

Innovation and next generation compliance

**Next
Generation
Conference**

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ARPA Lombardia (IT)
Water and Land Expert Team*

**September 25-28
2018
Zwolle,
the Netherlands**

INNOVATION

IMPEL Members: some relevant experiences already in place

IT tools to speed up licencing process
(e.g.: Portugal Siliamb)

Optimization of field registration and
reporting - use of handheld technology
(e.g.: UK – SEPA, Cachment Walking)

Remote Continuous
Monitoring System
(CMS) for Chimney
stacks
(e.g.: CMS Spain,
SME Italy)

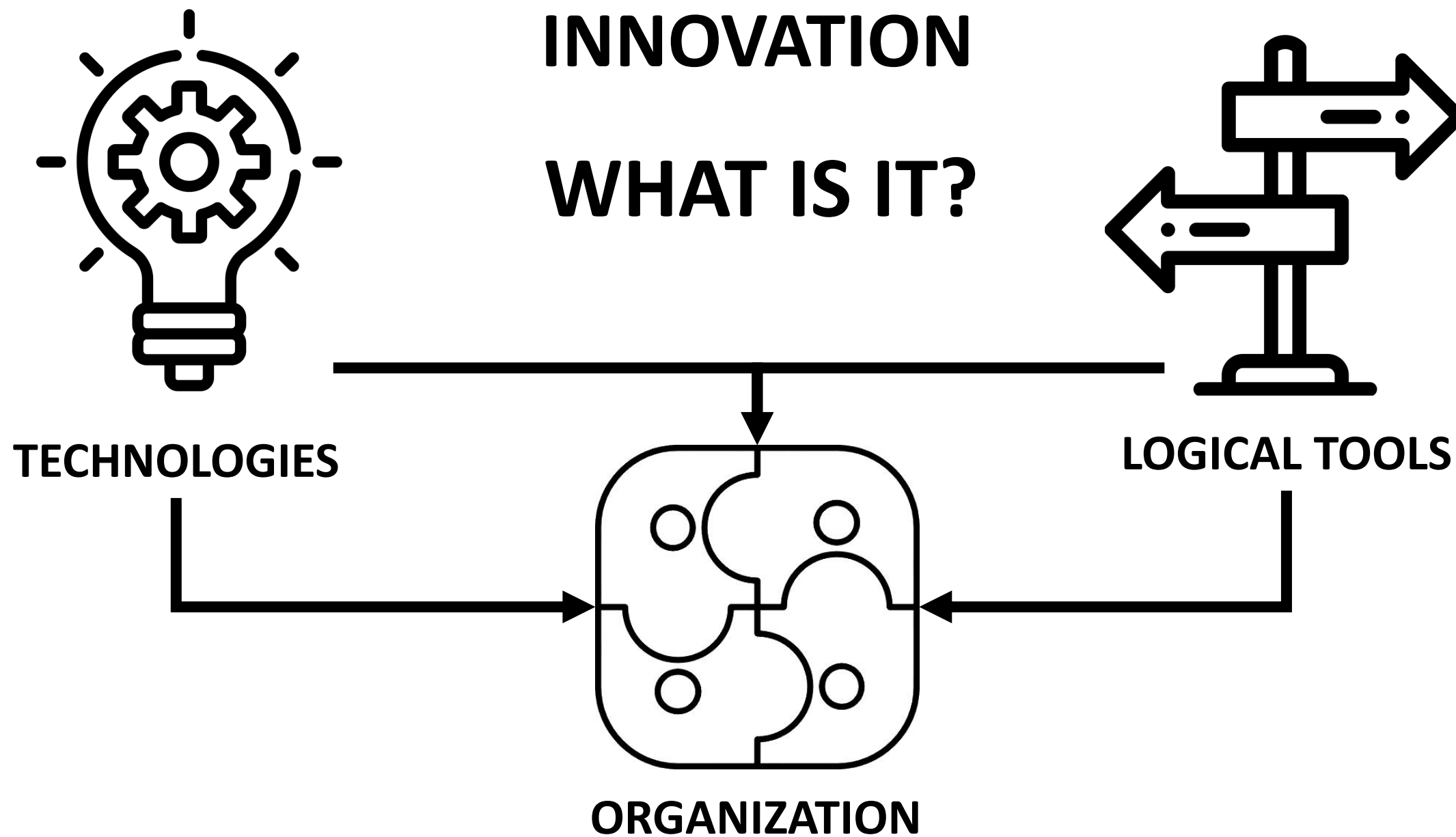
Support to competent authorities to incorporate
innovations in laws to deal with relevant issues
(e.g.: UK – English EPA, Climate Change)

DNA Analysis and GPS
tracking for wildlife
protection and crime figth
(varuios Countries an
experiences)

Nanomaterials in Environmental Analytics
(e.g.: IT – FVG ARPA, nanoparticles anaylisis)

**AND
MORE....**

SOME GENERAL CONSIDERATION, ALSO FROM THESE
EXPERIENCES, TO FOSTER INNOVATION PROCESS IN THE
PERSPECTIVE OF ENVIRONMENTAL COMPLIANCE IMPROVEMENT

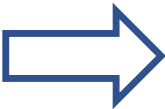




IMPEL Paper

Minimum Criteria for Inspections

1997/'98



27.4.2001 EN Official Journal of the European Communities L 118/41

II
(Acts whose publication is not obligatory)

EUROPEAN PARLIAMENT AND COUNCIL

RECOMMENDATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 4 April 2001
providing for minimum criteria for environmental inspections in the Member States
(2001/331/EC)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community and in particular Article 175(1) thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the Economic and Social Committee⁽¹⁾,

Having regard to the opinion of the Committee of the Regions⁽²⁾,

Acting in accordance with the procedure laid down in Article 253 of the Treaty⁽³⁾ and in the light of the joint text approved by the Conciliation Committee on 8 January 2001,

Whereas:

(1) The resolution of the Council and of the Representatives of the Governments of the Member States, meeting within the Council, of 1 February 1993 on a Community programme of policy and action in relation to the environment and sustainable development⁽⁴⁾ and the Decision of the European Parliament and the Council on its review⁽⁵⁾ emphasised the importance of implementation of Community environmental law through the concept of shared responsibility.

