



# Negotiations with EPC Contractor and Experienced Suppliers

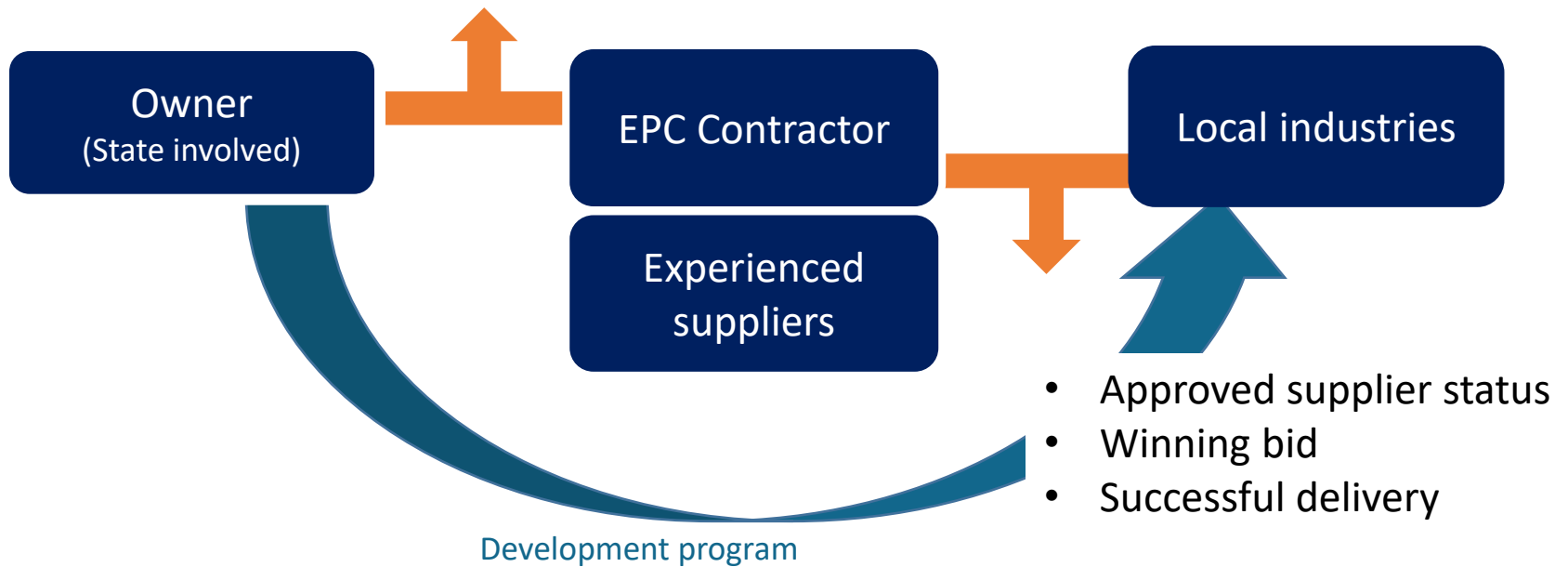
IAEA National Workshop on Industrial Involvement

25-27.2.20, Jakarta, Indonesia

Leena Jylhä, COO, FinNuclear Ltd

# Viewpoints

- Localization level sought
- Considerations, solutions
- Available support
- LTO strategy





Owner & State – EPC Contractor

# Types of Contracts

## Turn-key contracts

- Typical for the first NPPs
- Requires completed design before manufacturing and works start, detailed knowledge of nuclear safety regulations, competent workforce and realistic schedule (lesson learnt of OL3)

## Other models

- Multi-contracting, where the client assumes responsibility for coordinating the various work packages and manages the interfaces between them
- Split package, where are two or more separate EPC contracts with parallel work streams
- NPP project management can be outsourced – this was the model in Spain with their first NPPs



