



# ***The regulation of occupational radon exposure in Spain***

**Marta García-Talavera**





# Outline

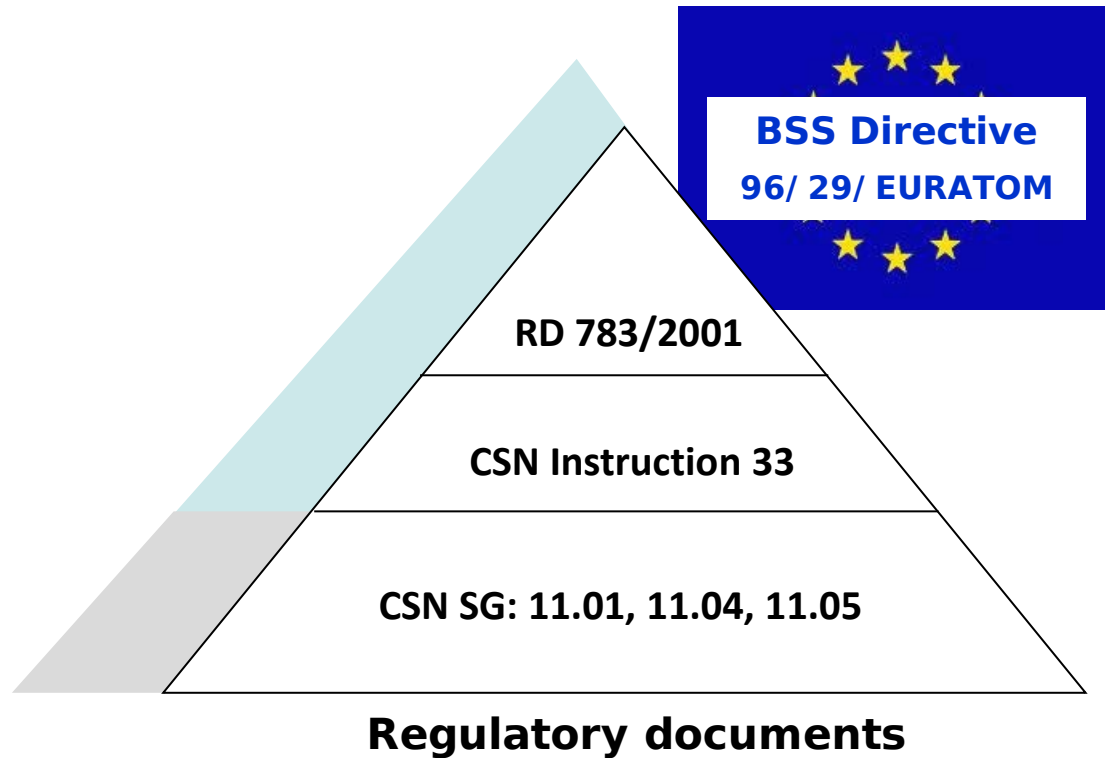
1. Introduction
2. Regulatory framework
3. Compliance
4. Revision and new strategy
5. Conclusions

# Spain Facts



- ❑ 47,190,493 inhabitants
- ❑ Diverse geology: western Hercynian and eastern Alpine areas
- ❑ Decentralised administrative structure
- ❑ CSN regulatory and technical body responsible for nuclear safety and radiological protection