(2) The Commission Communication of 5 November 1996 to the Council of the European Union and the European Parliament on implementing Community environmental law, in particular paragraph 29 thereof, proposed the

establishment of guidelines at Community level in order to assist Member States in carrying out inspection tasks, thereby reducing the currently-existing wide disparity among Member States' inspections.

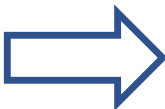
(3) The Council in its resolution of 7 October 1997 on the drafting, implementation and enforcement of Community environmental law⁽⁶⁾ invited the Commission to propose, for further consideration by the Council, in particular on the basis of the work of the European Union network for the implementation and enforcement of environmental law (IMPEL), minimum criteria and/or guidelines for inspection tasks carried out at Member State level and the possible ways in which their application in practice could be monitored by Member States, in order to ensure an even practical application and enforcement of environmental legislation, and the Commission's proposal has taken into account a paper produced by IMPEL in November 1997 and entitled 'Minimum Criteria for Inspections'.

(4) The European Parliament by its resolution of 14 May 1997 on the Commission's Communication called for Community legislation on environmental inspections, and the Economic and Social Committee and the Committee of the Regions gave favourable opinions on the Commission's Communication and stressed the importance of environmental inspections.

(5) Different systems and practices of inspection already exist in Member States and should not be replaced by a system of inspection at Community level, as was considered in the Council resolution of 7 October 1997, and Member States should retain responsibility for environmental inspection tasks.

(6) OJ C 109, 16.6.1998, p. 12.
(7) OJ C 274, 23.12.1999, p. 48.
(8) Opinion of the European Parliament of 16 September 1999 (OJ C 34, 25.2.2000, p. 12), Council Common Position of 30 March 2000 (OJ C 137, 16.5.2000, p. 1) and Decision of the European Parliament of 4 July 2000 (not yet published in the Official Journal), Decision of the European Parliament of 1 February 2001 and Council Decision of 26 February 2001.
(9) OJ C 138, 17.5.1993, p. 1.
(10) OJ L 275, 16.10.1998, p. 1.

(1) OJ C 321, 22.10.1997, p. 1.



IED 2010/75/EU

17.12.2010 EN Official Journal of the European Union L 334/17

DIRECTIVES

DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 24 November 2010
on industrial emissions (integrated pollution prevention and control)
(Recast)
(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 192(1) thereof,

Having regard to the proposal from the European Commission,

Having regard to the opinion of the European Economic and Social Committee⁽¹⁾,

Having regard to the opinion of the Committee of the Regions⁽²⁾,

Acting in accordance with the ordinary legislative procedure⁽³⁾,

Whereas:

(1) A number of substantial changes are to be made to Council Directive 78/176/EEC of 20 February 1978 on waste from the titanium dioxide industry⁽⁴⁾, Council Directive 82/853/EEC of 3 December 1982 on procedures for the surveillance and monitoring of environments concerned by waste from the titanium dioxide industry⁽⁵⁾, Council Directive 92/112/EEC of 15 December 1992 on procedures for harmonising the programmes for the reduction and eventual elimination of pollution caused by waste from the titanium dioxide industry⁽⁶⁾, Council Directive 1999/13/EC of 11 March 1999 on the limitation of

emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations⁽⁷⁾, Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste⁽⁸⁾, Directive 2001/80/EC of the European Parliament and of the Council of 23 October 2001 on the limitation of emissions of certain pollutants into the air from large combustion plants⁽⁹⁾ and Directive 2008/113/EC of the European Parliament and of the Council of 15 January 2008 concerning integrated pollution prevention and control⁽¹⁰⁾. In the interest of clarity, those Directives should be recast.

(2) In order to prevent, reduce and as far as possible eliminate pollution arising from industrial activities in compliance with the 'polluter pays' principle and the principle of pollution prevention, it is necessary to establish a general framework for the control of the main industrial activities, giving priority to intervention at source, ensuring prudent management of natural resources and taking into account, when necessary, the economic situation and specific local characteristics of the place in which the industrial activity is taking place.

(3) Different approaches to controlling emissions into air, water or soil separately may encourage the shifting of pollution from one environmental medium to another rather than protecting the environment as a whole. It is, therefore, appropriate to provide for an integrated approach to prevention and control of emissions into air, water and soil, to waste management, to energy efficiency and to accidents prevention. Such an approach will also contribute to the achievement of a level playing field in the Union by aligning environmental performance requirements for industrial installations.

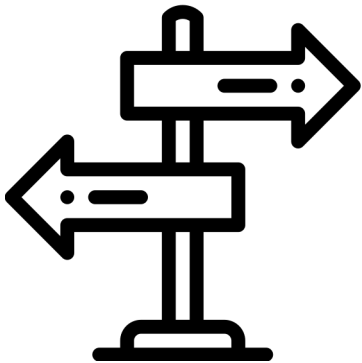
(1) OJ L 85, 29.1.1999, p. 1.
(2) OJ L 332, 28.12.2000, p. 91.
(3) OJ L 308, 27.11.2001, p. 1.
(4) OJ L 409, 11.12.1992, p. 11.
(5) OJ L 85, 29.1.1999, p. 1.
(6) OJ L 332, 28.12.2000, p. 91.
(7) OJ L 308, 27.11.2001, p. 1.
(8) OJ L 24, 29.1.2005, p. 8.

