

PROJECT

for introduction of small modular reactor (SMR) technologies in Ukraine



PROJECT PREMISES

Over the past ten years, a number of countries have focused on the development and implementation of small modular reactor (60MW-250MW) technologies that would meet such needs as:




- Safe and simple design
- Relatively cheap construction and decommissioning
- Short construction time
- Low operating costs and personnel error levelling
- Standardized fuel cells
- Power manoeuvring

The United States takes the lead in the development and implementation of small modular reactor technologies today.

INDIVIDUAL TECHNOLOGIES

BRIEF DESCRIPTION



	Nuclear safety level	The first licensing is ready	The first plant is ready	Nominal plant power	Term of plant construction	1MW construction cost
  	Core damage frequency (CDF) 10E-10	Q4 2020 (USA)	2023	60 MW module 60*12 MW	36 months	\$4.9 million
	Needs evaluation	Q2 2021 (Canada)	2025	160 MW	36 months	\$5.2 million
	CDF 10E-5	N/A	N/A	1,000 MW	96 months	\$6.4 million

PARTNERSHIP DIRECTIONS AND STAGES

REGULATORY

- ❖ Analyse national and international regulatory requirements for nuclear plant licensing
- ❖ Develop and update the licensing process roadmap
- ❖ Develop (specify and supplement) national regulatory requirements
- ❖ License nuclear plants in accordance with the updated legislation of Ukraine

TECHNOLOGICAL

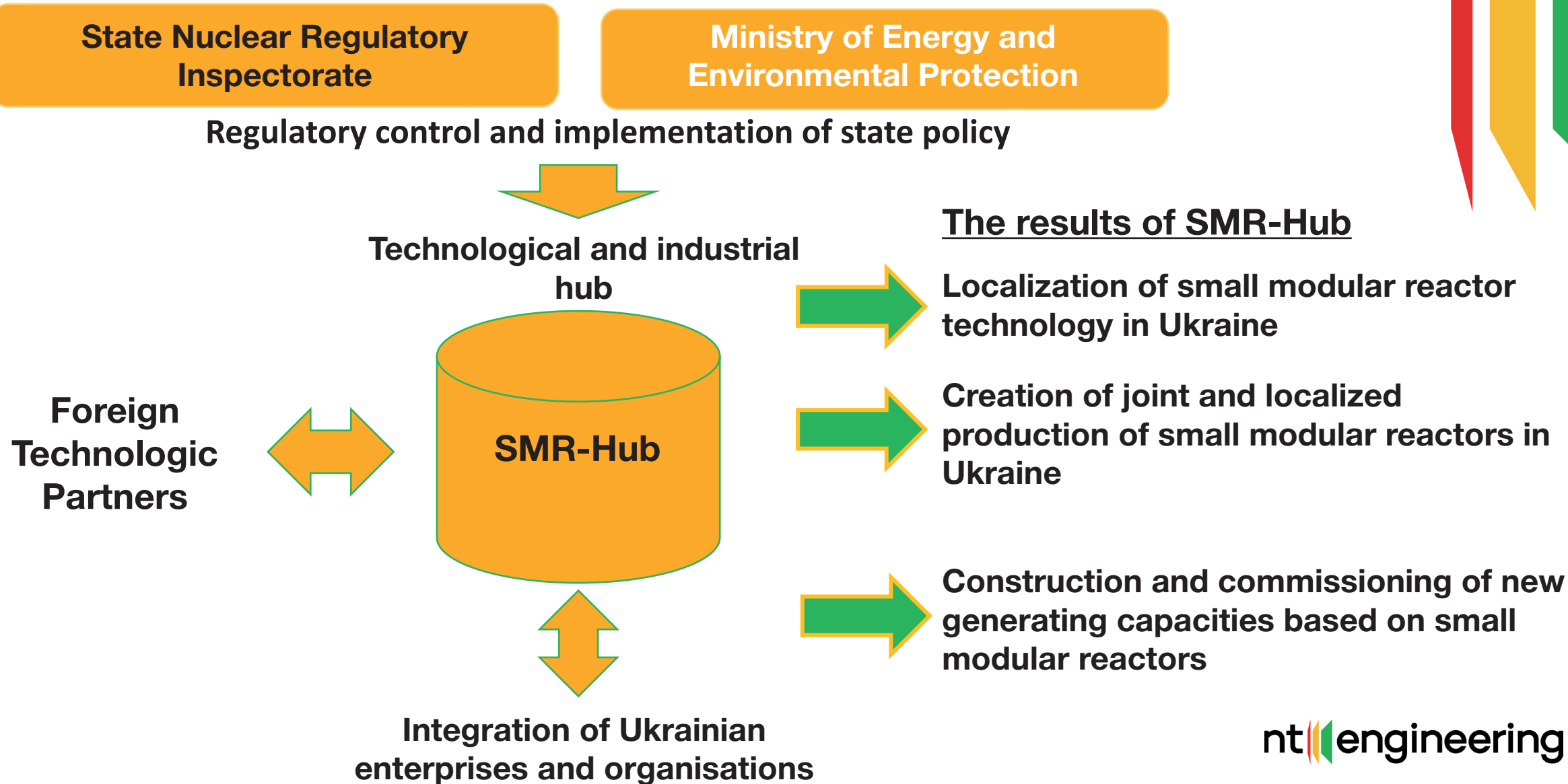
- ❖ Create a technological and production hub in Ukraine
- ❖ Form and implement a plan for partial localization of engineering works in Ukraine
- ❖ Form and implement a plan for partial localization of plant production in Ukraine
- ❖ Fulfil technological and production export potential

