



РОСАТОМ



ТОПЛИВНАЯ КОМПАНИЯ РОСАТОМА

ТВЭЛ

JSC TVEL – Russian nuclear fuel fabricator

Fuel Company: prospect of international cooperation in the field of NF

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Prerequisites of international cooperation in the field of NF

Commercial

New markets penetration, new products development

Economic efficiency rise

Diversification of fabrication capacities per net costs

Reduction of logistics costs

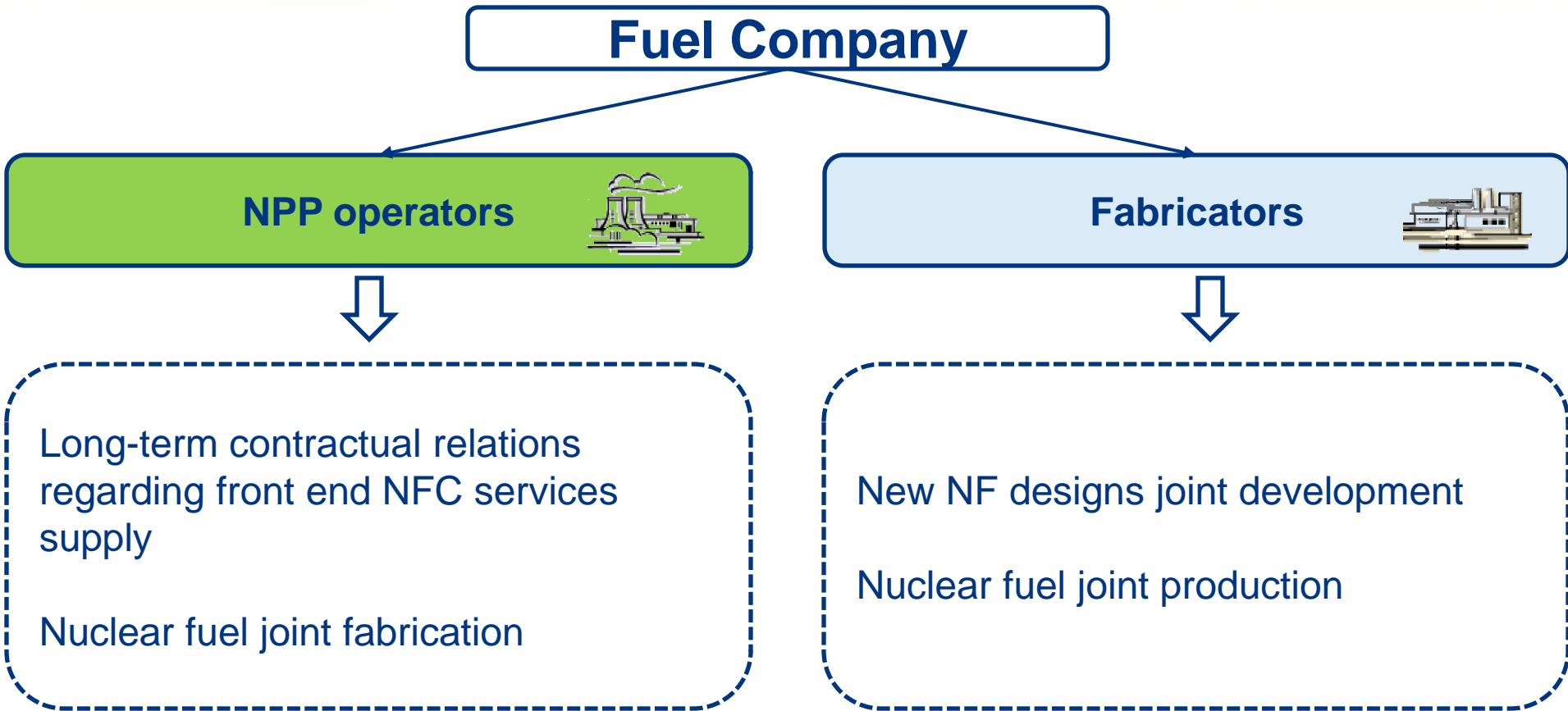
Non-commercial

Security of supply

Creating of opportunity for technology diffusion

Contribution in non-proliferation of dual purpose technologies

Fuel company's proposals on international cooperation



The Fuel company is prepared to any form of mutually beneficial cooperation with all interested parties

Long-term contractual relations

Main advantages of long-term contractual relations:

