

# How to lead the owner's New Build program?



Timo Okkonen

KIND  ATOM

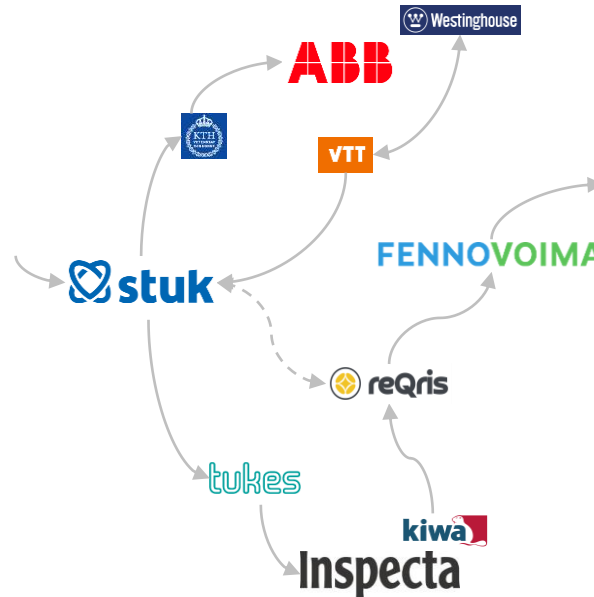
# Timo Okkonen – career path over 35 years

## Management experience in all key roles:

- ▶ Nuclear regulatory authority
- ▶ Nuclear research programs
- ▶ Nuclear supplier projects
- ▶ Industrial inspections
- ▶ New nuclear utility
- ▶ Nuclear new build
- ▶ Nuclear advisory
- ▶ Digitization

DrTech in nuclear safety (1998)

Fluent in English and Swedish



## Now active as...

nuclear entrepreneur

KIND  ATOM

2022-

program advisor



2021-

business digitizer



2021-

board chair

PLATOM

2021-

# Let's take a look at seven streams

1. **Stakeholders** – realizing the variety of expectations
2. **Phases** – defining the targets over investment life cycle
3. **Plant** – setting up the criteria for technology and delivery
4. **Organization** – leading owner's people to be on the driver's seat
5. **Projects** – supplier specifying the requirements for deliveries
6. **Production** – optimizing the energy output per costs
7. **Risks** – managing both downsides and upsides.

We do not mention safety and security separately,  
as we encourage to integrate them with all the areas above.



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# We need to drive for a winning culture!

- ▶ We start from the lucky corner – great but potentially risky!
- ▶ How to build a proactive, winning project culture...

instead of a reactive, destructive culture with no real co-operation?

- ▶ Supplier ⇔ Owner ⇔ Regulator – it's all about people!



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# All main corners need to be sharp!

**Investors – Owner – Licensee**

**Plant supplier –  
Supply chain –  
Construction**



**Regulator –  
Society –  
Politics**

# Stakeholders (#1)

## Mistakes

- ▶ Schedule fully unrealistic
- ▶ Cost risks not understood
- ▶ Owner's role not understood
- ▶ Requirements > true needs

## Lessons

- ▶ Expectations have to be clarified up-front together with the business case.

Do we really discuss, realize and match the mutual expectations?

# Plant (#3)

## Mistakes

- ▶ Focus on fulfilling all requirements
- ▶ Endless commenting rounds
- ▶ No owner's decision criteria
- ▶ Hasty design changes

## Lessons

- ▶ Design adaptations have to be carefully and cleverly made based on real needs.

Do we create clarity on what is good enough at different asset levels?



# How to review and supervise technically?

- ▶ Top-down view driving owner's focus, attention and decision making
- ▶ Clearly stated acceptance criteria for all technical entities and items
- ▶ Acceptable status (● ● ●) depending on the project stage.

Lead & manage	Plant design	Basic design	Specification	Implementation
Buildings & structures	Site and plant layout ○	Building layouts (3D) ○	Detailed design ○	Construction and installation ○
Systems & components	Systems architecture ○	Basic design and P+FSAR ○	Procurement specifications ○	Manufacturing and inspections ○
Functions & failures	Defense in depth ○	Safety analysis and PRA ○	Functional specifications ○	Validation and commissioning ○
Intelligence & operation	Operational concept ○	Functional architecture ○	I&C architecture ○	I&C and control rooms ○

# Phases (#2)

## Mistakes

- ▶ No clear owner's program
- ▶ Contracts w/o feasibility studies
- ▶ Activities fully licensing oriented
- ▶ Full life cycle view missing at start

## Lessons

- ▶ Owner's program plan has to give the basis for leading all the activities.

