



# Harmonization and Networking for contaminant assessment in the Ionian and Adriatic Seas

## Prevention and monitoring for safety of the offshore mining activity

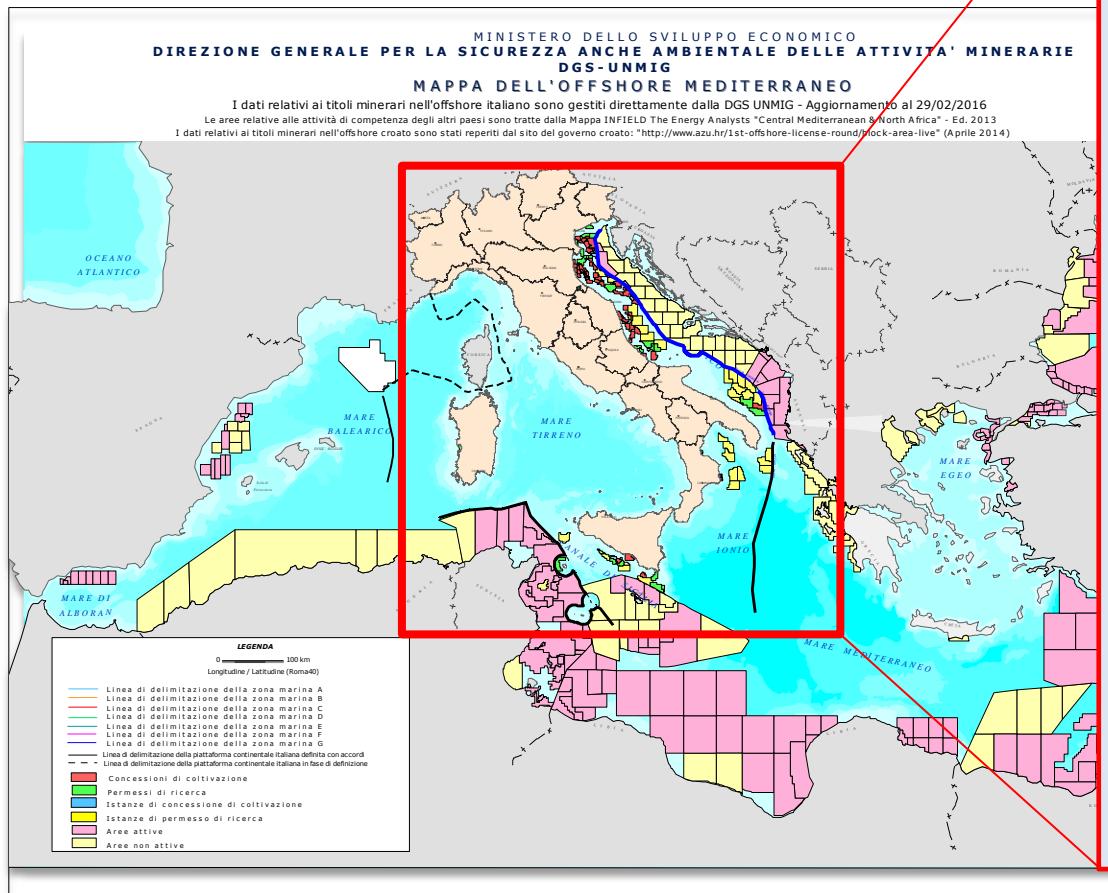
**Ilaria Antoncecchi**

Direktorate General for Safety DGS UNMIG  
Italian Ministry of Economic Development

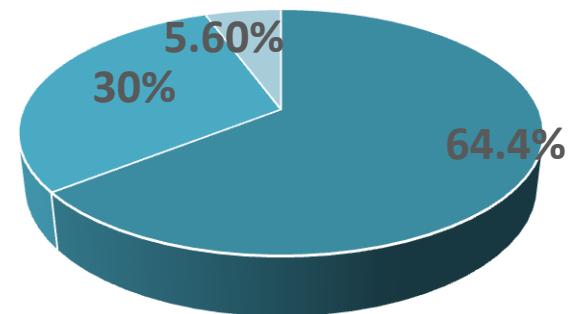


1st Stakeholders meeting, Athens 20 April 2018

# E&P Activity in Italy – Data, 2017



- **24 exploration licenses**
- **67 Exploitation licenses**  
 (37 In Adriatic Sea)
- **138 Hydrocarbon platforms**