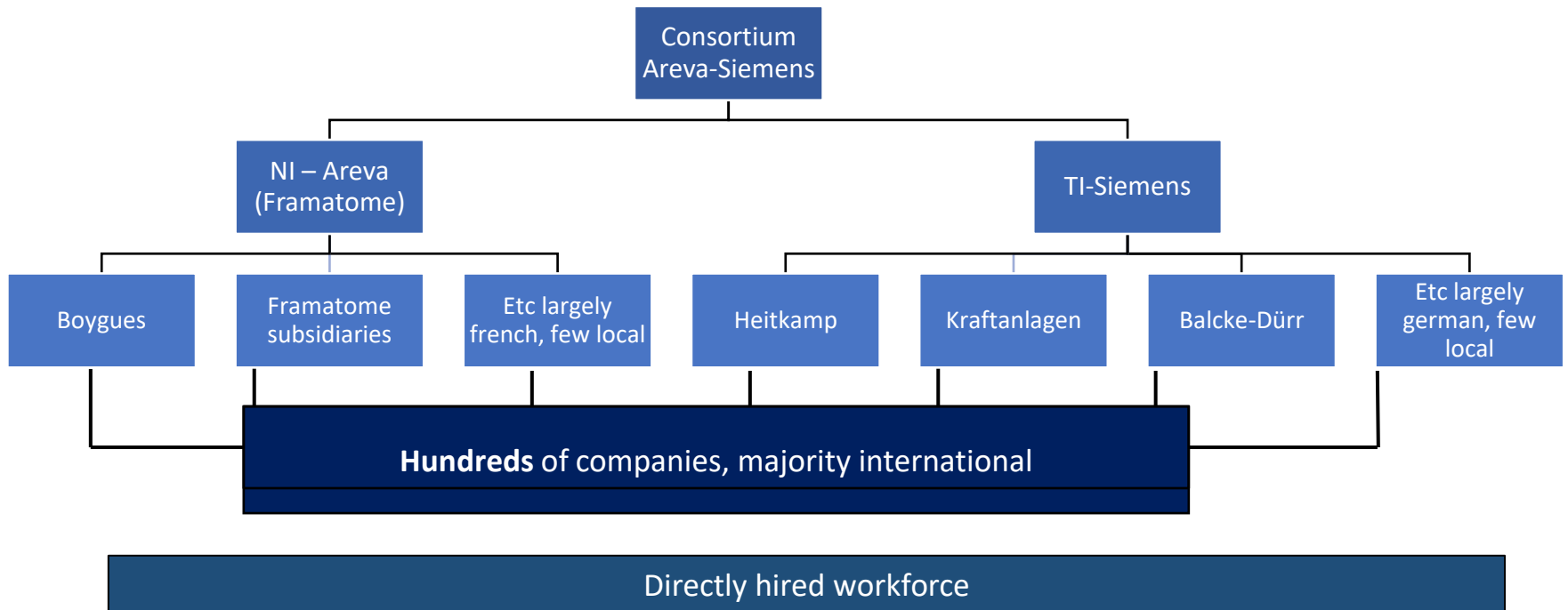
Require very competent  
NPP project management skills

## Starting Point with Turn-Keys

- Often NPP reactor technology vendors and EPC contractor represent a certain country
- Strong, mature associated supply chains with economical significance
- Without prior experience, limitations for local industries to participate to the nuclear safety classified supplies
- Plenty of opportunities in the non-nuclear areas
- NPP Life-cycle after construction must be secured
  - Proper and timely implemented industrial survey of the local companies abilities pays off

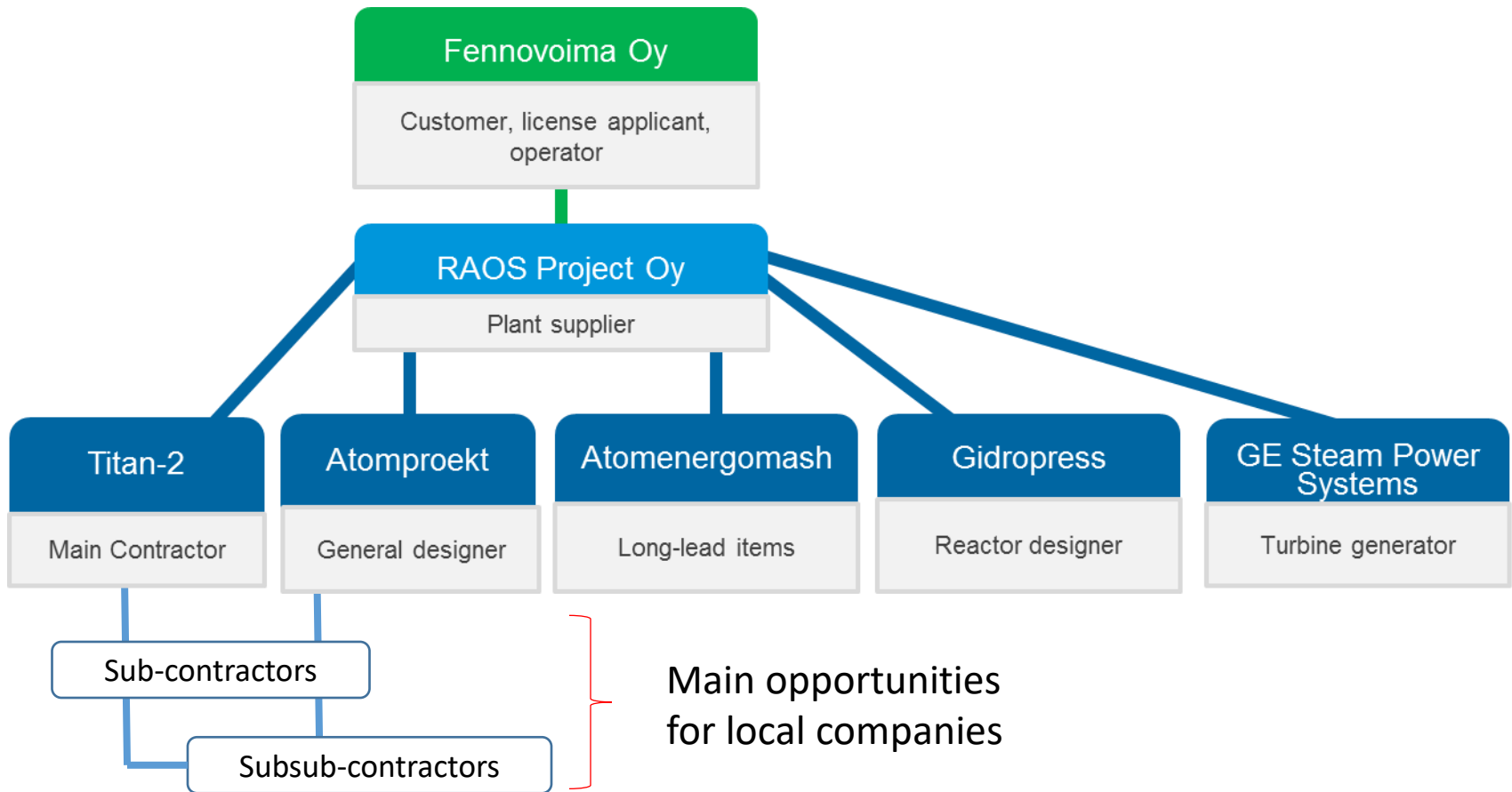
# Example Olkiluoto-3

no localization agreement

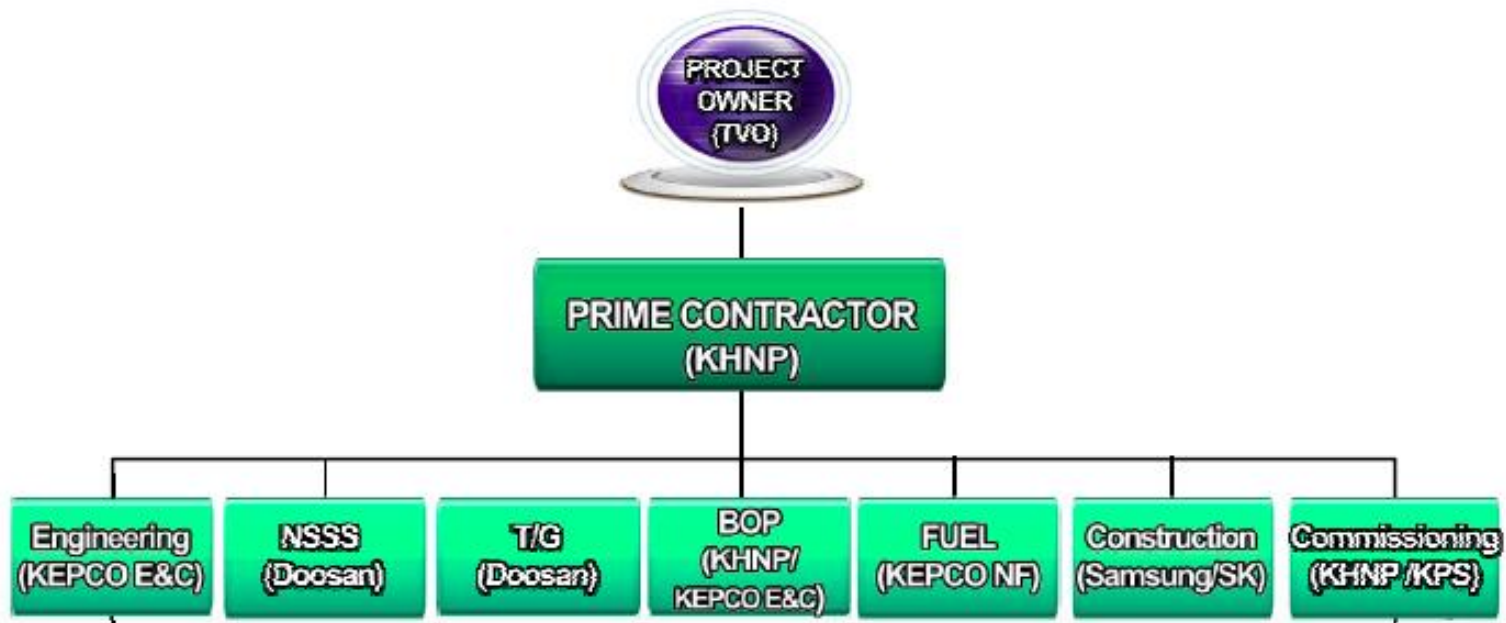