**Do we really have a clear owner's view on how to lead the whole?**

# Organization (#4)

## Mistakes

- ▶ Unprofessional executives
- ▶ Lack of leadership and ownership
- ▶ Managing process > competent decisions
- ▶ No respect for time, money or each other

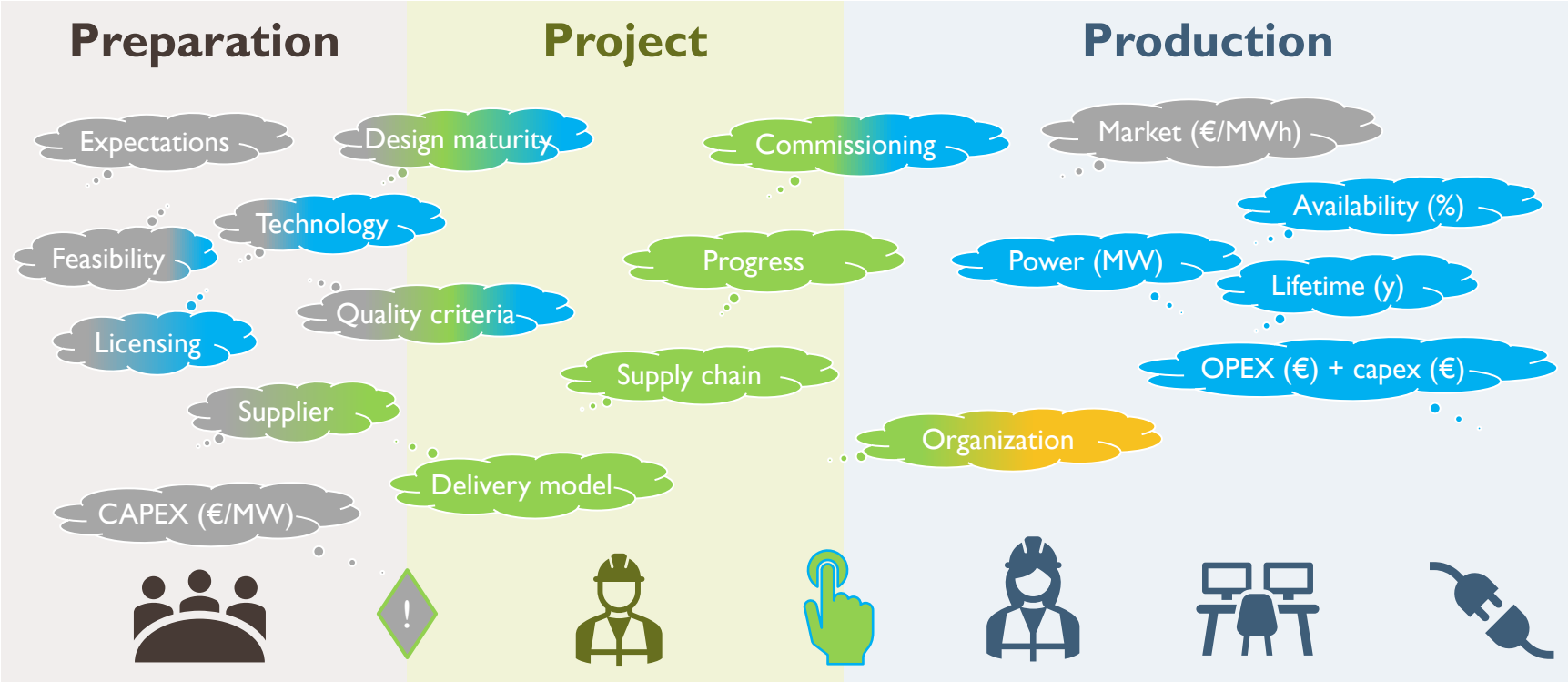
## Lessons

- ▶ Organization build-up has to be lean first and then scaled up due to real progress.

**Are we capable of leading both our own people and the supplier?**



# It's all about leading people – and managing risks!



# Projects (#5)

## Mistakes

- ▶ Technology > supplier
- ▶ Supplier's capability gaps missed
- ▶ Clear delivery execution plan missing
- ▶ Contract only favoring the owner

## Lessons

- ▶ Project success has to be based on a mutual senior-level understanding.

**Is the supplier capable of executing the whole multibillion delivery?**

# