



# *The National Institution for Standardization Research and Promotion*

Mazara del Vallo, 4-7 October 2018

# Index

1. *Structure and activity of ENR*
  - 1.1 *The technical standards*
  - 1.2 *Properties of technical standards*
2. *The contribution of ENR*
3. *How ENR works*
4. *ENR operating areas:*
  - 4.1 *Marine-maritime ICT sector*
    - 4.1.2 *ENR's high-level training activity of «Innovative PhDs with industrial characterization»*
  - 4.2 *ICT Health Sector*
  - 4.3 *Cloud Services Sector in the e-government of Public Administration (PA)*
  - 4.4 *Critical Infrastructure Sector*
  - 4.5 *Technology for Cultural Heritage Sector*

# 1. Structure and activity of ENR



ENR (The National Institution of Italy for Standardization Research and Promotion) is a private non-profit organization.

Its purpose is to contribute to the production and promotion of technical standards through the formation of Scientific Technical Committees and the systematic relationship with the main public and private institutions as represented on its Board of Directors.



## 1. Structure and activity of ENR

### 1.1 The technical standards

The *technical standards* are documents that define the characteristics of a product, process or service, according to the state of the art.

### 1.2 Properties of technical standards:

- Consensual, approved with the consent of those who participated in the work to draft them.
- Democrats, all the interested parties take part in the work to draft them and anyone has the right to make observations during the process of the last preparatory draft for final approval.
- Transparent, signaling the fundamental steps of the drafting of a technical standard, keeping the text itself available to the interested parties.
- Volunteers, the interested parties spontaneously impose themselves to adopt them.

## *2. The contribution of ENR:*

***ENR takes care of the whole process  
standardization.***

**To protect and support** users and consumers of goods and services and of producers, **in order to increase** their international competitiveness at international level.

### 3. How ENR works

- Identification of the need for standardization of a specific user base
- Collection of the first experiences on the merit domain
- Identification and formulation of general guidelines
- Establishment of a Technical Committee for users and manufacturers of the product / service to be standardized
- Writing of a first draft standard (of voluntary nature)
- Publication and presentation of the first draft standard and creation of *awareness* and *feedback*
- Promotion and dissemination of content and use of the standard
- Training of potential users of the standard

## **4. ENR operating areas**

### **4.1 Marine-maritime ICT sector**

#### **Maritime sector:**

**ENR**, which has its origins in the **RINA** Group, has concretized the systemic collaboration, stipulating a Framework Agreement, with **CETENA S.p.A.**, center of excellence and research naval of the **FINCANTIERI** Group.

It is a collaboration centered on the complementarity between two excellences of the marine-maritime sector in science and standardization as are the **FINCANTIERI** Group and the **RINA** Group in the industrial and certification field.

#### **Marine sector:**

**ENR**, carries out, in the field of Scientific, Technological and Innovation Research, collaboration with the largest public Italian research council in Italy, the National Research Council of Italy (CNR).

## ***Collaborations take the form tanks the joint participation in Blue Growth and the Big Cluster projects.***

### ***Maritime sector: ENR and CETENA S.p.A.***

- ***TECBIA - Technologies with low environmental impact for the production of energy on vessels***

The main aims of the Project, in collaboration with ***FINCANTIERI S.p.A.***, concern the development of low and zero emissions energy generation systems for naval applications, exploiting hydrogen technologies and battery electric accumulators.

- ***POSEIDON - Innovative products and processes for the development of a sustainable sea economy in Sicily***

The project, in collaboration with ***FINCANTIERI S.p.A.***, involves the study of a new sensor for environmental monitoring and the development of an interface and control electronics for the analyzed parameters.



### *Marine sector: ENR, CNR and CETENA S.p.A.*

- ***ARES - Autonomous Robotics for the Extended Ship***

The project, in collaboration with **CNR-ISSIA**, develops an integrated system with new marine robotic technologies, operating in various fields: emergency interventions for environmental disasters, defense support, installation and maintenance of energy extraction facilities from the sea.

