



European Nuclear Safety Regulators Group

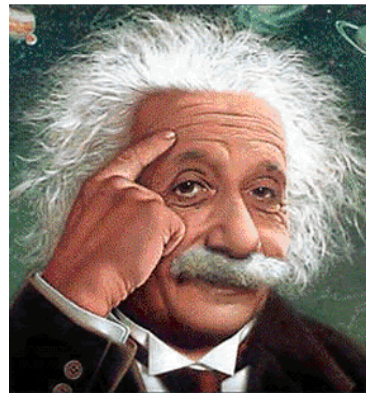
# ENSREG Contribution to Perfection, Confidence, Doubts and Trust

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It is only about a century since we  
know that

$$E = m c^2$$



It is about 73 years since the first mass  
was converted into energy by man



The experimental apparatus with which [Otto Hahn](#) and [Fritz Strassmann](#) discovered nuclear fission in 1938 © Wikipedia

In the mean time we have accumulated over  
**14,000 reactor/years of experience**  
in more than  
**560 power generating reactors**  
around the World.

Produced electricity is contributing to the well  
being of our Society

But, there is no free lunch!

- Converting mass to energy is risky and not simple!



- We don't want the beneficial power production to become a nightmare!



## Perfection

**Perfection** is, broadly, a state of completeness and flawlessness.

- To keep our nuclear power plants operate safely, we need **perfection**:
- Perfection in the design
- Perfection in the construction
- Perfection in the operation

## Confidence

**Confidence** is generally described as a state of being certain either that a hypothesis or prediction is correct or that a chosen course of action is the best or most effective.

- Perfection we can achieve through **confidence:**
- Confidence in our knowledge
- Confidence about received information
- Confidence in our decisions and actions

## Doubt

**Doubt**, a status between belief and disbelief, involves uncertainty or distrust or lack of sureness of an alleged fact, an action, a motive, or a decision.

- To assure proper confidence and avoid unjustified self-confidence of everybody involved in nuclear industry, a healthy **doubt** is needed.
- Regulators are doubting about operators
- Media is doubting about the whole industry

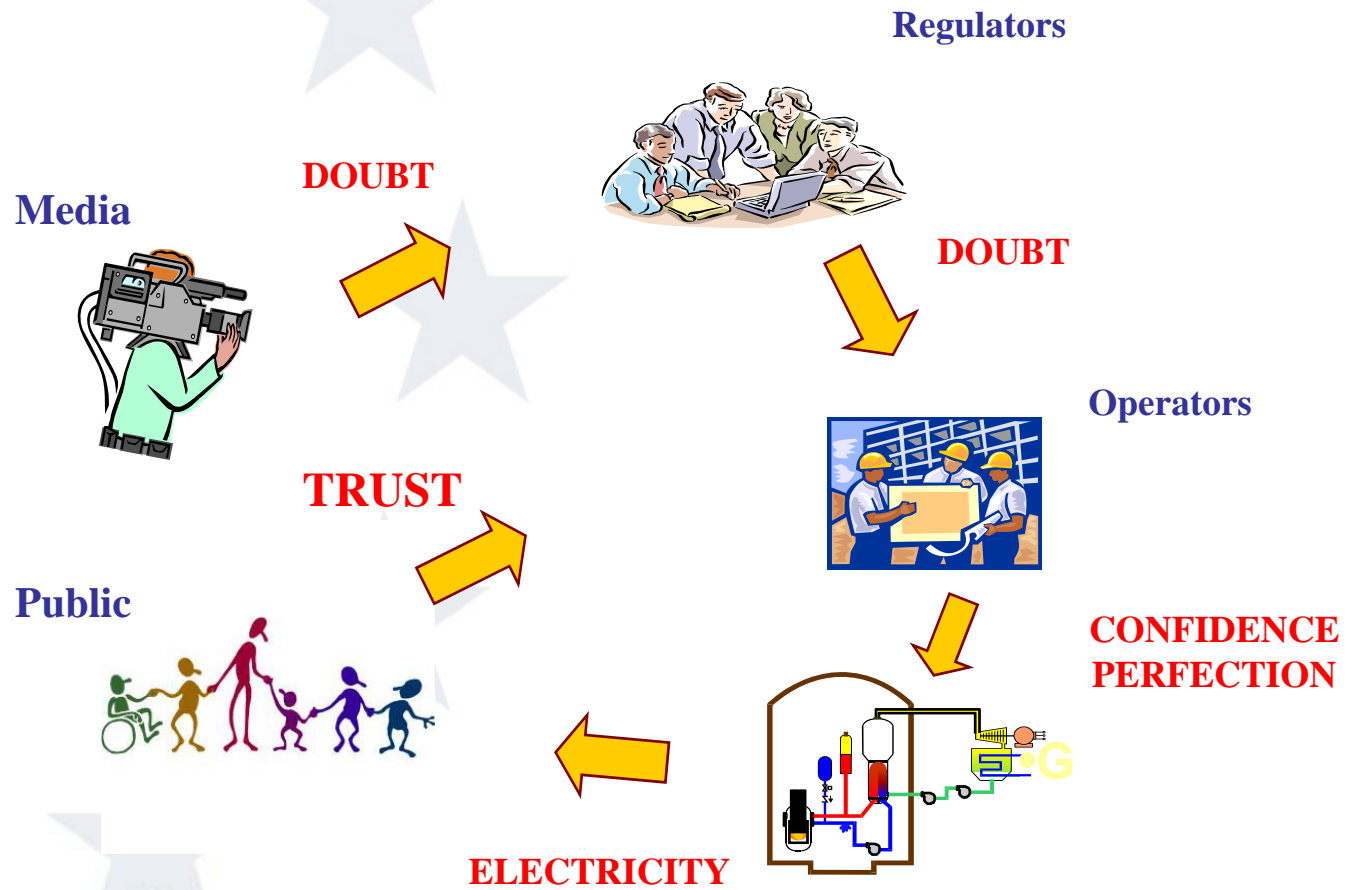




## Trust

**Trust** is assured reliance on the character, ability, strength, or truth of someone or something.