IMPEL as innovator
and
promoter of innovation

RMCEI 2001/331/EC

INNOVATION

and



LOGICAL
TOOLS



IRAM

Integrated Risk
Assessment Method

easyTools

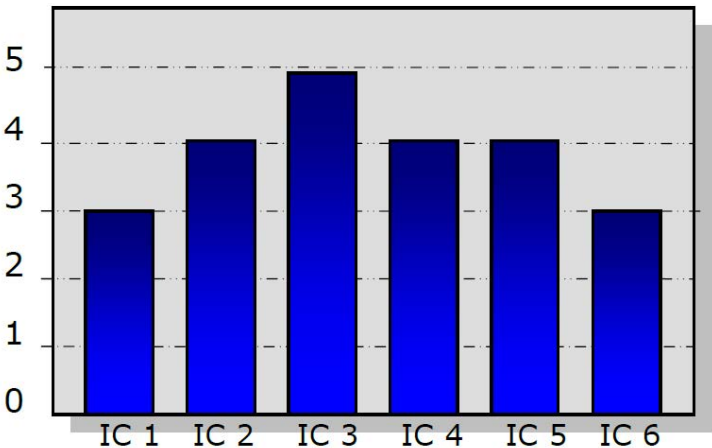


INNOVATIVE CONCEPTS

Environmental risk as a
multifactorial object

Risk = **Effect** * **Probability**

Management of multiple
risks in an Installation

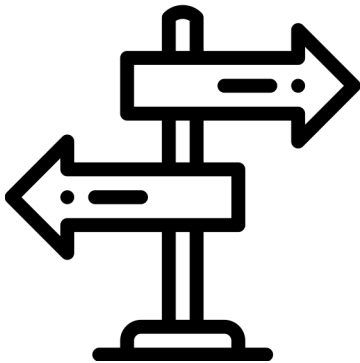


INSPECTION PLANNING

INTRODUCING
OBJECTIVITY AND
TRANSPARENCY IN OUR
WORK

INNOVATION

and



LOGICAL
TOOLS



IRAM

Integrated Risk
Assessment Method

easyTools



INSPECTION PLANNING

INTRODUCING
OBJECTIVITY AND
TRANSPARENCY IN OUR
WORK

1) Diffusion:

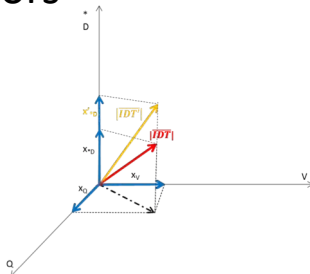
Inspection Authorities of different countries that were trained on and/or are using IRAM:
Albania, Austria, Belgium, Bosnia and Herzegovina, Croatia, Cyprus, Czech Republic, Georgia,
Germany, Iceland, Israel, Italy, Kosovo, Luxembourg, Macedonia, The Netherlands, Portugal,
Romania, Serbia, Slovenia, Spain and Turkey.

INDICATORS OF SUCCESS

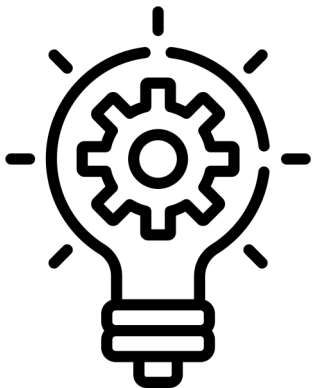
2) Inspiration and evolution:

SSPC – IT Composition of risk factors
and installation risk ranking

CdP - Regional Strategic Risk
Assesment



INNOVATION and



EARTH OBSERVATION

SATELLITE and AIRPLANE SERVICE PROVIDERS



and
more...

TECHNOLOGIES

INNOVATIVE INSPECTIONS AND SURVEILLANCE

TECHNOLOGY AT THE
SERVICE OF COMPLIANCE

DRONES – low altitude

highly manoeuvrable, «high»
payload



highly
manoeuvrable,
«low» payload



for interiors,
«unstoppable»

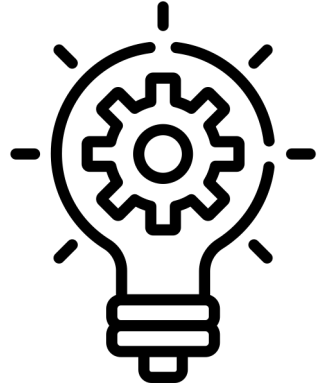


long range



harmless

INNOVATION and

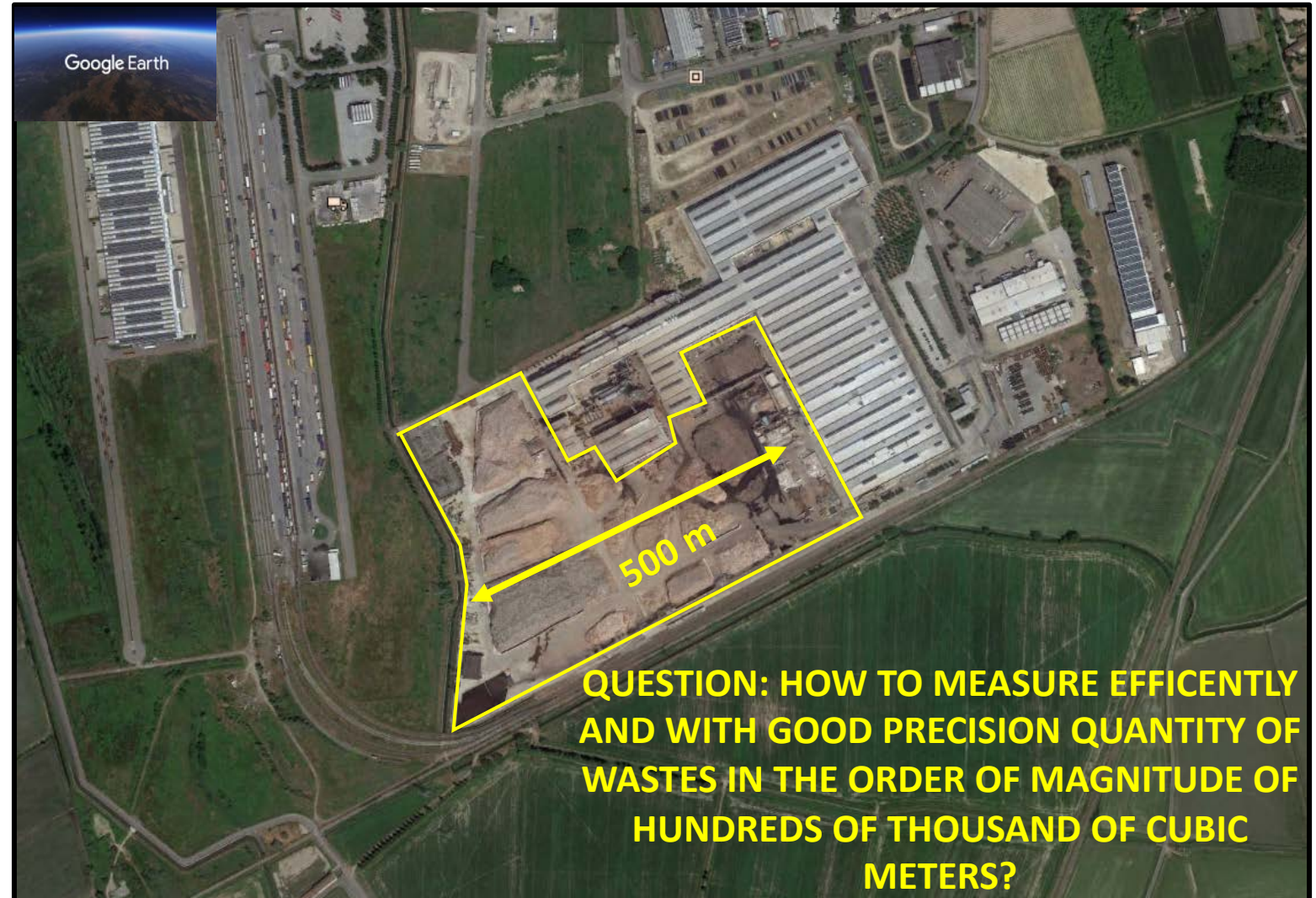


TECHNOLOGIES

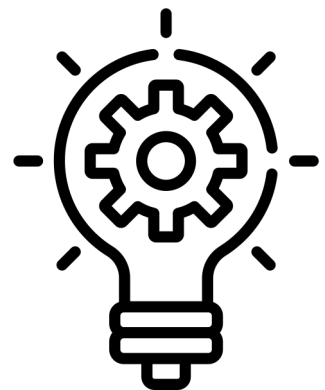
INNOVATIVE INSPECTIONS

TECHNOLOGY AT THE
SERVICE OF COMPLIANCE

Drones: WASTE INSTALLATION INSPECTIONS



INNOVATION and



TECHNOLOGIES

INNOVATIVE INSPECTIONS

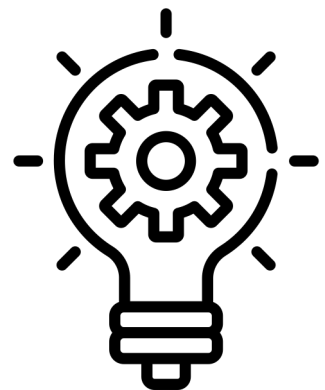
*TECHNOLOGY AT THE
SERVICE OF COMPLIANCE*

Drones: WASTE INSTALLATION INSPECTIONS



Real Time Kinematic survey
10 flights (8 GPS driven, 2 manuals)
Height: 50 m
Pixel dimension: not more than 2 cm
N. of images 777
Georeferencing with 16 control points

