Attracting & Developing New Nuclear Talents: Know-Why or Know-How?

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ENEN: European Nuclear Education Network

ESTABLISHED in 2003

Steady support by European Commission through projects

OBJECTIVE

the **preservation** and further **development** of expertise in the nuclear fields by higher Education & Training.

ACHIEVEMENTS

- Exchange of information, best practices, teachers and students
- Voluntary accreditation in academic education (QA/QC)
- Coordination of projects of mutual interests (~1MEUR/year)
- Coordination of Education, Training, Knowledge Management) activities among different NUCLEAR knowledge communities
- **Facilitating communication & cooperation between nuclear stakeholders**
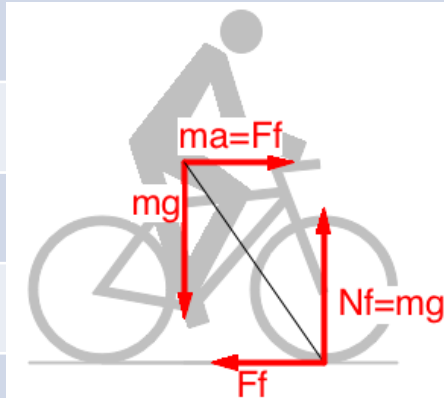
ENEN Members in 2018

76 Members from 25 Countries:
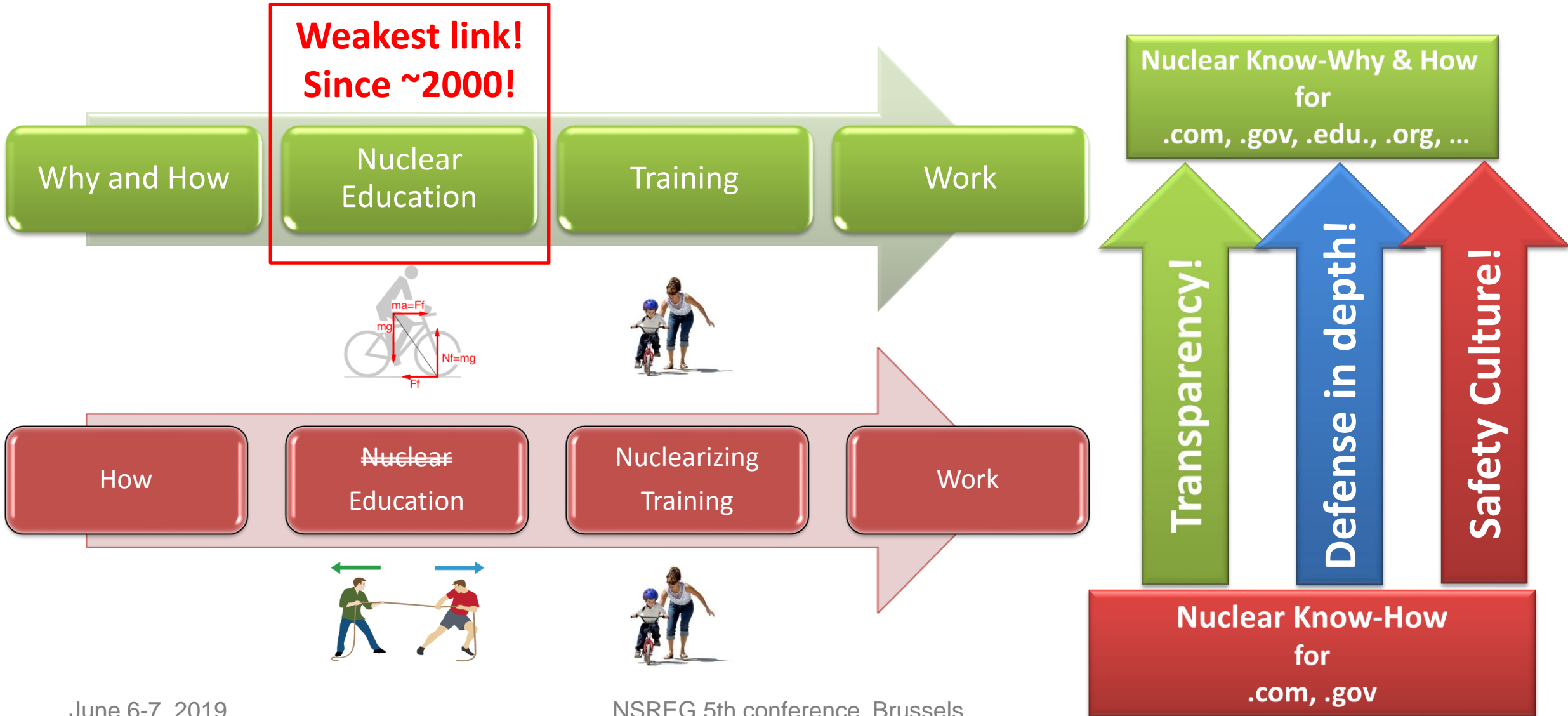**5 Research Centers, 9 Companies, 48 Universities, 1 TSO and 9 international institutions**