**R&D**

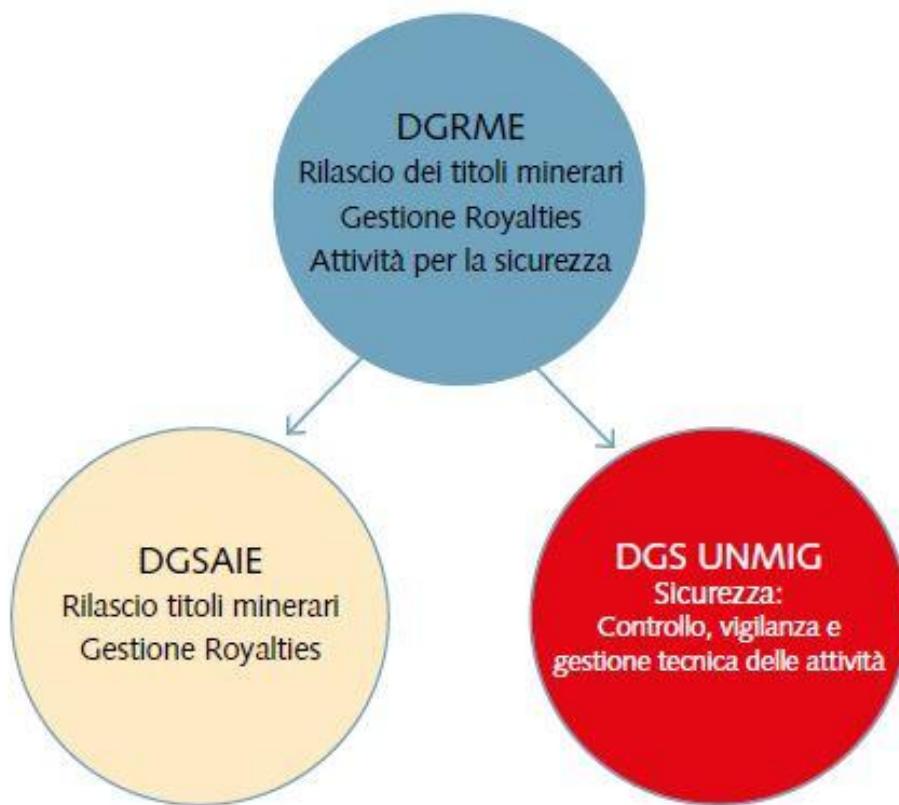


## **Environmental monitoring**

## **Regulatory activity**

## **Surveillance and Inspections**

# Regulatory activity TRANSPOSITION OF OFFSHORE DIRECTIVE (2013/30/UE)



## According to:

- MARINE STRATEGY DIRECTIVE
- MARITIME SPATIAL PLANNING DIRECTIVE
- BLUE GROWTH INITIATIVE

# Regulatory activity –Data, 2017

## ISSUING OF THE OFFSHORE COMMETTE

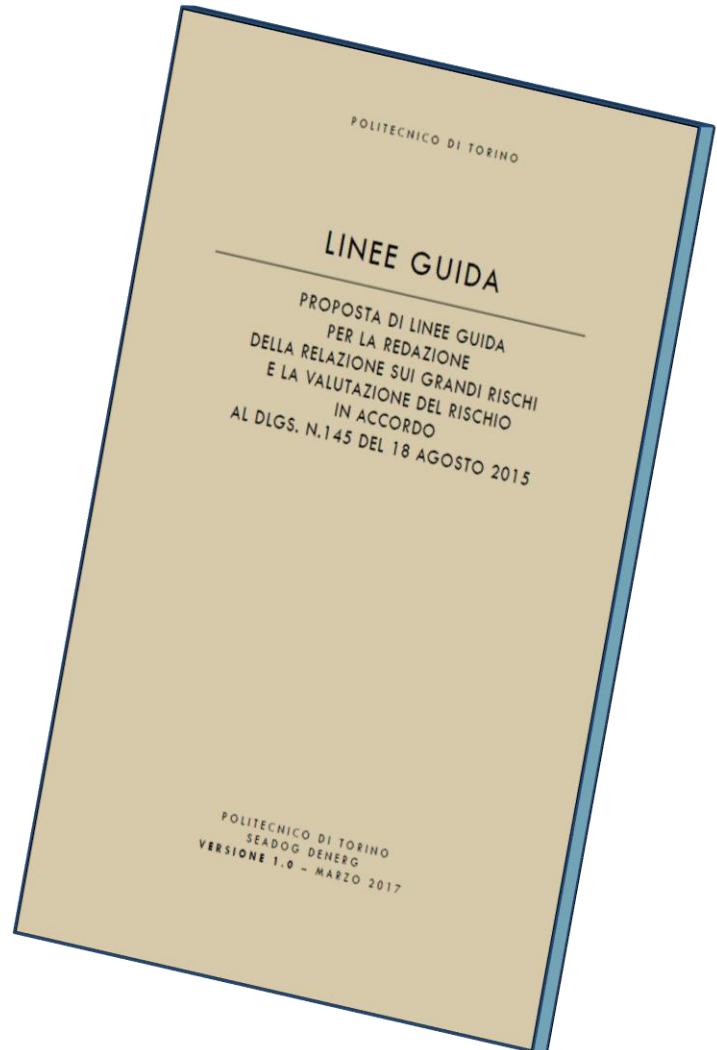
## AND TECHNICAL SECRETARIAT

**Guideline document for the  
drafting of Major Hazard  
Report, Offshore Directive**

( March 2017)



**DGS**  
UNMIG



## Surveillance and Inspections UNMIG OFFICES

UNIMIG territorial offices are responsible to carry out checks and controls in the field of plants safety *in order to prevent injuries and to guarantee health and safety of workers onshore and offshore*



## Surveillance and Inspections – Data 2017

– Production Inspection	135
– Checks of equipment system and plants	4,033
– Inspections of drilling rigs and production rigs	473
– Public utility and emergency occupation	2
– Wire lines, injuries, other	108

checks and controls in the field of plants safety  
*in order to prevent injuries and to guarantee health and safety of workers onshore and offshore*

**Total 4,751**

# Issued authorizations. Data - 2017

## Technical and administrative management of:

- prospection and exploration permits
- exploitation concessions for hydrocarbons and natural gas storage

– Geophysical activity	3
– Drilling	63
– Works on plants	61
– Operation on plants	159
– Miscellanea	780