ECONOMIC

- ❖ Develop domestic nuclear energy sector and increase electricity exports
- ❖ Build economic partnerships with Ukrainian enterprises and include them in production chains
- ❖ Create a new branch of power engineering
- ❖ Develop related industries
- ❖ Fulfil technological and engineering export potential of Ukraine



PROJECT IMPLEMENTATION MODEL



EXPECTED RESULTS FOR UKRAINE

New economic drivers in the energy engineering and the power engineering sectors.

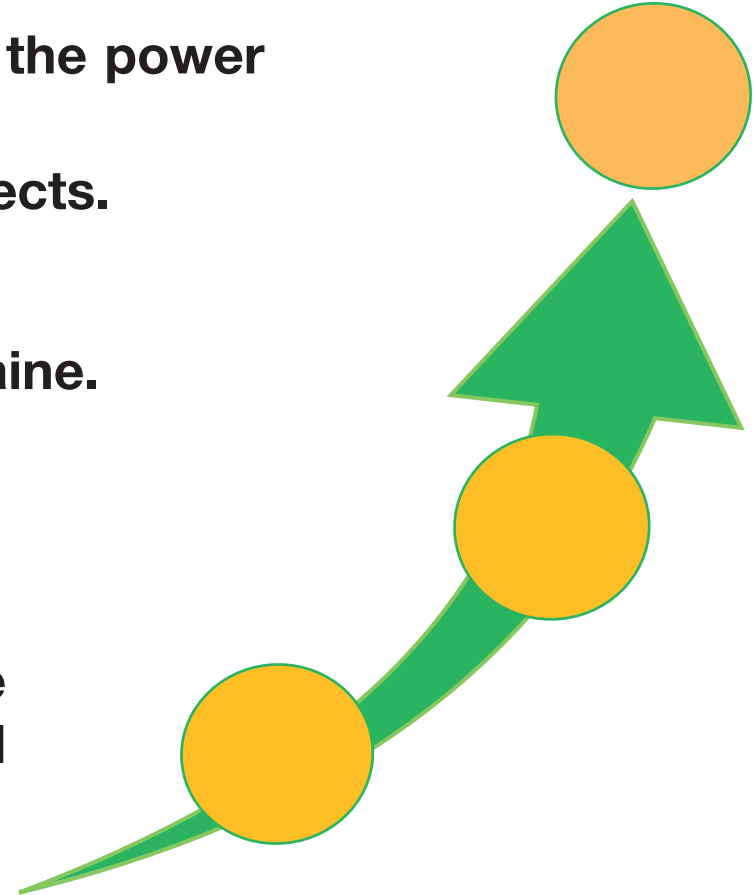
Higher investment prospects and new investment objects.

Expanded and modernised nuclear generation of Ukraine.

Bigger electricity exports.

New opportunities for effective manoeuvring.

Technological and industrial leadership of Ukraine and export potential in the technology, machinery and equipment sector.



FIRST STEP



East European Small Modular Reactor Workshop

October, 2020
Kyiv, Ukraine

The event is organised by the Government of the United States of America
represented by the Department of Energy with the participation of the
Argonne National Laboratory

Argonne 
NATIONAL LABORATORY
organizational support

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THANKS FOR YOUR ATTENTION

Vitalii Demianiuk
demianiuk@nte.com.ua
+380675029776
www.nte.com.ua