For NPP operators

Security of nuclear fuel supply

Priority in acquiring new nuclear fuel modifications

Competitive deliveries of NFC services

For the Fuel company

Concentration of investments in fuel R&D



NF production jointly with operators

Possible cooperation schemes

Fuel company's shares acquisition

Reimbursing NF expences through dividends

Expansion of quality control

Additional supply guarantees

Purchase of technologies

Independence in plant equipment acquisition

Independence in plants management

100-% responsibility for operational results

Joint ventures

Capital expenditures distribution

NF joint marketing in third world countries

Ensuring of EUP and component production

Joint R&D of fuel

Possible cooperation schemes

On the basis of Russian technologies

Joint development of new NF types for PWRs basing on TVS-KVADRAT design



Enhanced portfolio

Entering new NF market segment for fabricators without their own PWR fuel design

On the basis of partners' technologies

Improvement of partners' NF design using scientific potential and innovations of the Fuel company



Diffusion of technologies

Distribution of R&D expences

Joint NF marketing

NF production jointly with fabricators

Possible variants of cooperation

At Russian plants

NF fabrication
for EU market at MSZ
For Asia-Pacific market at NCCP

Fabrication sites close to the target markets

Commercially beneficial terms and
conditions for cooperation

Ensuring of EUP

At partners' plants

Russian design NF fabrication at
partners' plants

Additional workload for plants

Logistic costs reduction

Ensuring of EUP

Advantages of the fuel company for international cooperation

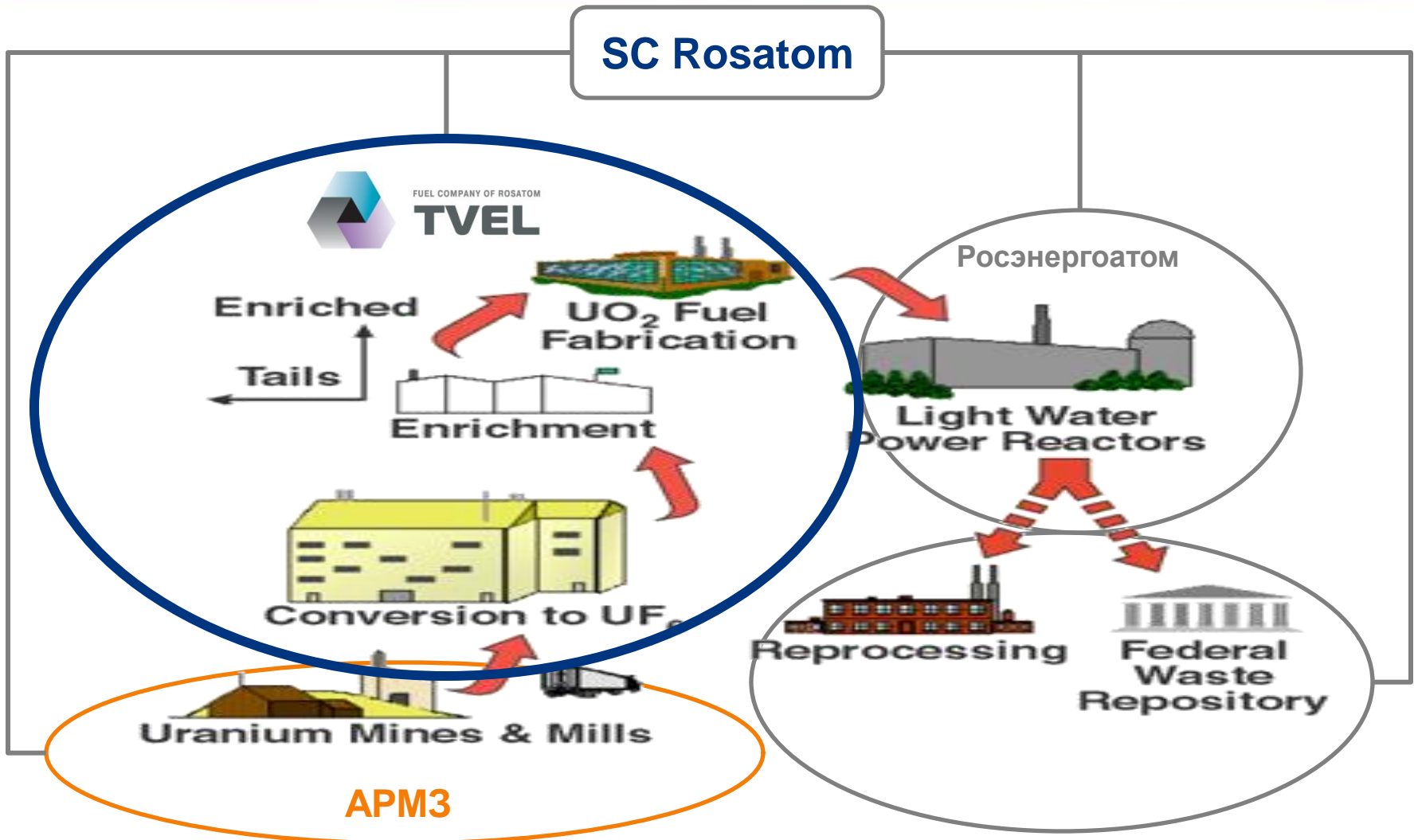
Main stages of NFC within the framework of the Fuel company

