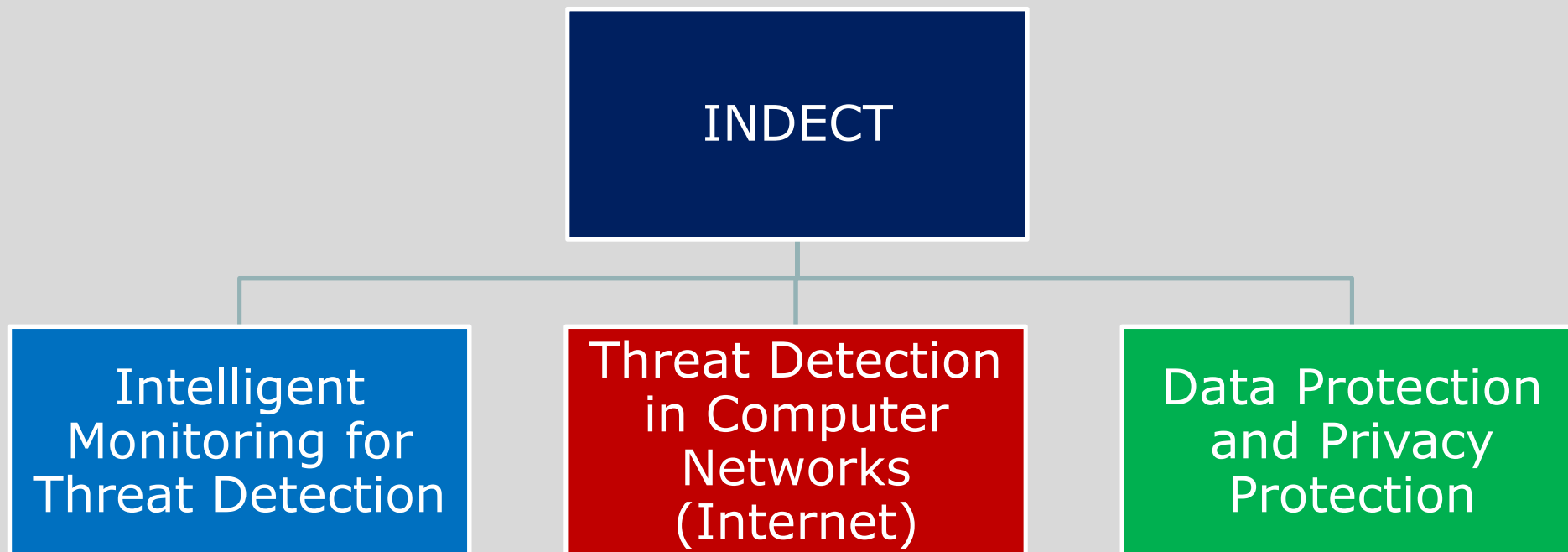


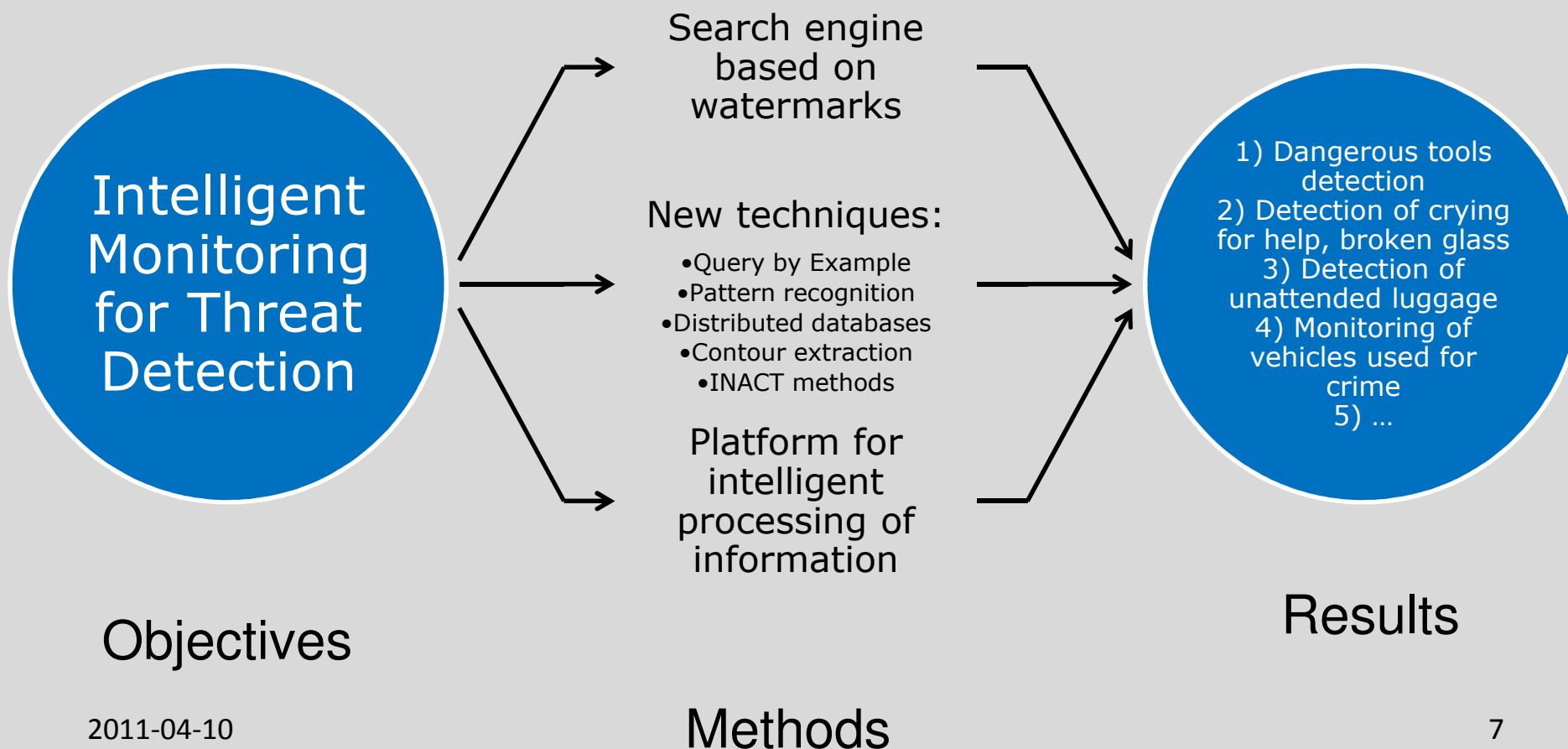


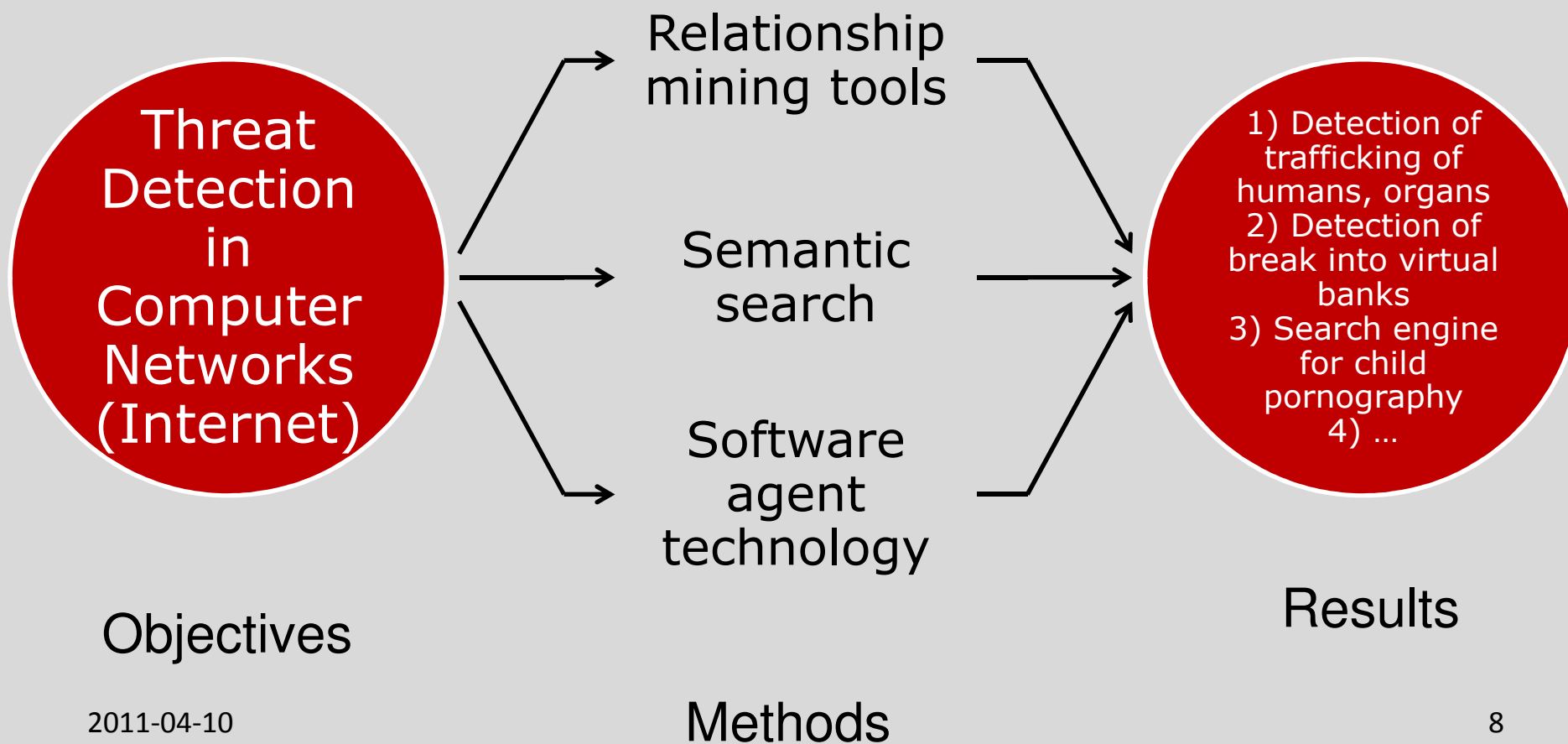
The Partners

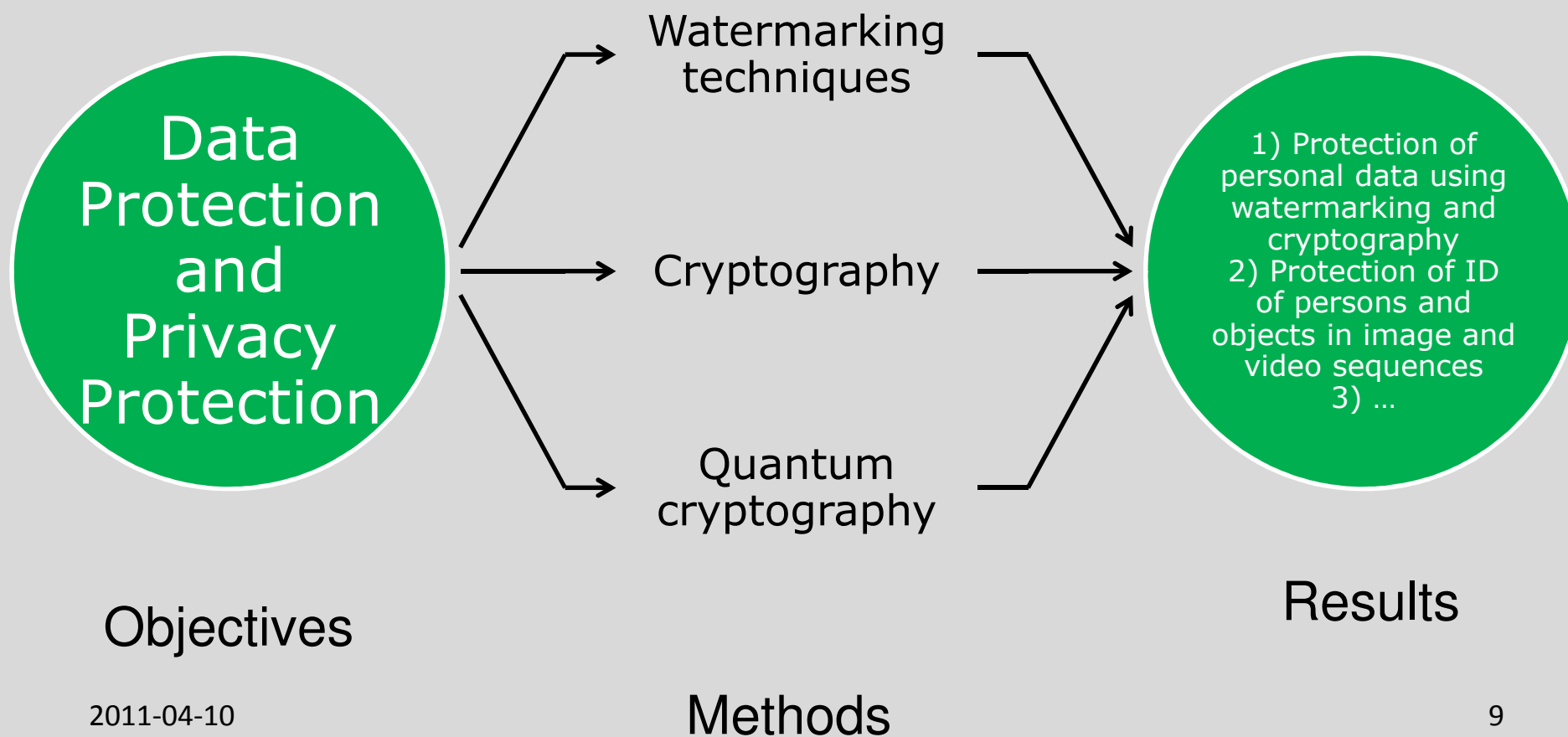


Participant organisation name	Short Name	Country
AGH University of Science and Technology	AGH	Poland
Fachhochschule Wien	FHTWIEN	Austria