# Example of Hanhikivi-1

no localization agreement



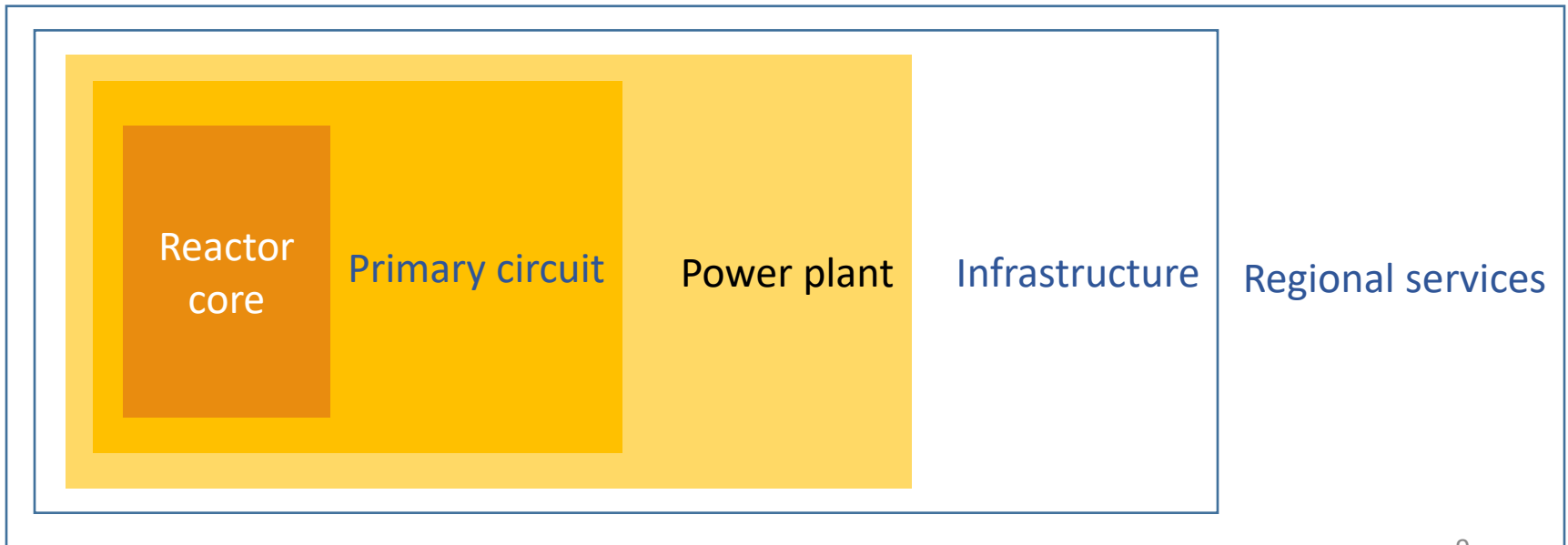
# Example of Olkiluoto-4 (*cancelled*)