- ***SI.NA.PO. - Navigation security in the Port area***

The Project, in collaboration with **CNR-ICAR**, provides for the creation of an intelligent and adaptive system to support decisions for the real-time reconfiguration of on-board systems in the event of a fault.

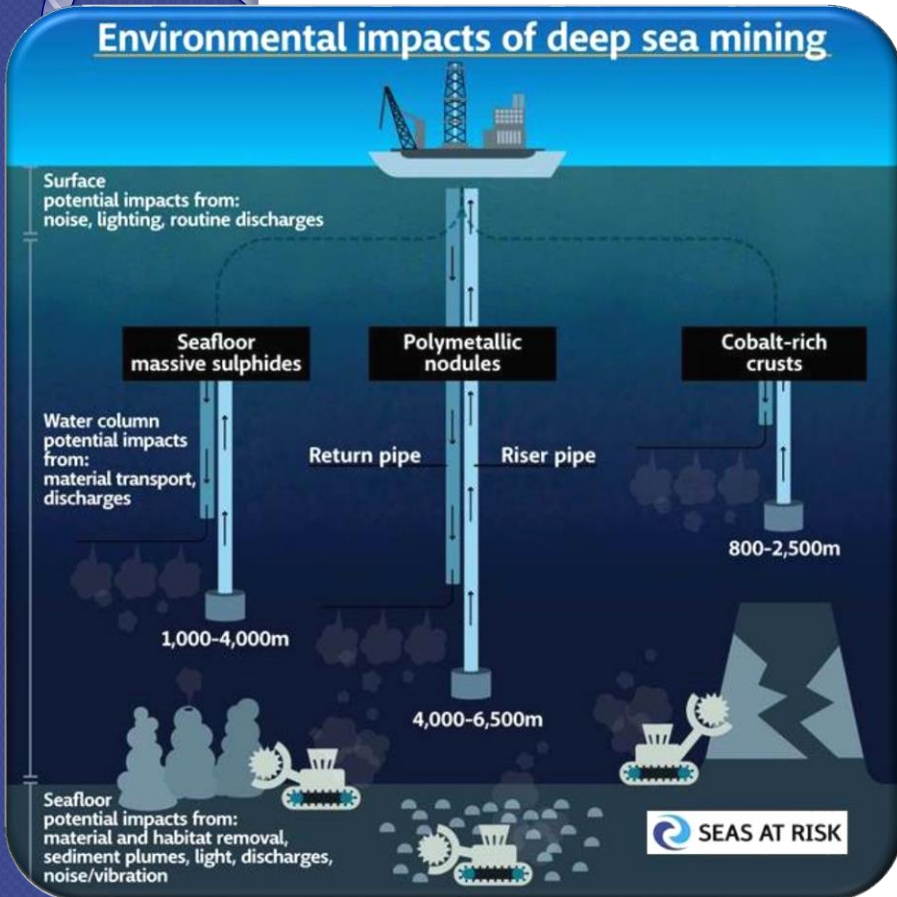
## *ENR promotes standardization with training in all sectors.*

It is site to several collaborations:  
the University of Genoa/DIBRIS,  
the International Telematic University UNINETTUNO,  
the University of Palermo and the ANESA-CD Society



*Promotes high education and scientific  
research by participating in  
«Innovative PhD with industrial  
characterization»*

## 4.1.2 Deep Sea Mining: ENR's high-level training activity of «Innovative PhDs with industrial characterization»



- **Project PON Research and Innovation 2014/2020: «Innovative PhDs with industrial characterization»**  
MIUR - University of Palermo-CNR IAMC

*Evaluation of the environmental impact related to industrial activities concerning the mining exploitation of the seabed (Deep Sea Mining, DSM)*