Gdansk University of Technology	GUT	Poland
InnoTec DATA GmbH & Co. KG	INNOTEC	Germany
IP Grenoble (Ensimag)	IPNG	France
General Headquarters of Polish Police	GHP	Poland
Moviquity	MOVIQUITY	Spain
Products and Systems of Information Technology	PSI	Germany
Police Service of Northern Ireland	PSNI	United Kingdom
Poznan University of Technology	PUT	Poland
Universidad Carlos III de Madrid	UC3M	Spain
Technical University of Sofia	TUSOFIA	Bulgaria
University of Wuppertal	UNIWUP	Germany
University of York	UNİYORK	United Kingdom
Technical University of Ostrava	VSB	Czech Republic
Technical University of Kosice	TUKE	Slovakia
X-Art Pro Division G.m.b.H.	X-ART	Austria





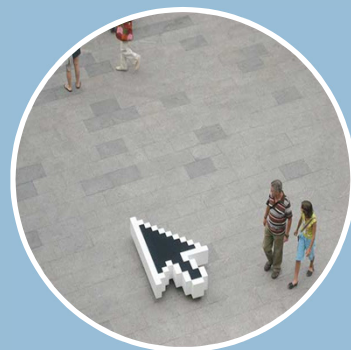






THREAT DETECTION

- INDECT



Real environment
Virtual environment

- INDECT



DETECTION OF SOURCE OF THREAT

- INDECT



IDENTIFICATION OF SOURCE (recognition of persons generating threat)