## Localization Ratio

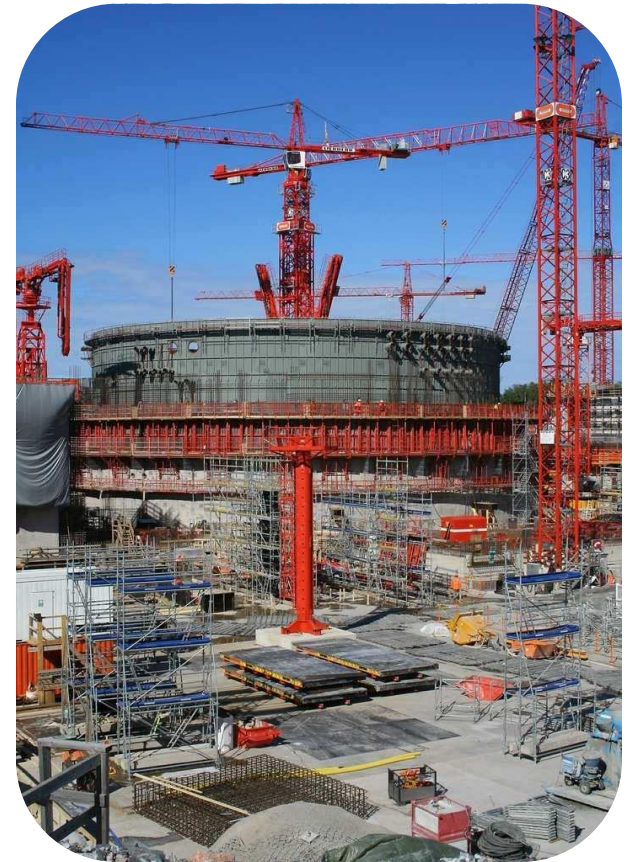
- Usually agreed on the governmental level
- Required in the bidding specification in order to become *contractual*
  - Intended localization indications may be used as part of the marketing strategy during negotiations



# Considerations for Negotiations

1/2

- **Maturity of local industries**
  - What kind of competencies are nationally found
  - Experience in
    - Complex industrial projects
    - Nuclear energy projects
  - HSEQ Certificates
- **National nuclear safety legislation**
  - Industrial standards to be used
  - Safety classification – supplies that local industries realistically may target



# Considerations for Negotiations 2/2

- Planned long-term operation strategy over the NPP life-cycle
  - Responsible operator
  - Revision and maintenance activities after sales, suppliers of spare parts
  - Associated costs
  - Nuclear waste management, spent nuclear fuel disposal solutions
- Project financing scheme may affect
  - G2G
  - Vendor financing
- Use of inexperienced suppliers may (will) add costs

# Progressive Approach

1/3

- Usually the first NPP projects in a newcomer country have a fairly low localization rate
  - Lack of previous experience
  - Lack of required skills – workforce, technology, know-how
  - EPC Contractor and Tier 1-2 suppliers are not willing to take the risk
- Some projects have a BOO type of a contract → large localization can not be expected
- Localization may increase in the course of time:
  - Spain : 1st unit – 30% , 9th unit – 85%
  - Finland: 1st unit – 40%, 4th unit – 60%
  - During the life-cycle (outages, modernizations, waste management, RDI projects)