INNOVATION and

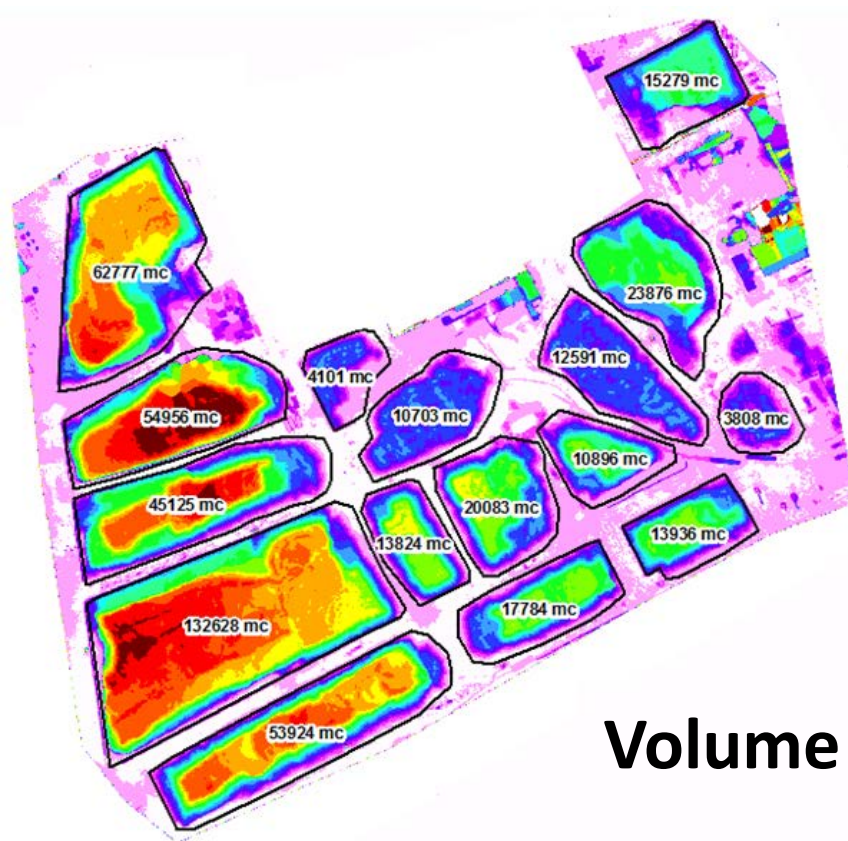


TECHNOLOGIES

INNOVATIVE INSPECTIONS

TECHNOLOGY AT THE
SERVICE OF COMPLIANCE

Drones: WASTE INSTALLATION INSPECTIONS

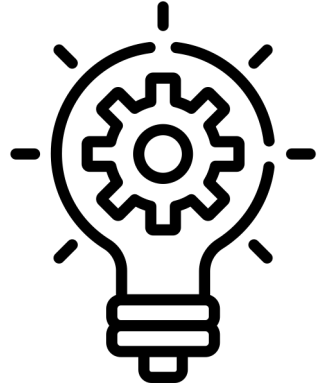


- Measurement of volumes with 3D digital reconstruction
- Error: average better than 1,6% (traditional 10 – 20%)
- Duration of flight: 1h 20 min (traditional survey: 15 – 20 gg)

Volume estimate: 496291 m³

Permit exceeded
Enforced and prosecuted

INNOVATION and



TECHNOLOGIES

INNOVATIVE INSPECTIONS

*TECHNOLOGY AT THE
SERVICE OF COMPLIANCE*

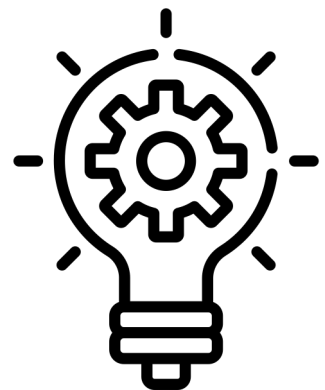
Drones:
Inspectors dream...
TAKE HOME AN ENTIRE INSTALLATION



**3D reconstruction of an installation, made
elaborating hundreds of photos taken by
a drone along a predetermined path**

**You can «walk» inside
the installation staying
in your office**

INNOVATION and



TECHNOLOGIES

INNOVATIVE INSPECTIONS

TECHNOLOGY AT THE
SERVICE OF COMPLIANCE

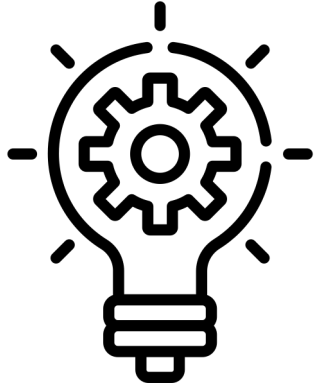
Drones:
Inspectors dream...
TAKE HOME AN ENTIRE INSTALLATION