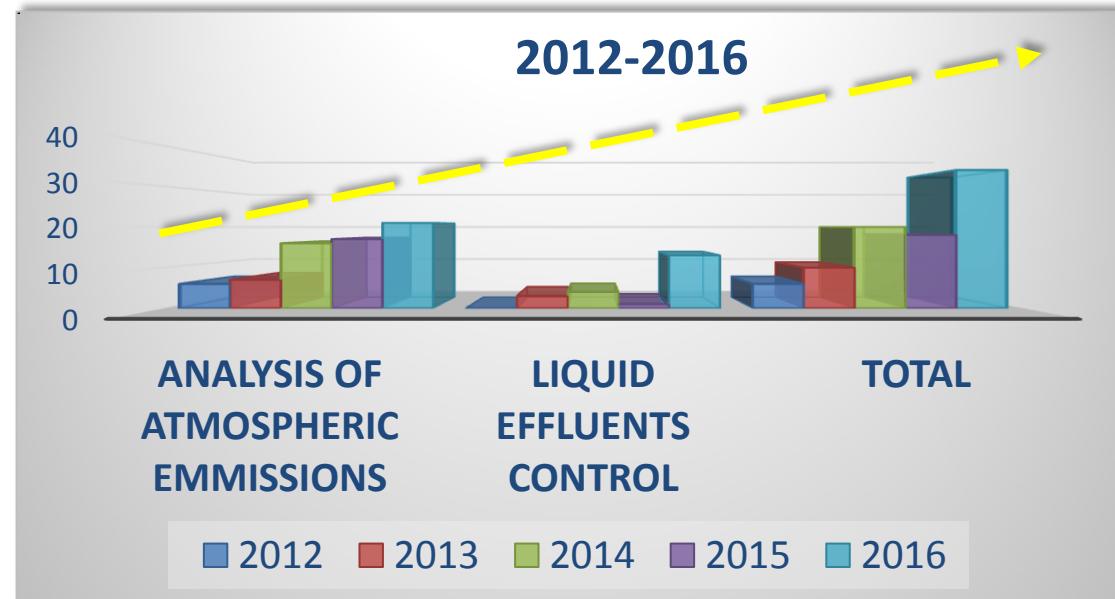
# Environmental Monitoring

Laboratories for chemical and mineralogical analysis



Check on gas emissions

Analysis on waste waters

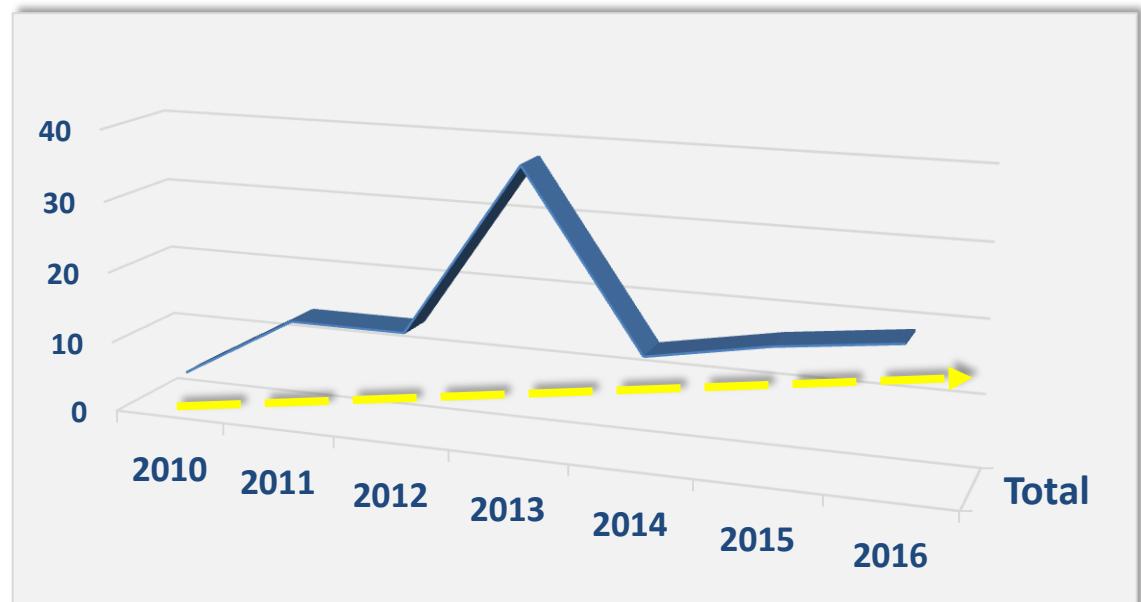


## Gas quality control

Gas quality control consists in sampling and analysis of natural gas coming from production plants (CO, NO, SO<sub>2</sub>) before distribution. Values must fall **within acceptable parameters** of gas set by Ministerial Decree on February 19th, 2007