# Progressive Approach

2/3

Level 5: Special local factories to manufacture heavy nuclear components

Level 4: Locally manufactured components for safety-critical parts

Level 3: Locally manufactured components for BoP, non-safety critical parts

Level 2: Local companies participate civil works and some design

Level 1: Local labour, some construction materials

Result depends on the

- Industrial basis
- Development funds
- TT or KT agreements
- Schedule
- LTO Strategy

*Ref. IAEA-NE Series NG-T-3.4*

# Progressive Approach

3/3

Ways to gap up:

- Technology and knowledge transfer agreements
- Partnerships with experienced suppliers
- Joint industrial-governmental development projects coordinated by an industrial coordination organization
  - Personnel training
  - Company certificates
  - Manufacturing development
  - Networking

Useful in other industries too

# Assessing Prospectives



1-2 units

→ Mild investments on the capacity building ?



Fleet of several units

→ More investments on the capacity building ?



Opportunities foreseen on global markets, either independently or in the NPP vendor supply chain

→ More investments on the capacity building ?

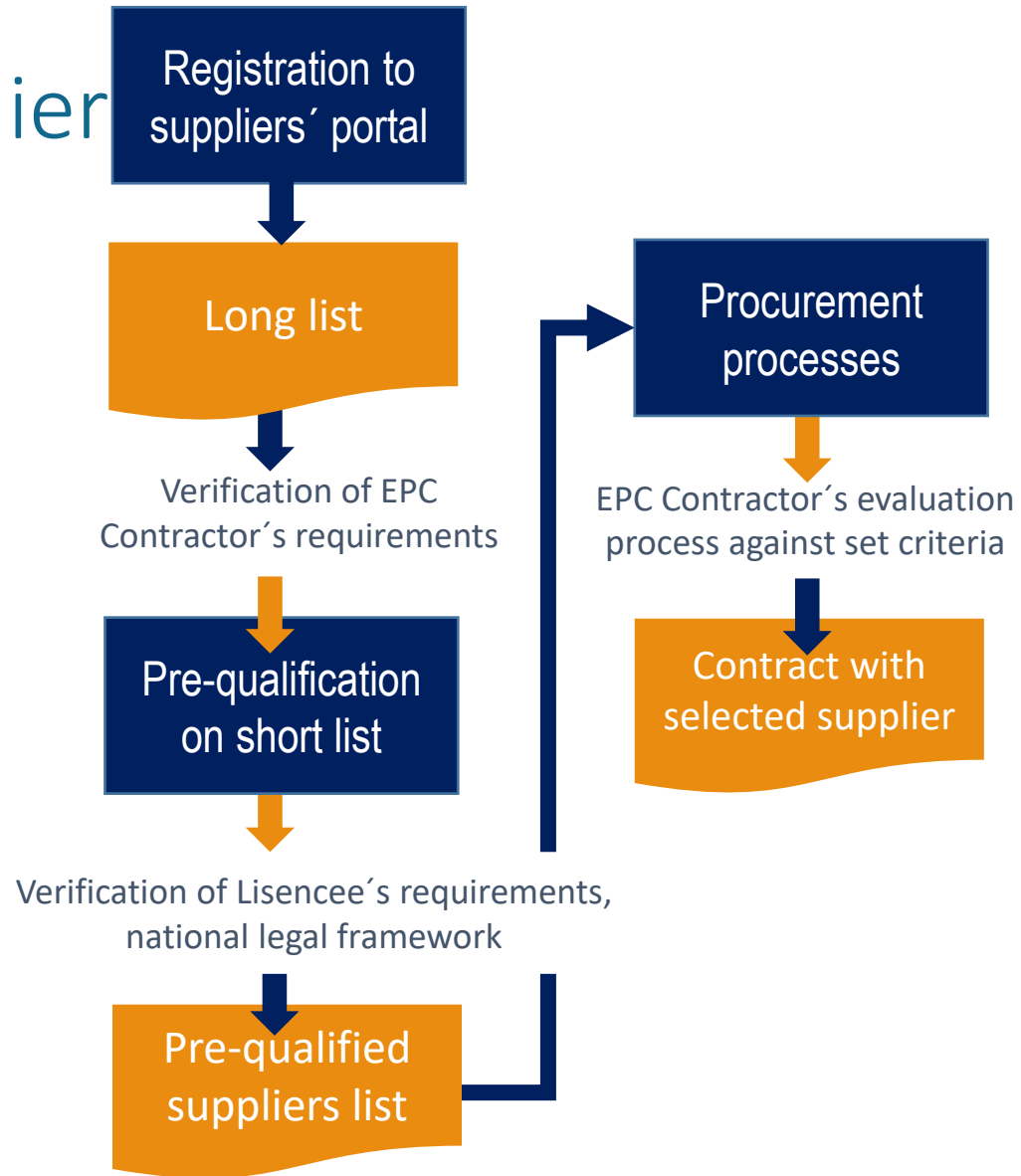


# Local Industries – EPC Contractor and Experienced Suppliers



# Pre-qualified Supplier

- Call for tender participation requires a pre-qualified supplier status
- Expected requirements vary depending on the scope of supply
  - Nuclear safety critical/non-critical
  - Value and duration of the contract
  - Service/manufacturing
- Development activities and needs for investments may occur