Competences in NF fabrication for all LWR

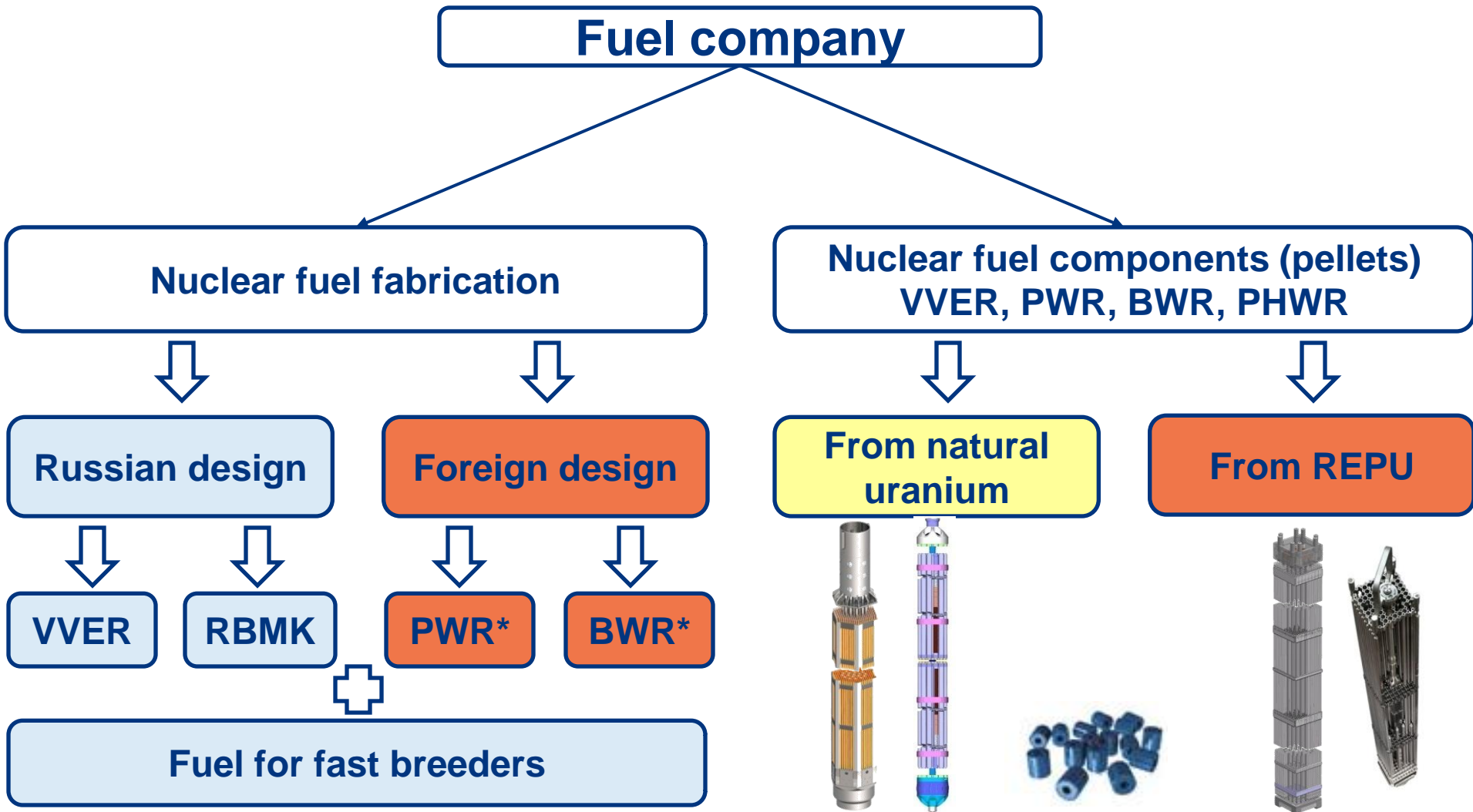
2 fabricating facilities in different parts of the World (Asia and Europe) with reserve capacities

Significant scientific potential

Main NFC stages within the framework of the Fuel company



Competence in NF fabrication for all types of LWR



2 FAs fabricating facilities in different parts of the World (Asia and Europe)

*Total capacity(pellets)
1800 t.h.m./year*

1. Fabrication of fuel for Russian design power reactors.
2. Fabrication of fuel for PWR and BWR of Western Europe.
3. Fabrication of fuel for research reactors.