# Legislative Framework



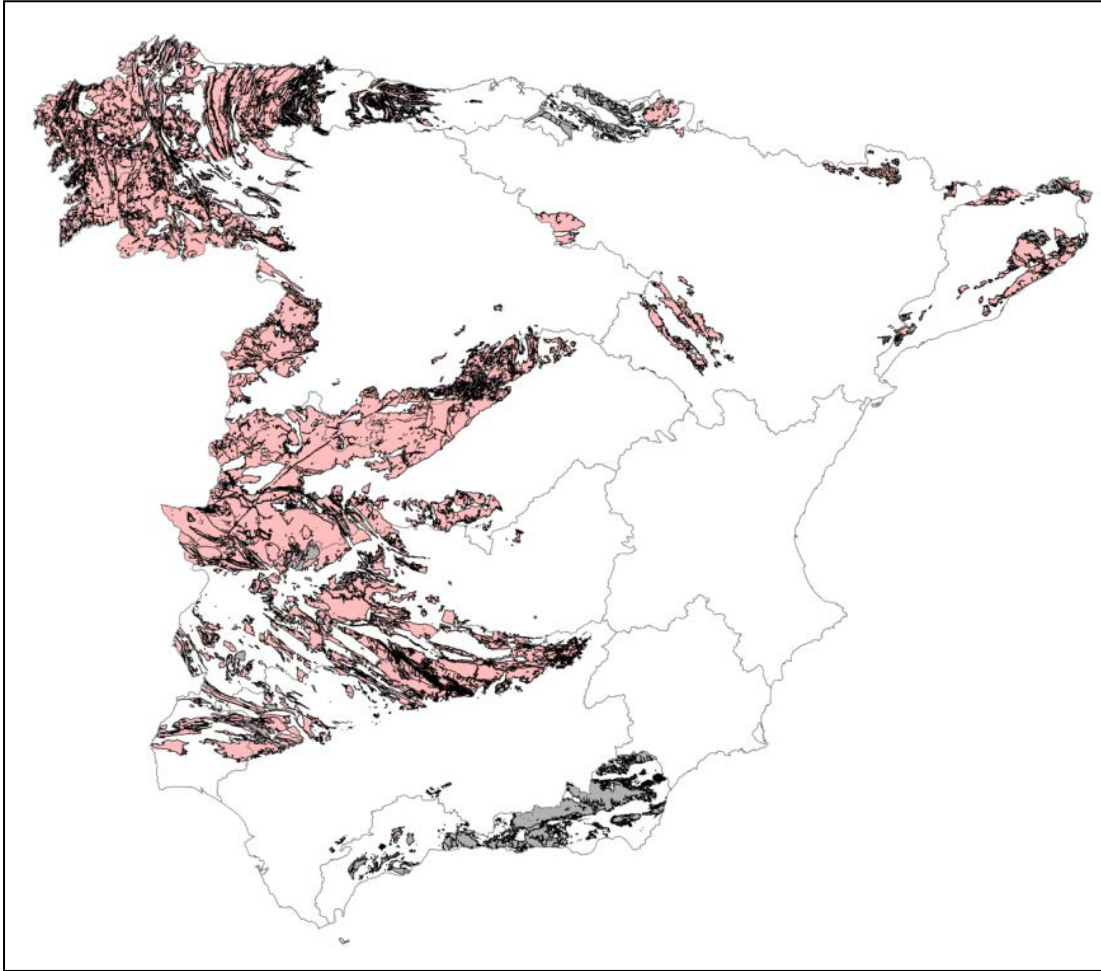
# RADON PROTECTION AT WORK

## CSN IS-33 (2012)

- ❑ Reference level : 600 Bq/m<sup>3</sup>, or 300 Bq/m<sup>3</sup> at residential workplaces and schools
- ❑ Graded approach to regulation: 1000 Bq/m<sup>3</sup>
- ❑ Mandatory registration and risk evaluation at workplaces:
  - below ground
  - containing a groundwater source
  - at radon-prone areas (not yet effective)



# RADON-PRONE AREAS



*García-Talavera et al. (2013), J Radiol Prot 33(3):605–20*

# CRITERIA FOR LABORATORIES & SERVICES

**CSN SG-11.01 (2009)**

**CSN SG-11.05 (2014)**

Accreditation to ISO/IEC 17025



Authorisation to carry out radon studies



UPC Radon Chamber

**CSN SG-11.04 (2012)**

Methodological guidance for studies conducted under Title VII (RD 783/2001)

