



# The Centre of Excellence - ANitA

Academic-industrial Nuclear technology Initiative to Achieve a sustainable energy future

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VATTENFALL



uni  
per

fortum



Studsvik



Energimyndigheten



# Why?

Planability, capacity and extremely small environmental and climate footprints mean that nuclear power represents the fastest and cheapest way to achieve a commercially viable transformation of society.





# Why?

Current nuclear technology is said to be expensive, but is it in terms of capacity, availability and life span?

Can nuclear power be made more adapted to a volatile public debate and thus increase the willingness to invest?



# Why?

## Small modular light-water reactors (SMR)

1. On the threshold of commercial utilisation → Quick realisation
2. High-driven standardization → Type approval
3. Factory manufacturing → Large series
4. Small → Can be placed where the needs are
5. High scalability → Flexibility
6. Extended use → Process steam, district heating, hydrogen production...



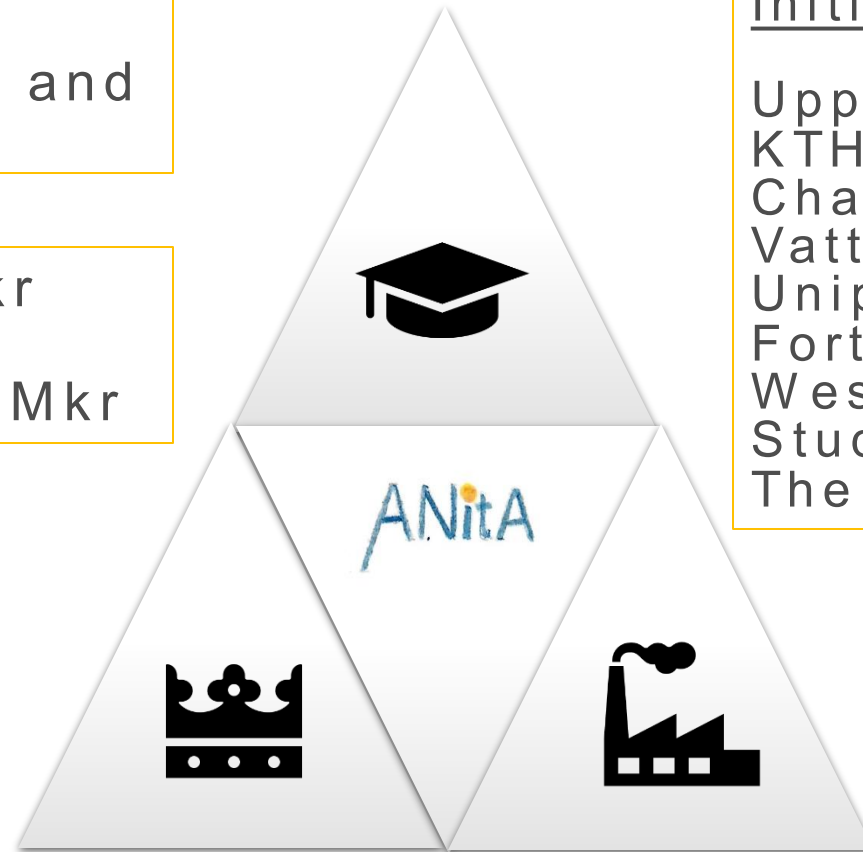
Drastic reduction of cost and time and offering highest flexibility in the energy system.



# How?

Gathering technical and non-technical nuclear expertise in academia and industry

Energy Agency: 25 Mkr  
Academy: 25 Mkr  
Industry: 21 Mkr + 10 Mkr



## Initial partners

Uppsala university  
KTH  
Chalmers  
Vattenfall  
Uniper  
Fortum  
Westinghouse  
Studsvik Nuclear  
The Swedish Energy Agency



# What?

## Initial research portfolio

- The Swedish context
- Nuclear fuel technology
- Legislation and regulations
- Industrial processes
- International nuclear safeguards
- Reactor monitoring systems
- Security analysis
- Licensing processes
- Structural materials
- Recycling spent nuclear fuel

- 7 Ph.D. students
- 8 postdocs
- Academic and industrial project leaders and supervisors





# Overall goal

First commercial SMRs in place before the end of the decade