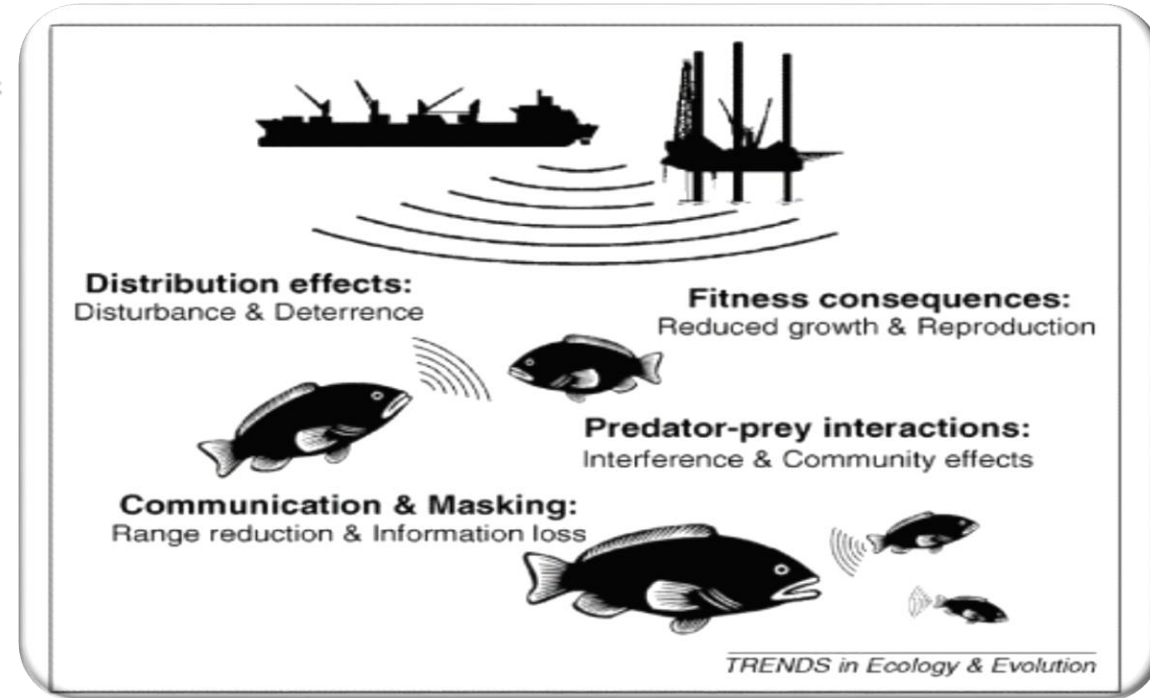
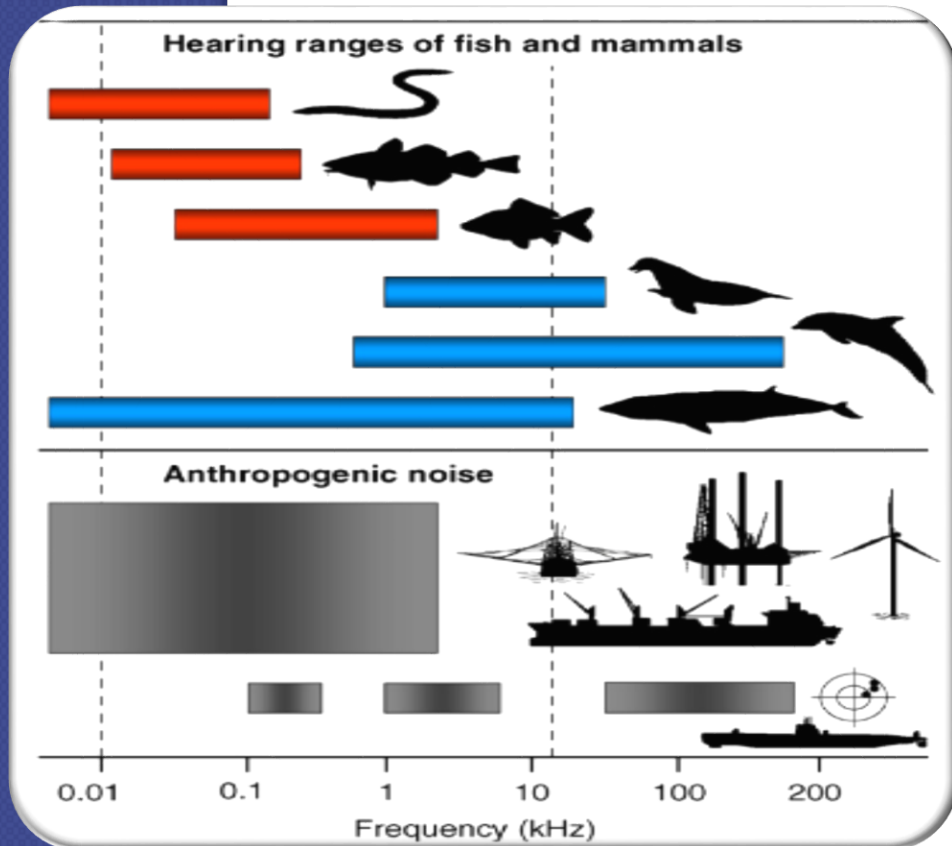
MINISTERO DELL'ISTRUZIONE DELL'UNIVERSITÀ E DELLA RICERCA