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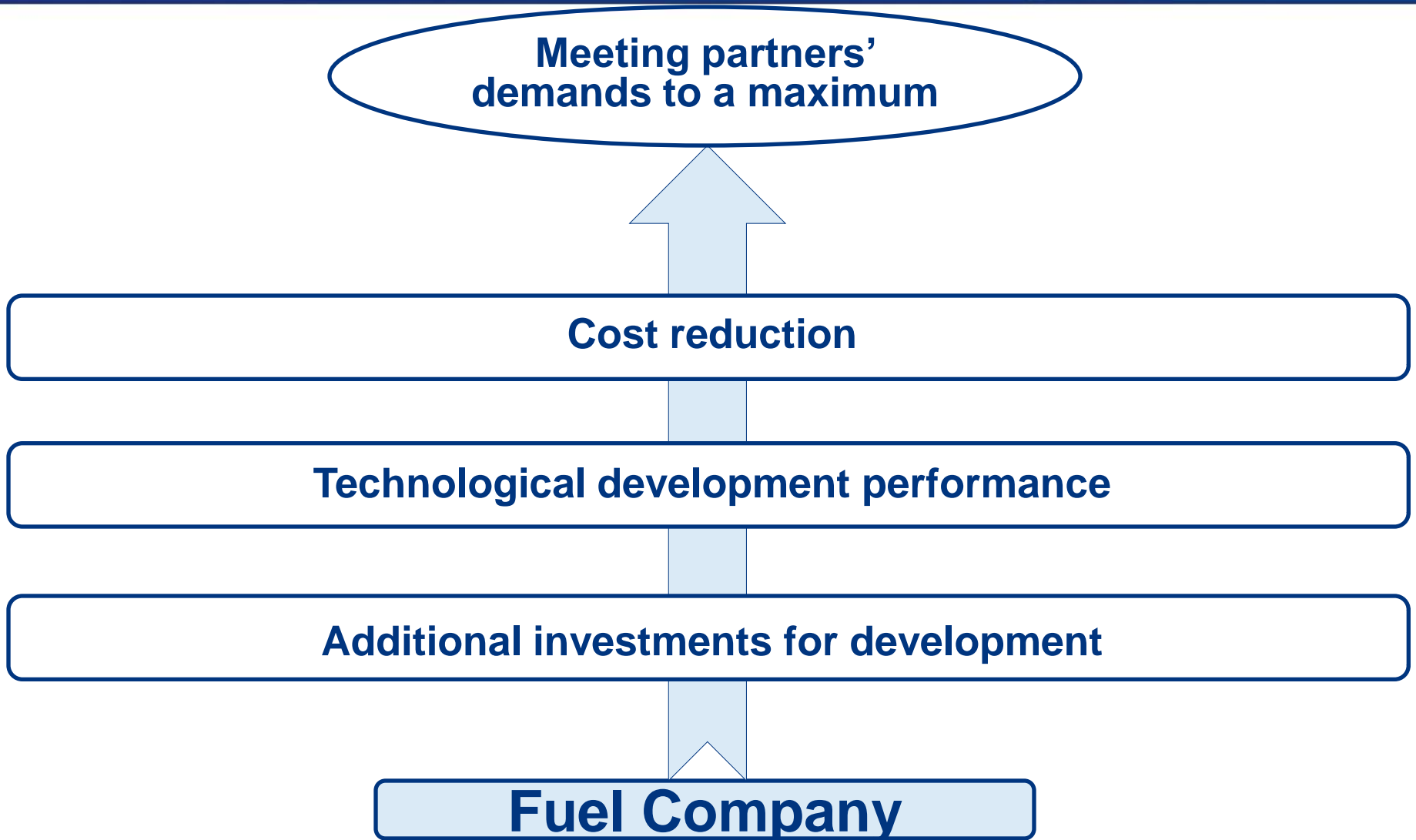
Europe

MSZ

NCCP

Countries of Asian-Pacific Region

Enhanced abilities of the Fuel company



Successful cooperation experience

More than 2500 FAs made of reprocessed uranium have been supplied for Western European PWR and BWR in cooperation with AREVA

There have been no claims from European partner up to the present moment

TVEL: creating future today!