- SECURITY SERVICE,
POLICE

Step 1

Step 2

Step 3

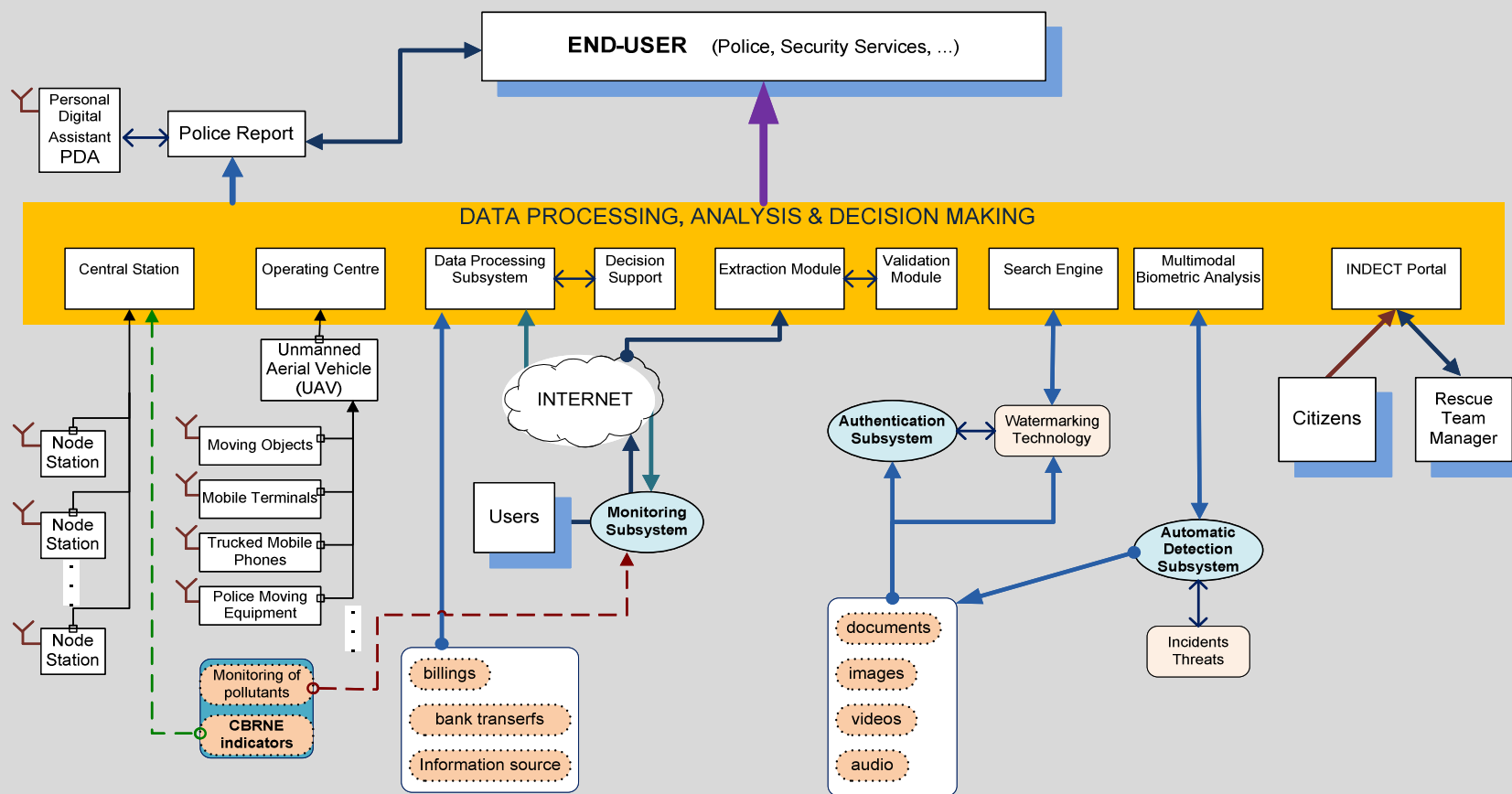


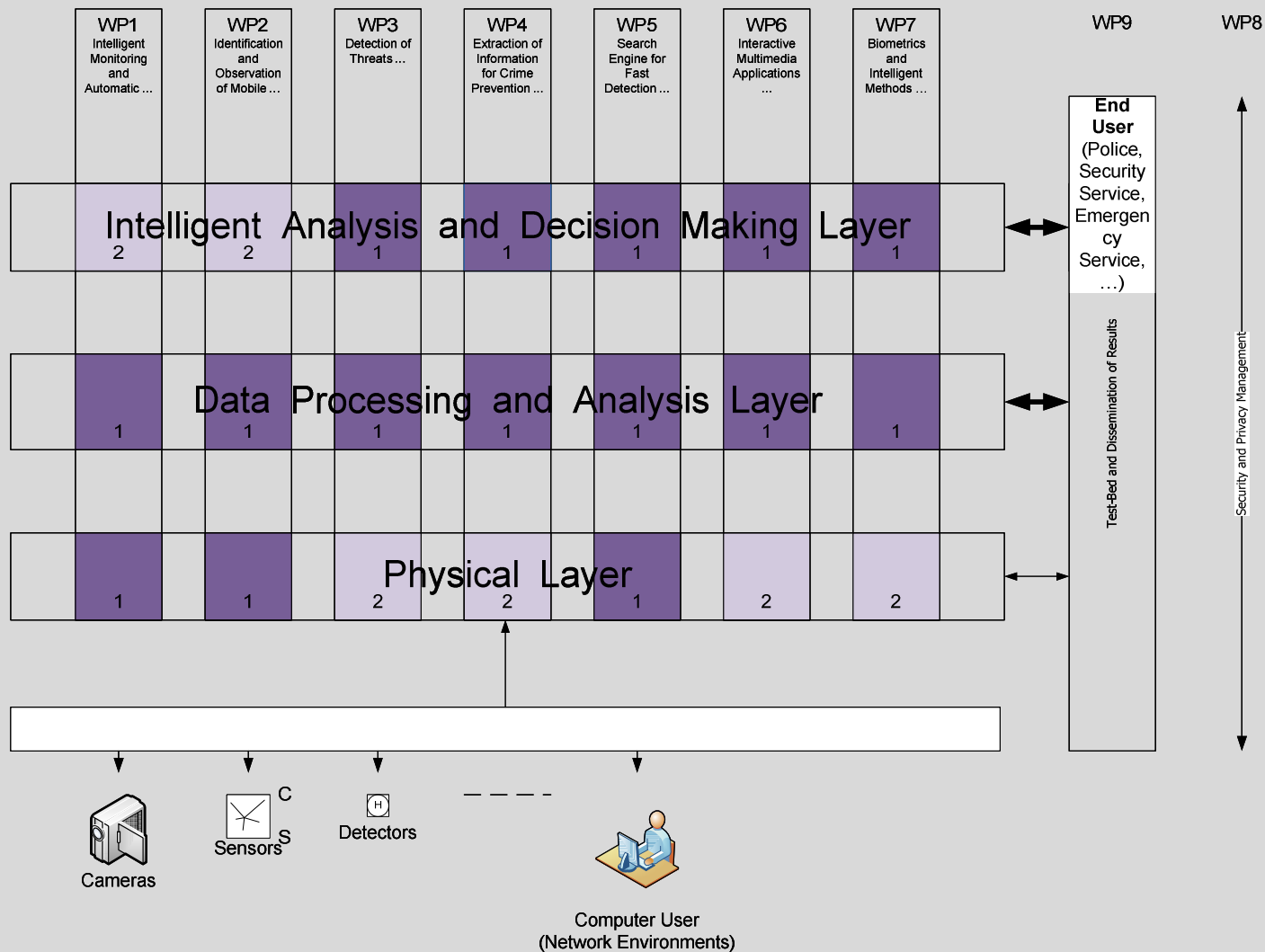
INDECT
doesn't deal
with and is
not involved
in



- 1) Collecting of personal data
- 2) Recording of mobile calls
- 3) Collecting of DNA codes
- 4) Satellite collecting of data
- 5) Collecting data from TV
- 6) ...