#### 4.1.2 Deep Sea Mining: ENR's high-level training activity of «Innovative PhDs with industrial characterization»

Mining activities will start in the near future and the possible impacts on ecosystems and biodiversity are not known.

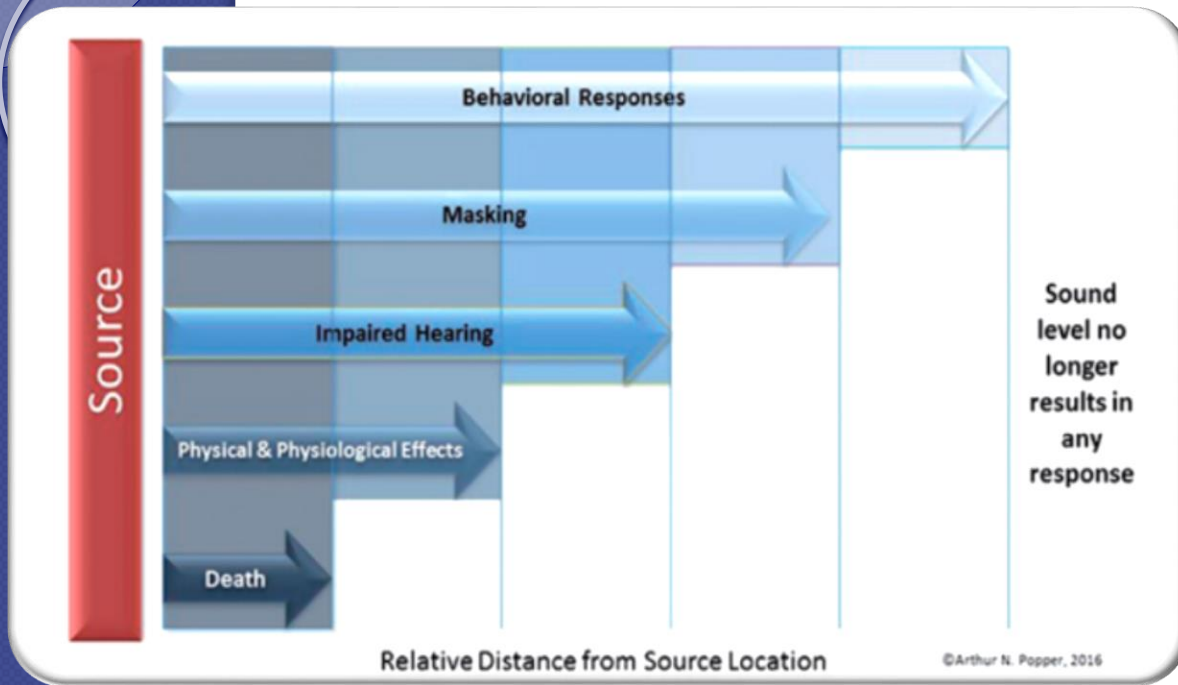
One of the possible impacts concerns **human noise**, now recognized as a real pollutant.



Anthropogenic activities increase noise levels in the aquatic environment.

The **anthropic noise**, moreover, presents emission frequencies similar or equal to those of the different marine species thus affecting their survival.