### Controls on:

- Calorific value
- Relative density
- Wobbe index



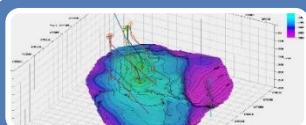
# Network for offshore safety



# CLYPEA “Network for Offshore”- Projects



National Safety Index



Monitoring and technological innovation



Best practices



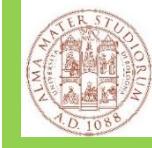
Dialogue and transparency



Safe and sustainable decommissioning



SPOT Project

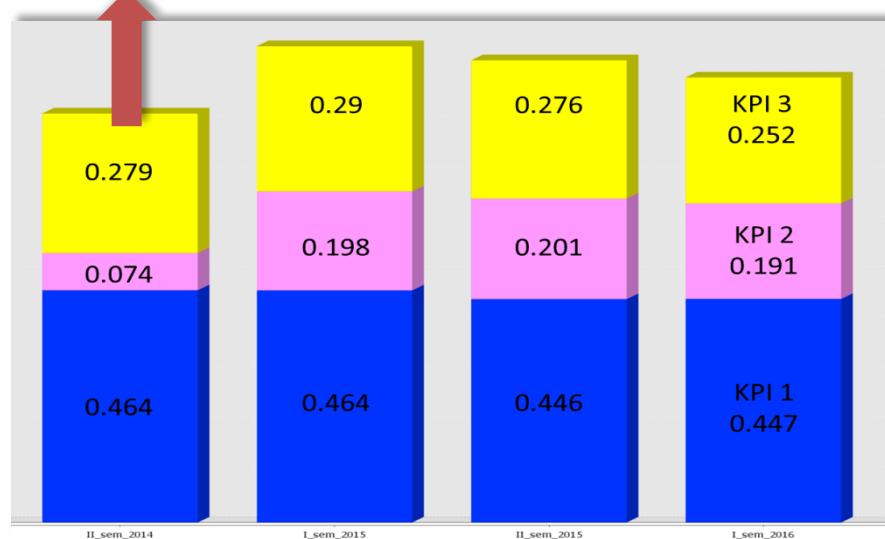


# Results 2016 Safety Index

The First Prototype based on 3 Key performance indicators in testing phase has been realized

Data 2014-2016 shows an high level of safety standards for offshore upstream sector