Not a
photo
taken by a
drone, but
a 3D
virtual
reality
image

You can «walk» inside
the installation staying
in your office

INNOVATION and



TECHNOLOGIES

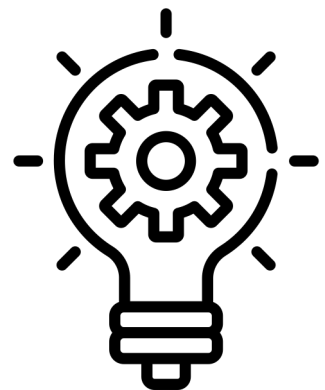
INNOVATIVE INSPECTIONS

*TECHNOLOGY AT THE
SERVICE OF COMPLIANCE*

Drones: DETECTION WITH THERMAL IMAGER OF ELUATES LEACHING FROM A LANDFILL



INNOVATION and



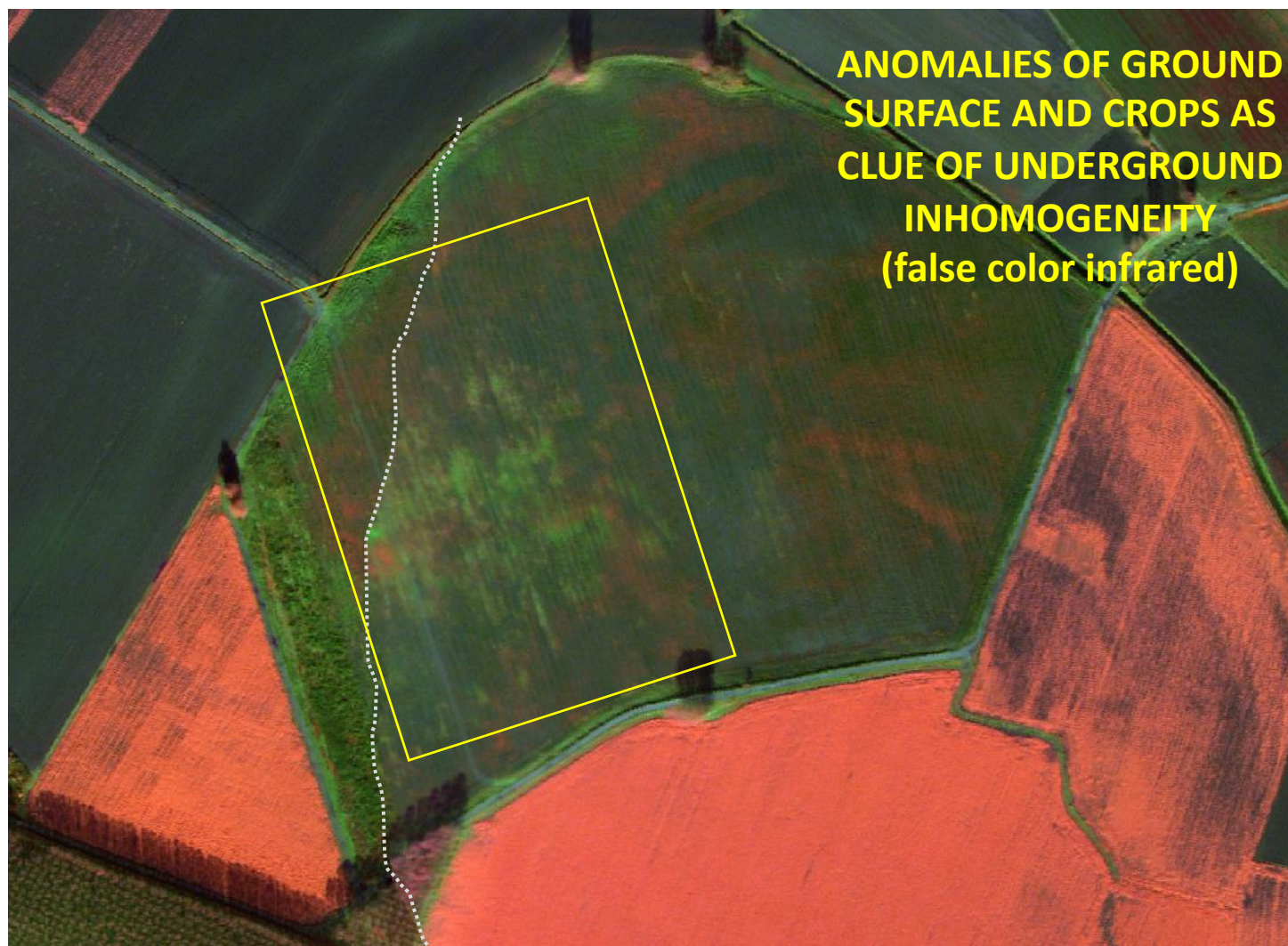
TECHNOLOGIES

INNOVATIVE INSPECTIONS

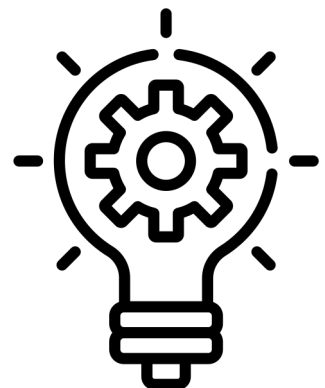
*TECHNOLOGY AT THE
SERVICE OF COMPLIANCE*