# Compliance



**Below-ground workplaces**

Showcaves



**WP with a groundwater source**

Spas



- ❑ Best compliance achieved when business associations got involved in dissemination (information days, articles in their members' magazines)







**CSN** +

**Regional  
Governments**



- ☐ Personalised letters to employers (awareness of moral and legal responsibilities and practical information)
- ☐ Providing free personalised advice
- ☐ Well-publicised inspection campaign

- ❑ Legal obligation for testing only on some employers. Promotion of **SELF-REGULATION**

Voluntary 'low-radon' programme for schools & nurseries



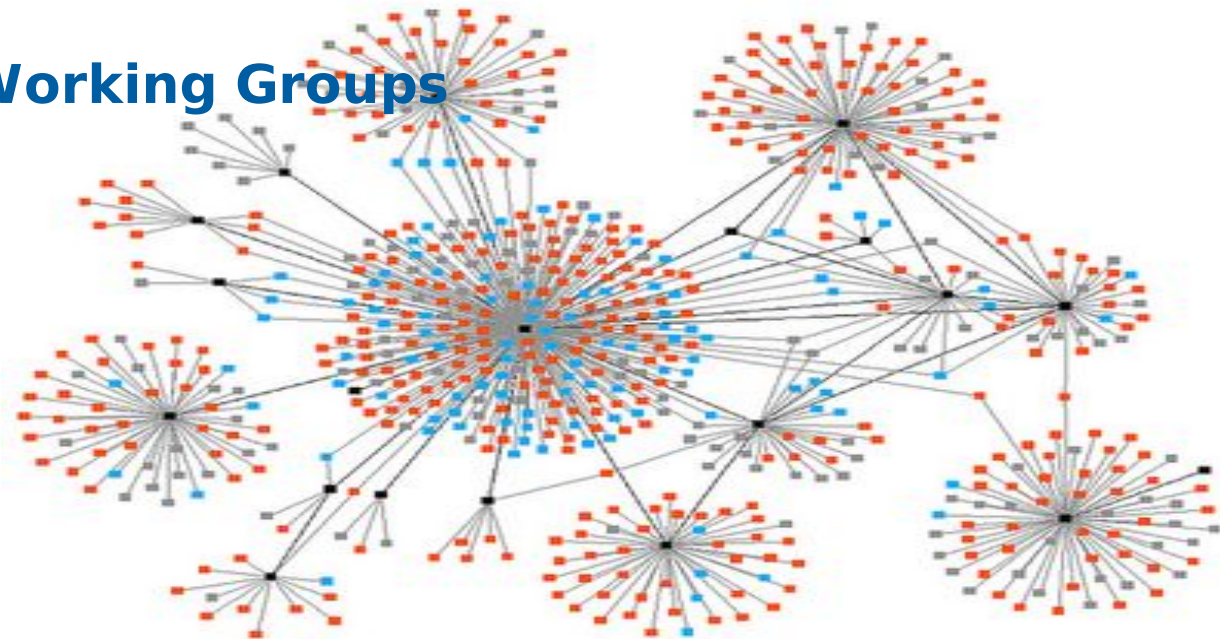
- ❑ In general: Develop other systems in support of the outside control by Government

# Revision and new strategy

**Directive 2013/ 59:** Establishment of a Committee bringing together the regulators and the key stakeholders at the national, regional and local levels