*Start up effect*



**2016**

**KPI 3**

5,219 INSPECTIONS

**KPI 2**

4,738h 11m PATROLS

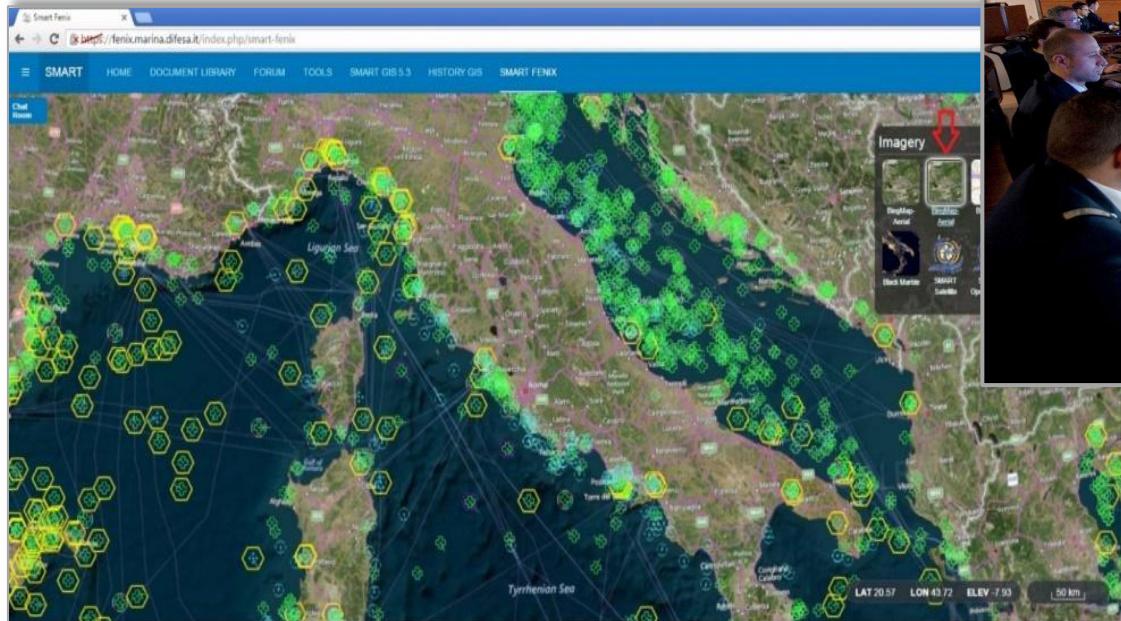
**KPI 1**

21 INJURIES



# Results 2016 Monitoring and technological innovation

**“SMART MISE”  
Marine traffic  
monitoring system**



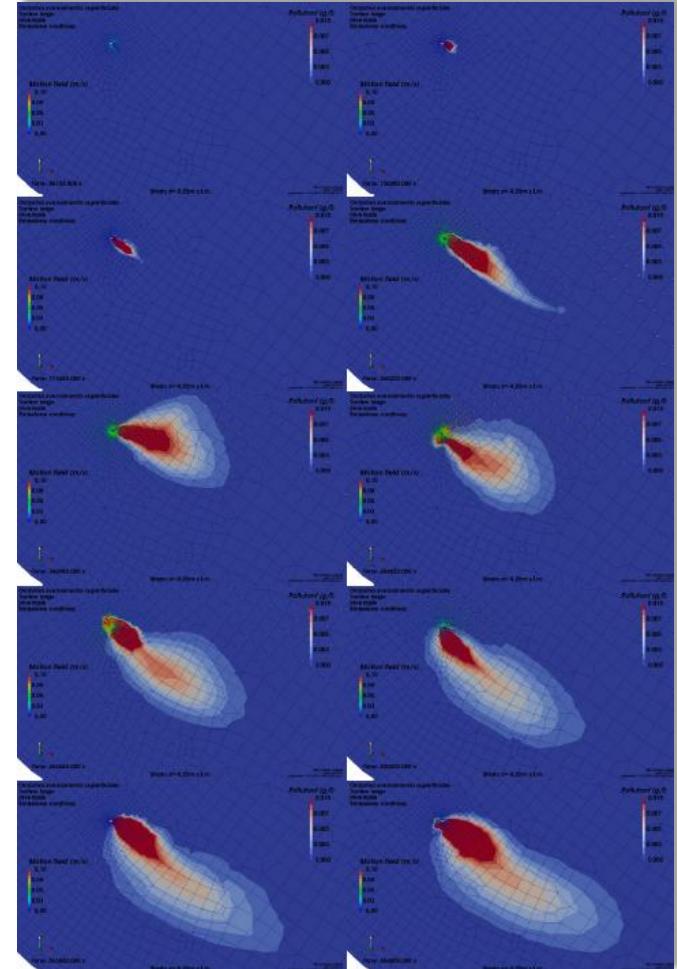
# OIL SPILL MODELLING AND EVALUATION IN THE ADRIATIC SEA

5 Scenarios (Shallow, deep)

7600 km<sup>2</sup> of modelled area

12000 m<sup>3</sup> total volume of oil  
simulated

7 days leakage time simulated



# Mapping of Geohazard

**232 Gravitative and erosive events mapped from scientific literature:**

- 62 Debris flow
- 34 Deep-seated failures
- 22 landslide
- 1 sliding
- 49 mass transport
- 7 mass flow
- 12 mass westing
- 10 turbidites
- 6 megaturbidites
- 20 slump
- 9 Debris avalanches



- 119 Sea bottom structures
- 2 FUMAROLE
- 38 Pockmarks
- 18 Volcanoes
- 61 Mud Volcanoes



# Natural gas emission in the Adriatic Sea

- New project with CNR – ISMAR to analyzed the composition of the natural gas emission
- Survey will start at the end of April in the Ancona offshore.

# Results 2017 – Scientific Monography on “Environmental Geoengineering Journal” - GEAM

- Gasparini P., Di Ruocco A., Garcia-Aristizabal A., Basco A., Teofilo G., Antoncecchi I.: “APPROCCIO MULTI-RISCHIO ALLA VALUTAZIONE DEGLI EFFETTI DI EVENTI NATECH”. VGR 2016 Sessione 1: Analisi del rischio e degli incidenti rilevanti per la sicurezza. 10 Settembre 2016.