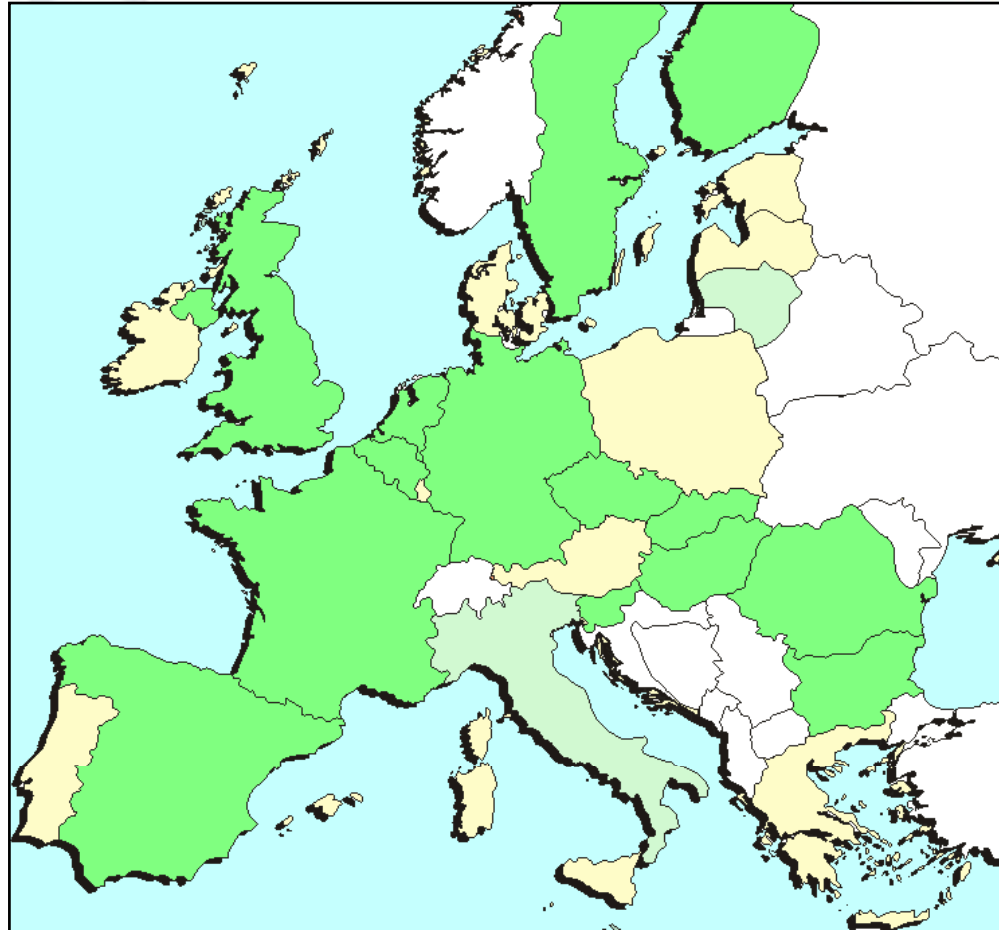
- With sufficient assurances about perfection, enough **trust** will be there in the public