General block – diagram of the overall scope of INDECT



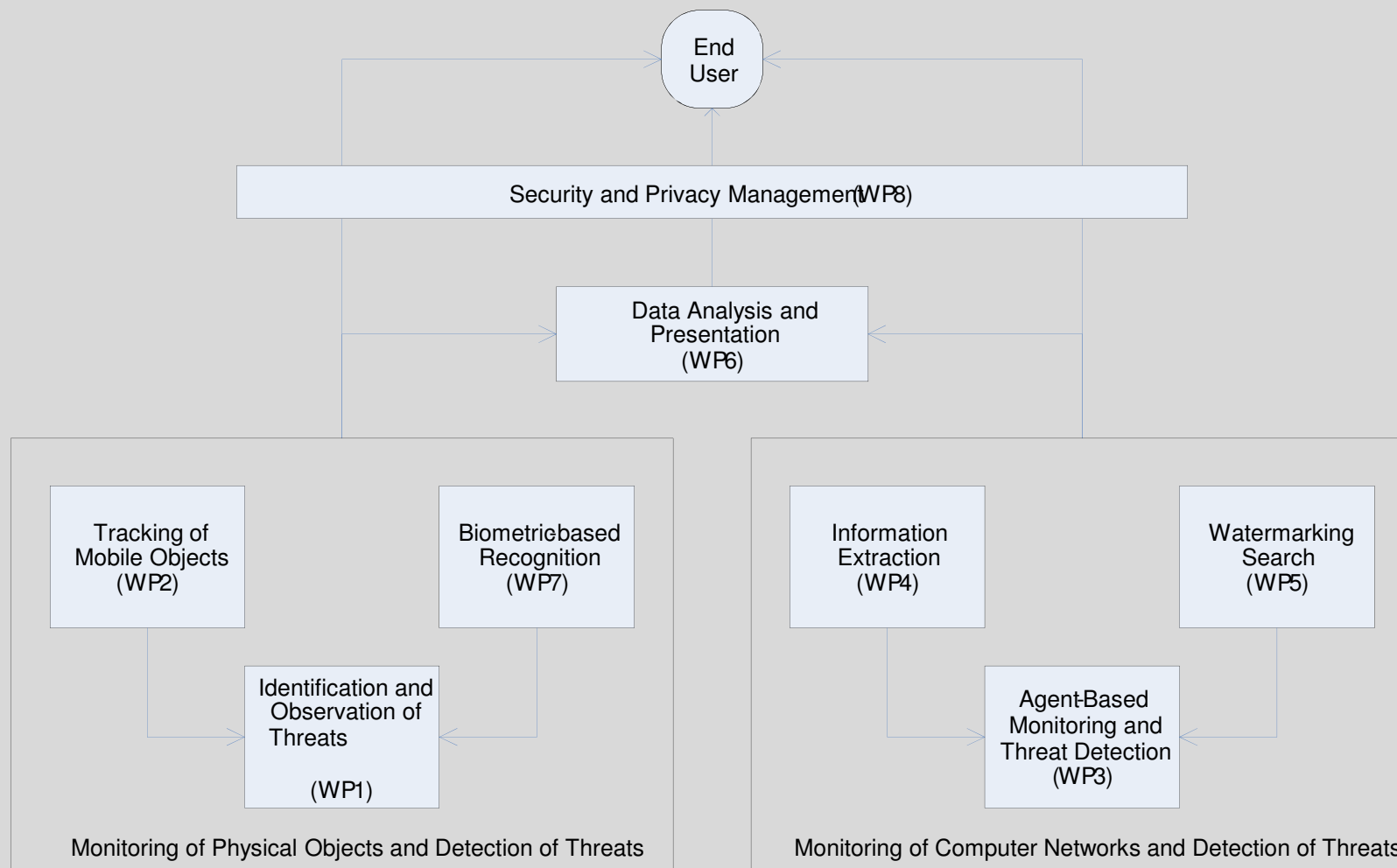




WP No	Work package title
WP 0	Project Management and Horizontal Activities
WP 1	Intelligent Monitoring and Automatic Detection of Threats
WP 2	Identification and Observation of Mobile Objects in Urban Environment
WP 3	Intelligent integrated agent-based system supporting observation, analysis and detection of criminal activities and threats in complex real-virtual environments
WP 4	Extraction of Information for Crime Prevention by Combining Web Derived Knowledge and Unstructured Data
WP 5	Search Engine for Fast Detection Based on Watermarking and Agent Technology
WP 6	Interactive Multimedia Applications Portal for Intelligent Observation System
WP 7	Biometrics and Intelligent Methods for Extraction and Supplying Security Information
WP 8	Security and Privacy Management
WP 9	Test-Beds and Dissemination of Results



Overall relationships between WPs



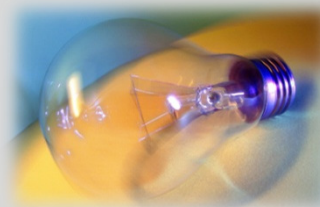


State-of-the-Art	Innovation by INDECT
Tools to monitor and threat detection in public services by Internet.	Dedicated to the police, programmable in the sense of information context for automatic searching.
Tracking and routing devices based mainly on GPS , GPRS and dedicated systems.	Designing, construction and research of integrated tracking devices, able to operate in the absence of satellite reception.
Tools for information extraction.	Dedicated mechanisms for relationship identification, behavioural profiling and detection of suspicious websites
Watermarking technology is mainly based on DCT Transform and Pseudorandom Sequences.	A new approach will be attempted using special transforms based on fast algorithms of the family of Piecewise Linear Transforms (PLT), especially the PHL, PWL Transforms. Proposed new watermarking encoder and decoder will be much faster and more reliable than DCT.
Searching of images, video sequences and graphical information is based on separation of Metadata from image and video contents.	Developing new type of search engine combining direct search of image and video based on watermark contents.





State-of-the-Art	Innovation by INDECT
Keyword-based search in security-related databases	Query by Example (QBE) techniques used for searching.