- Grigoli, F. et al. (2017). A new approach to predict seismic event location using Master-Event Wavelet. <https://doi.org/10.1038/srep25744>.
- Giacchetta G. (2017). L'esperienza di HarmoNIA nel settore idrocarburi. In: Giacchetta G. (ed.) HarmoNIA. Atti del seminario di formazione per esperti nel settore idrocarburi. Roma, 2017.
- Manzo M., Solaro G., Bonano M., Cicali S., De Novellis V., Fusco A., Manunta M., Pappalardo G., Pellegrino S., Puglisi G., Rizzo P., Zennaro P., Zini G., Zeni G., Zinno I., Lanari R. Studio delle deformazioni del suolo in mare mediante analisi satellitari e modellazione geofisica avanzata
- Guandalini R., Agate G., Moia F. Studio degli effetti ambientali e della dinamica di dispersione di idrocarburi in mare mediante modellazione numerica 3D
- Iengo A., Canu D., Laurent C., Querin S. Ambiti di applicazione di strumenti modellistici numerici per l'analisi della dispersione di idrocarburi in mare, in ottemperanza al decreto legislativo n° 145/2015 e alla normativa di settore

*Scientific papers*



European Regional Development Fund - Instrument for Pre-Accession II Fund

HarmonIA



# Thank you for your attention!