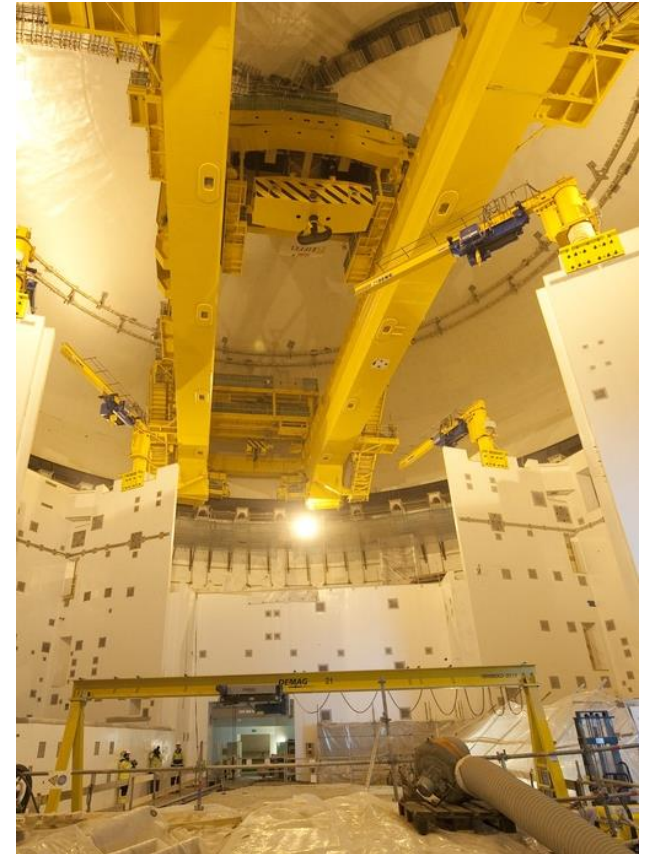
# Winning Bid and Successful Delivery

## Local industries experiences - Finland

- There are no instant profits → patience required
- Worth it if the strategy is to enter and stay in the nuclear business and skills can be achieved
- Understanding nuclear safety requirements is a must – affects the price
- Negotiation skills are necessary
- Understanding cultural differences is a big plus
- Gigantic EPC contractors tend to set heavy contractual conditions and have long payment times
- To win a contract, supplier must have:
  - Technically solid tender
  - Adequate resources
  - Certificates
  - Management system
  - References
  - Credible financial position
  - Reasonable price

## Lessons Learnt so far - Finland

- Suppliers without previous nuclear experience would benefit greatly of a systematic national development programme
- Tough contractual conditions are a turn-off for many companies
- National stakeholders should collaborate to reach the optimum benefit of the NPP program
- Development approach should be started long before the EPC Contract and be carefully planned if good localization results are sought



## Solutions to Support National Industries

- Indicated realistic localization rate in the EPC contract
- Oversight that reasonable and appropriate contractual liabilities set for the supply chain
- Technology and knowledge transfer agreements
- Training throughout a new-build project
  - Preparatory phase
  - On-site
  - Manufacturing
- National industrial coordination organization to focus on localization come true and develop the above



Thank you!