Attracting new nuclear talents

Know-Why	Know-How
Education, knowledge	Training, skills,
Research, curiosity	Experience, need
Academia, problem(s)	Industry, regulators, solution(s)
Creativity	Protective (IP, best practices)
Innovative	Conservative
Learns through errors	Precludes errors
OPEN, TRANSPARENT	CLOSED
Difficult:	**Easy:**
Strategic planning, communication, cooperation	Market (& regulations) driven
Long term investments (.gov & .com)	

In the center image: $ma=Ff$, mg, $Nf=mg$, Ff

Classic talent attraction pipelines

Weakest link! Since ~2000!

| Why and How | Nuclear Education | Training | Work |

$$ma=Ff$$
$$mg$$
$$Nf=mg$$
$$Ff$$

| How | ~~Nuclear~~ Education | Nuclearizing Training | Work |

Nuclear Know-Why & How for .com, .gov, .edu., .org, …

Transparency!

Defense in depth!

Safety Culture!

Nuclear Know-How for .com, .gov

Principal future talent attraction pipeline

stronger support needed!

| Why and How | Nuclear Education | Training | Work |

$ma=Ff$
mg
$Nf=mg$
Ff

How | Nuclear Education | Nuclearizing Training | Work

Nuclear Know-Why & How for
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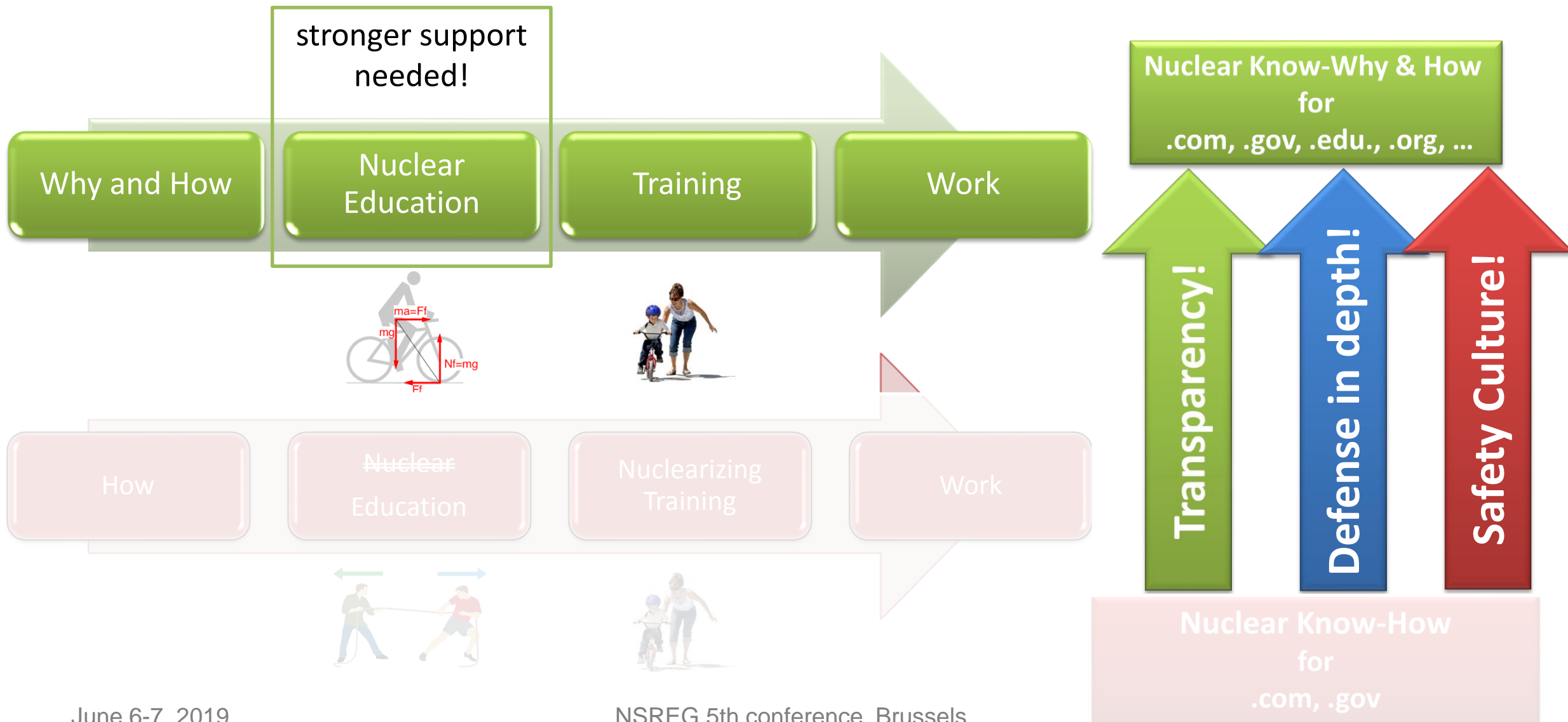
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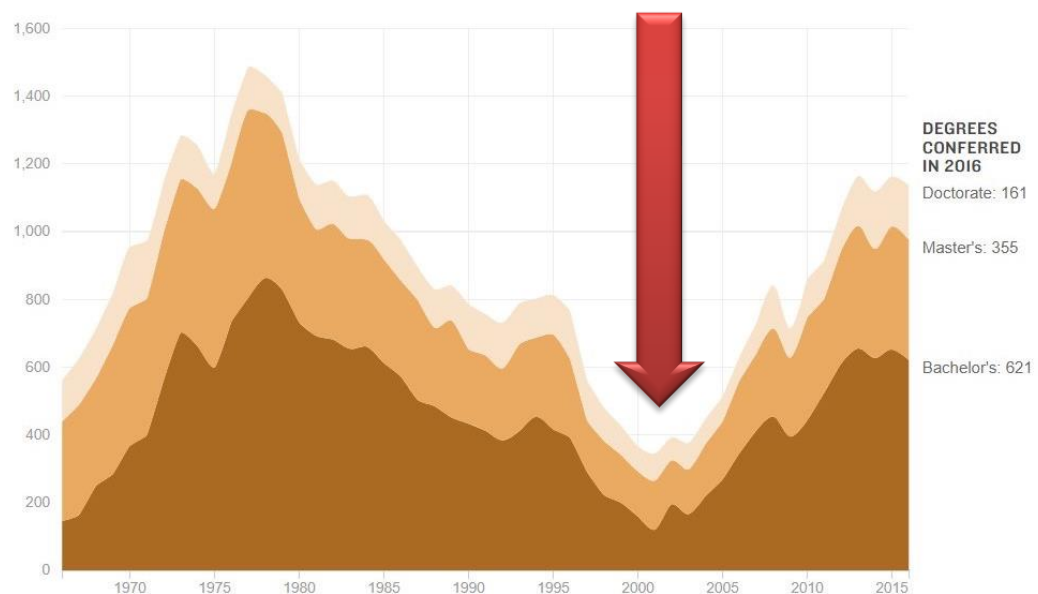
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Do we need nuclear higher education?

Nuclear engineering degrees conferred

EU: snapshot 2010 (only!)

DEGREES CONFERRED IN 2016
Doctorate: 161
Master's: 355
Bachelor's: 621

Notes: Dates shown reflect the end of the academic year

Source: *Oak Ridge Institute for Science and Education: Nuclear Engineering Enrollments and Degrees Survey*

European Commission
DG-JRC
European Human Resource Observatory

EHRO-N

Nuclear 16%

Nuclearised 74%

Nuclear-aware 10%

38% Technicians
35% Engineers
27% Other graduates

Education

Training