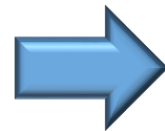


### Anthropic noise can have effects:

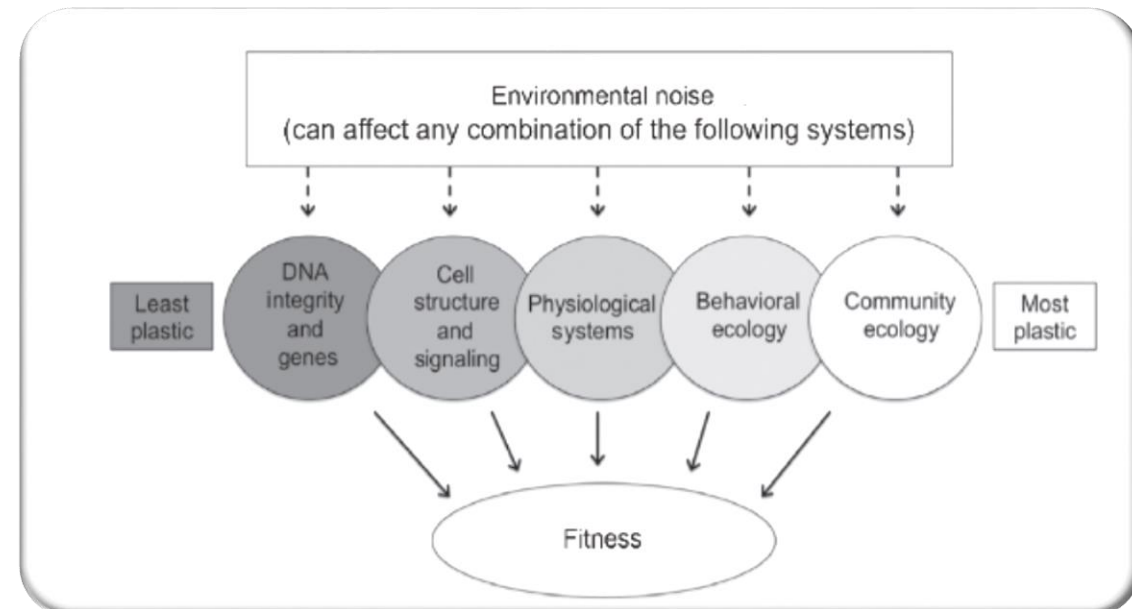
- physical and physiological on marine species
- masking the communication
- behavioral changes
- loss of hearing ability
- changes in swimming characteristics
- effects on fitness and reproduction
- cellular and molecular damages
- death

### What can we do?

- Studying, understanding and knowing the problem and its effects.
- Create norms or guidelines that allow a more respectful exploitation of marine biodiversity.



**ENR  
&  
UNIPA**



## 4.2 ICT health sector

- ***PRE.MED - PREcision MEDICINE***

The project, in collaboration with the *La Traccia Cooperative*, aims to develop an innovative and integrated platform for the predictive diagnosis of the risk of progression of chronic kidney disease, for targeted therapy and proactive patient care.

## 4.3 Cloud Services sector in the e-government of Public Administration (PA)

- ***Pa@Cloud (project @GCloud) – Pre-Commercial Procurement***

The project aims to improve the effectiveness and efficiency of the local public administration system in the *Convergence Regions*, through the development of new ICT technologies with a view to transparency, simplification and cost containment for citizens and businesses.

## *4.4 Critical Infrastructure Sector*

- *MAS - Maritime Security and Anti-Terrorism System*

Project aimed at the protection of Critical Infrastructures from terrorist attacks, through integrated anti-intrusion security systems for the monitoring of maritime infrastructures such as ports, harbors, LNG (*Liquid Natural Gas*) terminals and power plants with outlet to the sea.

## *4.5 Technology for Cultural Heritage Sector*

- *TECLA - NanoTechnologies and nanomatErials for the CulturaL assets*

The project, in collaboration with the *Department of Energy, Information Engineering and Mathematical Models* (DEIM) of the University of Palermo, exploits the potential of nanotechnologies by developing new materials, nanomaterials and devices for consolidation, protection and cleaning and the fruition of Cultural Heritage.

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