**Main past failures:** Little stakeholder involvement in the regulation-making process; Lack of political will

## Technical Working Groups

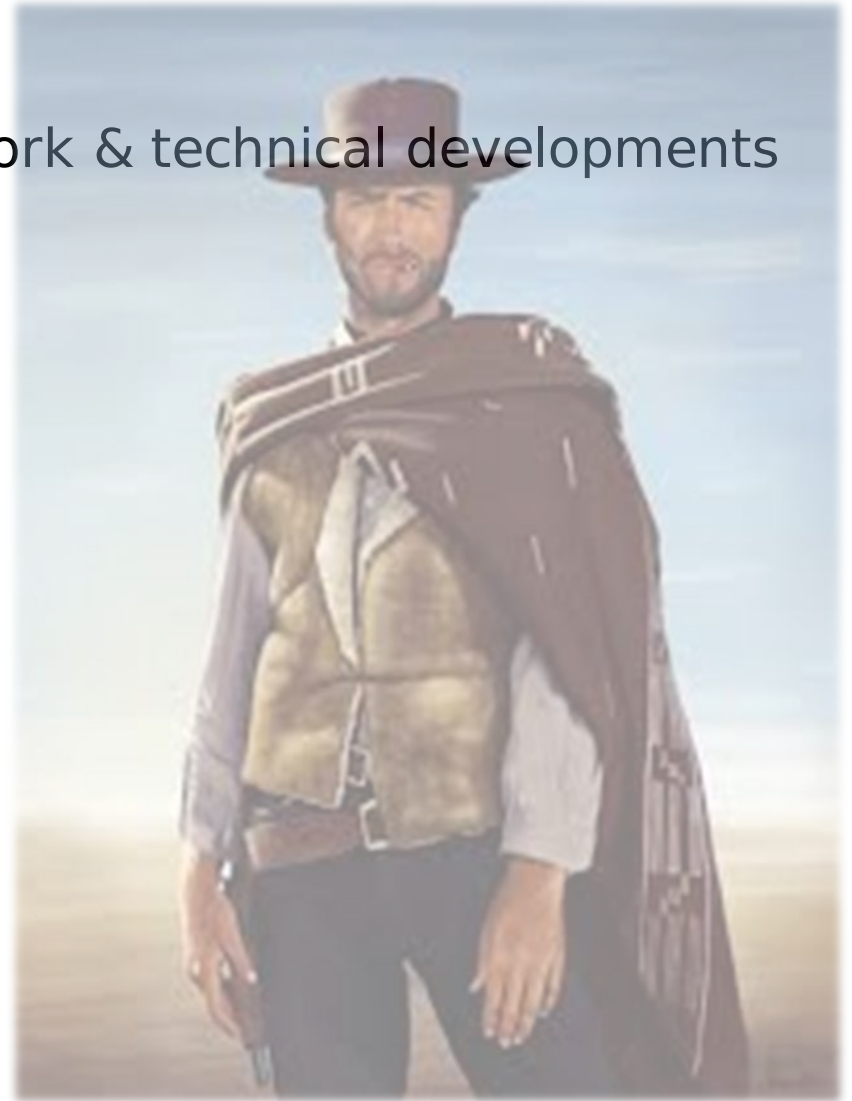


# Conclusions

**The Good**—Regulatory framework & technical developments in support of it

**The Bad**—Workers at risk

**The Ugly**—Poor compliance



## The solution

- ❑ Broaden the scope. Stakeholder involvement
- ❑ New instruments and policies to boost compliance (economic incentives; mechanisms for workers' participation; employer's awareness; promotion of voluntary measures)



A black and white photograph of a very crowded city street, likely Times Square in New York City, with many pedestrians walking in various directions. The street is lined with tall buildings and numerous commercial signs, including 'ANIL', 'SPORT NO', 'Aire', 'JEWELRY', and 'SIX'. A large, white, semi-transparent plus sign is overlaid on the right side of the image, centered vertically. The overall scene conveys a sense of a busy, densely populated urban environment.

**Raise radon awareness within society**

# Thank you very much



**Consejo de Seguridad Nuclear**

**[www.csn.es](http://www.csn.es)**

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## Key points for discussion

- ❑ Different concept of referent level in ICRP Publication 103 and in Directive 2013/59/EURATOM. Role of optimisation
- ❑ Strategies and instruments to ensure compliance
- ❑ Inspectorates' actions and effectiveness
- ❑ Civil liability in relation to breaches of legislation on radon at the workplace