## What is regulation all about?

- The regulators are permanently **doubting** about the perfection of operators.
- By that operators are forced to improve **confidence** and **perfection**
- With the perfection the mass could be transformed into energy **safely**
- With such permanent healthy challenging process a **trust** can be created in public about this source of energy

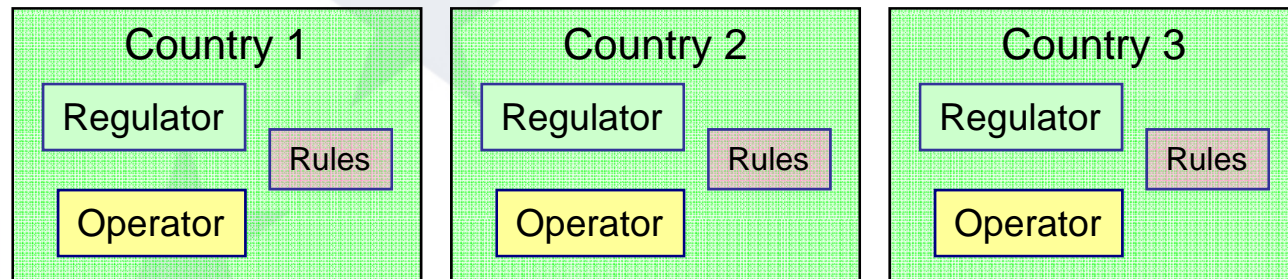
## European Scene



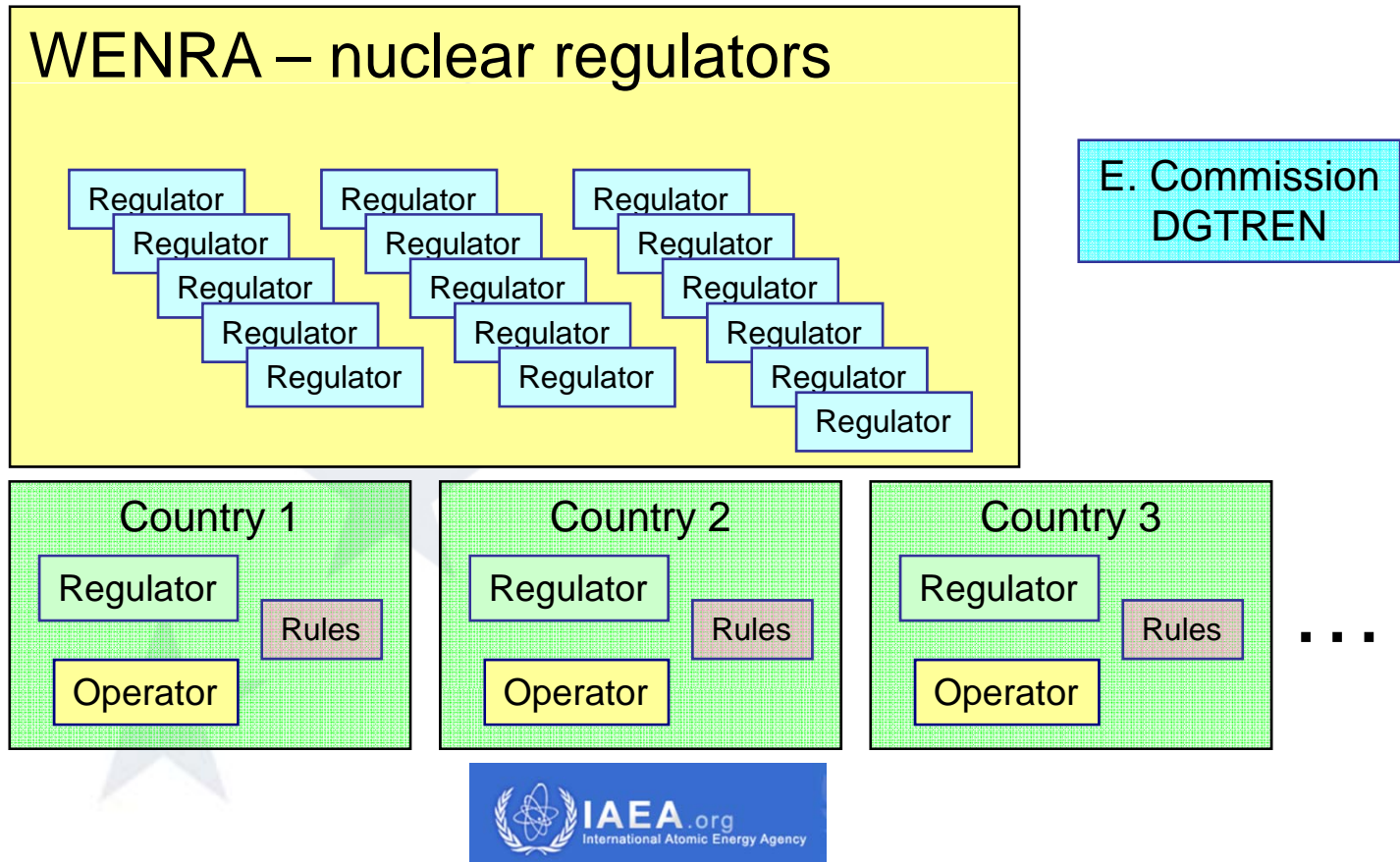
- Almost 150 operating NPPs in 14 EU member countries,
- producing ~1/3 of all electricity in EU