AERIAL IMAGES

DETECTION OF HIDDEN ILLEGAL BURIAL OF WASTES



INNOVATION and

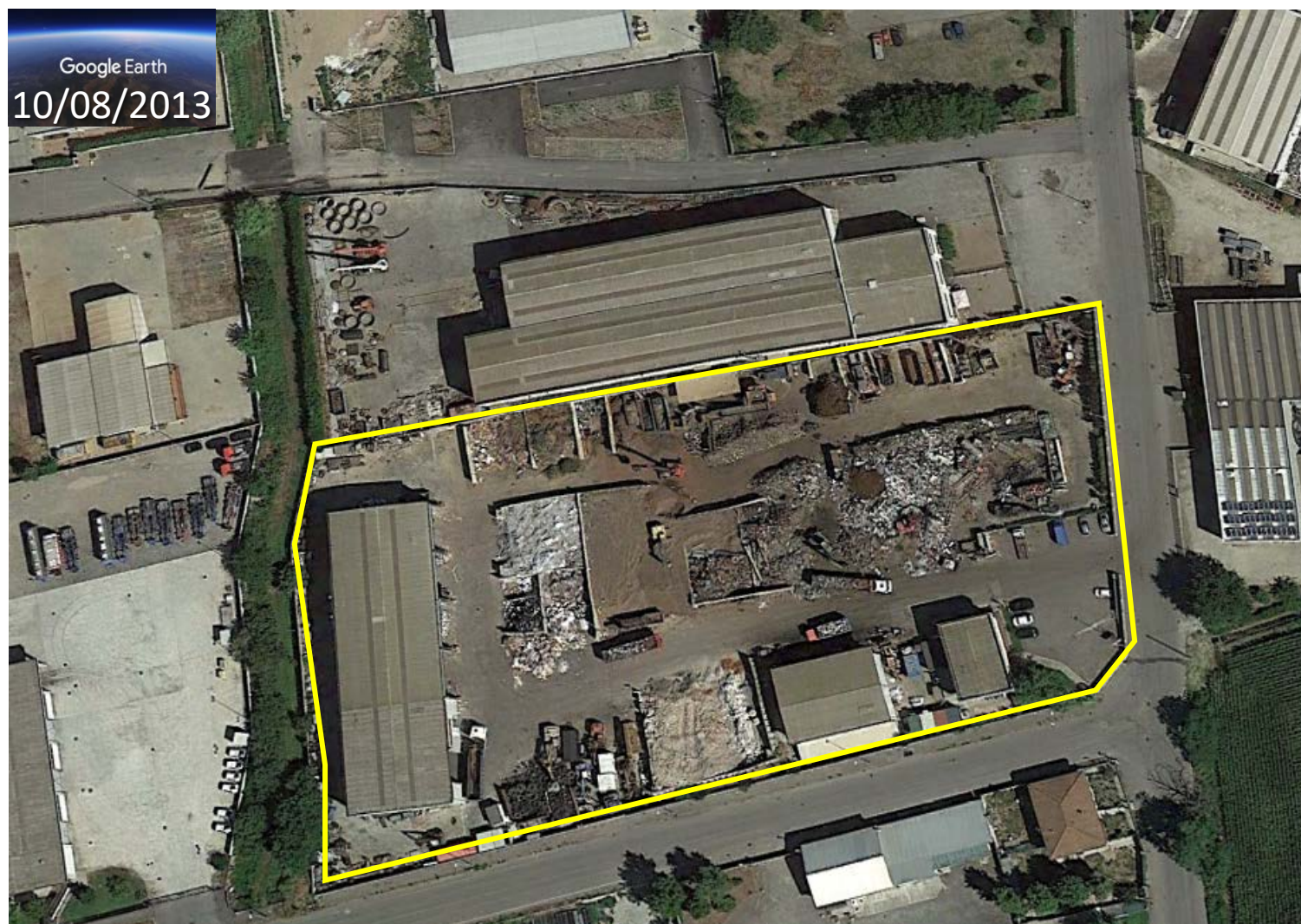


TECHNOLOGIES

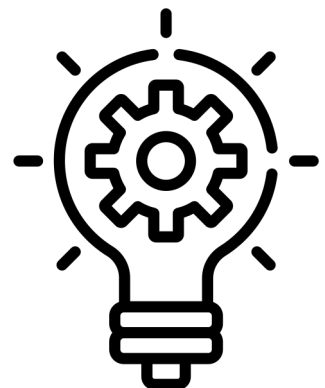
INNOVATIVE SURVEILLANCE

*TECHNOLOGY AT THE
SERVICE OF COMPLIANCE*

Satellites: WASTE INSTALLATION SURVEILLANCE



INNOVATION and



TECHNOLOGIES

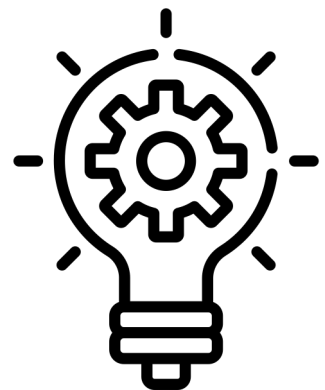
INNOVATIVE SURVEILLANCE

*TECHNOLOGY AT THE
SERVICE OF COMPLIANCE*

Satellites: WASTE INSTALLATION SURVEILLANCE



INNOVATION and



TECHNOLOGIES

INNOVATIVE SURVEILLANCE

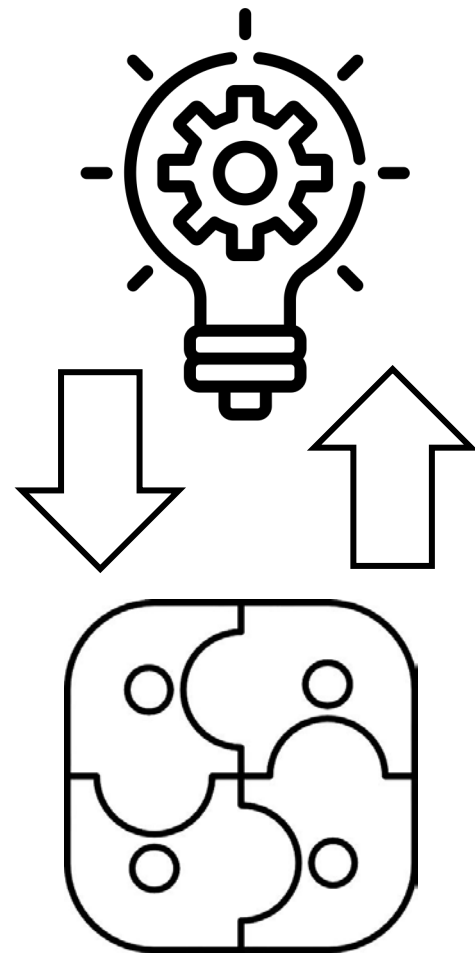
TECHNOLOGY AT THE
SERVICE OF COMPLIANCE

Satellites:

WASTE INSTALLATION SURVEILLANCE



INNOVATION:
TECHNOLOGIES

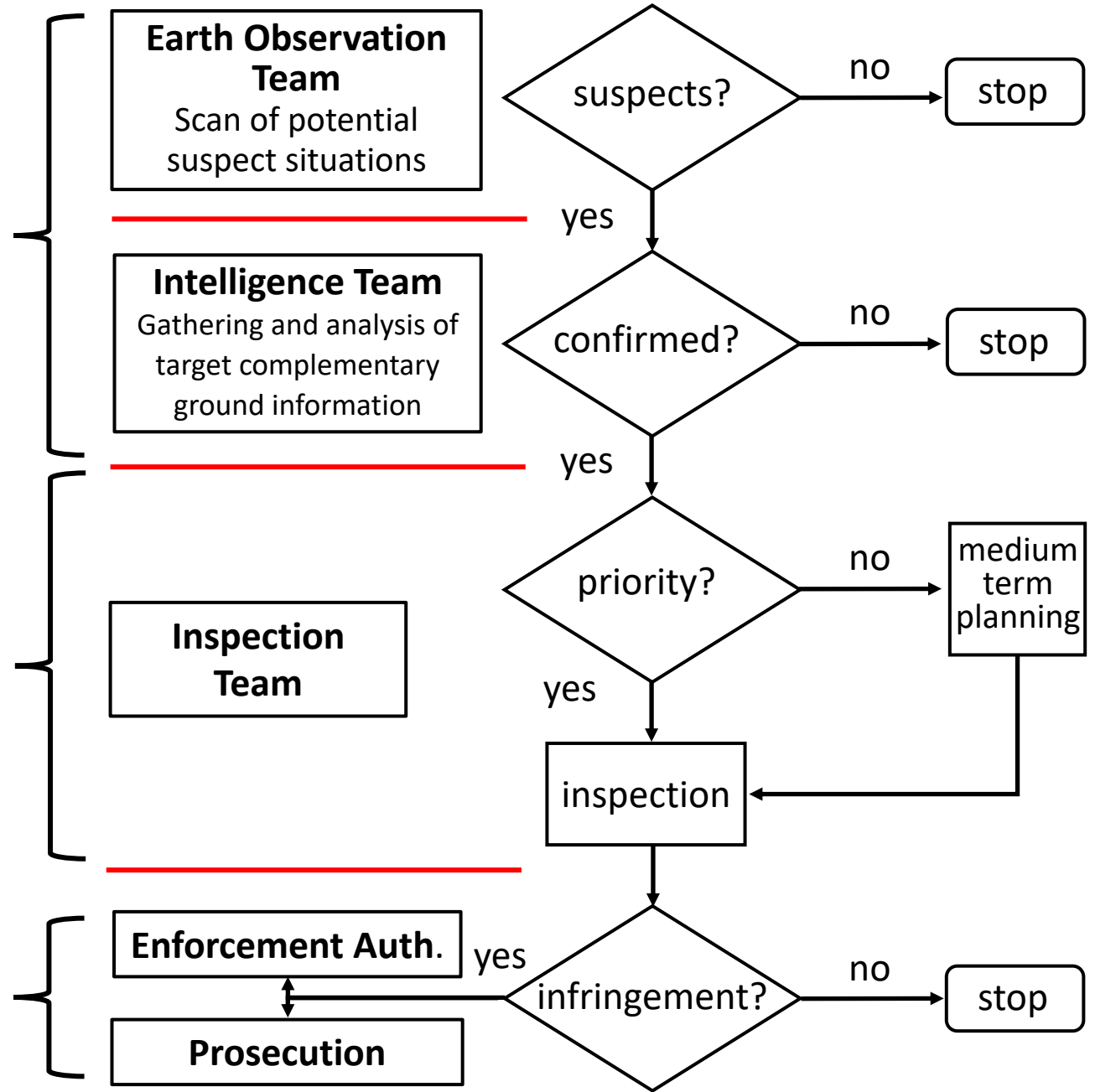


ORGANIZATION

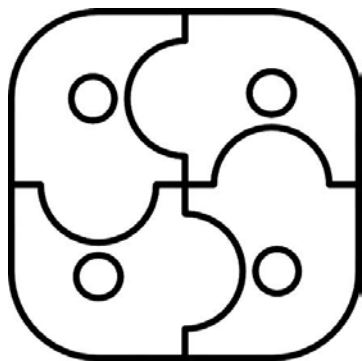
SURVEILLANCE
geospatial
intelligence

INSPECTION

LEGAL
ACTIONS
comp. subj.



INNOVATION and



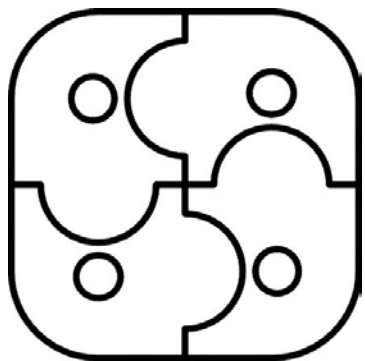
ORGANIZATION



A relevant part of IMPEL Members are Agencies, often of regional level, that supply “environmental protection services” to Competent Public Administrations, as Provinces, Municipality and other Public Bodies.

Many parts of the activities , in permitting and inspection, require a **good interface and a common work of Agencies and Competent Administrations**, in which logistics and difficulties in carrying out integrated work play an adverse role.

INNOVATION and

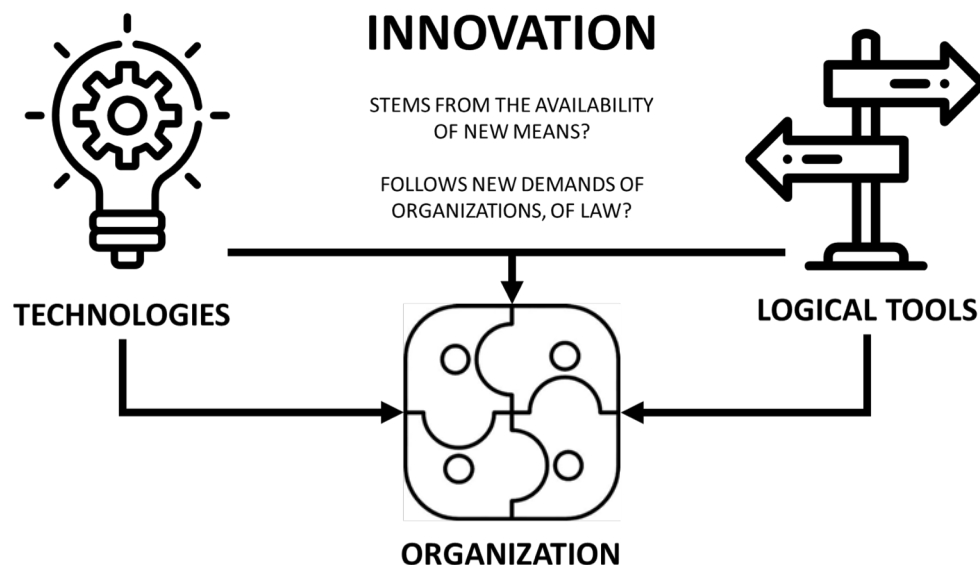


ORGANIZATION



In the Netherlands, the **Regional Agencies** are pursuing a model in which their **Officials are posted**, for a part of the week, in the **Competent Public Administration Offices**. The model is already implemented by REPA IJsselland , that has workplaces for his Officials within the offices of the Public Administrations they serve.

Several advantages are reported, that can be summarized as: better quality, due to increased exchange capabilities, and faster processes, that mean, at the end, improved implementation of the environmental acquis.



IMPEL AND INNOVATION

OUR COLLEAGUES ARE THE BEST SCOUT FOR
INNOVATION, AND THE BEST ADVISOR: CONCRETENESS
AND ADHERENCE TO OUR REALITY
SHARING OF OUR EXPERIENCES ARE THE FIRST STEP FOR
SUCCESSFUL INNOVATION

IMPEL AMBITION «KNOWLEDGE AND INNOVATION
CENTER» AND ECA INITIATIVES FOSTERING
INNOVATION ARE FUNDAMENTAL FOR BETTER
COMPLIANCE: NEXT GENERATION COMPLIANCE

Final key sentences

1. In our organizations innovation is a **multifactorial fact** that touch many levels and entities
2. Technology **might bring innovation** but it is not a innovation itself, is an inspiration for the introduction of innovative processes
3. Often, innovation regards only organization, but the **organization of the work must be always involved in innovation process**
4. What is a **current process or activity in one organization** may be a useful, huge innovation for another organization



Innovation and next generation compliance

Thank you for innovating

Giuseppe Sgorbati
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Generation
Conference**

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2018
Zwolle,
the Netherlands**