Ability to analyse parts of an image independently, to choose the region of interest, monitoring or the approach of a person.	Implementation of a set of new methods used for a combined analysis of sound, image and alphanumeric data.
Observations have to be forwarded to common operational picture.	Automatic integration and visualization of detected events => more speed in information flow, higher reliability.
Isolated usage of systems focussing on special security aspects.	Integrated, comprehensive as well as detailed view of all danger situations => more transparency.
Different threat detection systems based on monitoring / operating different systems.	Operation management staff focuses on common operational picture => more quality, more efficiency.





Innovations by INDECT



State-of-the-Art	Innovation by INDECT
Different system usage and user interfaces for each single system.	One user interface => ease of use, less operating errors.
Detection of situations and behaviours requiring special attention from services responsible for maintenance of public security.	Extraction of distinctive features of sound and visual images for recognition and automatic understanding of abnormal situations.
Video sequences and acoustic signals can be stored in multimedia database with advanced searching methods.	Effective access to information on demand, supported by technologies supplying appropriate information.
Watermarking quality influence evaluated using simple methods based on PSNR evaluation.	Fully Human Visual System that will ensure controlled degradation of Quality of Experience (QoE).





Ethical issues in INDECT research Ethical Standards



- Obligation to get an informed consent regarding participation in the research especially related to security purposes
- Review of each Deliverable with respect to ethical issues
- Avoid to collect sensitive personal data



The main factors in order to fulfil all requirements of INDECT



- Strong teams – In INDECT the best teams of each partner are involved.
- Strong and friendly cooperation between the partners.
- Understanding between the cooperating partners – the properly matched tasks.
- Integration of efforts.



**THANK YOU FOR YOUR
ATTENTION!**