# Before 2000

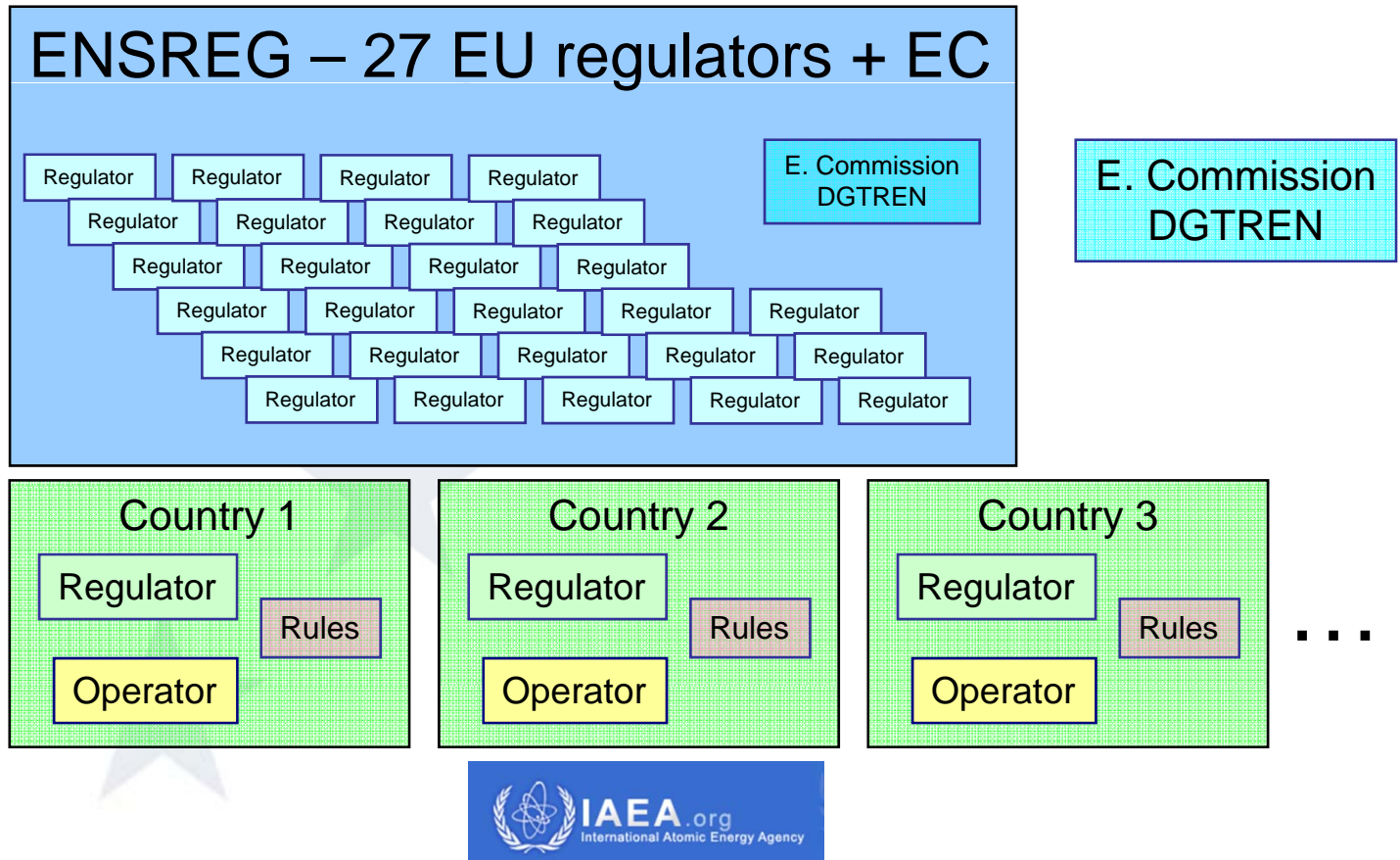
E. Commission  
DGTREN



# WENRA – a voluntary club



# ENSREG – politically established in 2007



## What is now better?

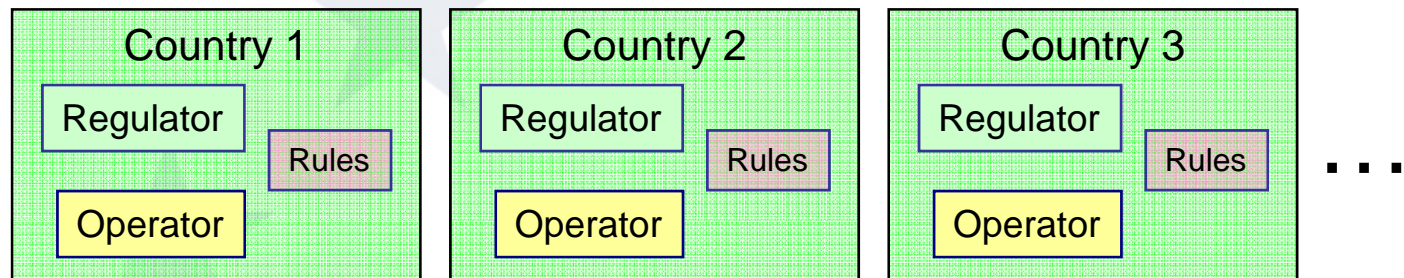
WENRA – nuclear regulators

ENSREG – 27 EU regulators + EC

WENRA Reference Levels

E. Commission  
DGTREN

Nuclear Safety Directive, RW Directive,  
Stress Tests





## What is now better?

- Better communication between regulators
- Better understanding between the Commission and the States
- Gradual harmonisation of rules
- Simpler environment for operators
- More about the work of ENSREG in next presentations

## A Challenge!

- Lack of **Perfection**
- **Trust** is gone
- What is with the **Confidence**?
- **Doubts** are very high!
- **We have a lot to do to regain them all!**

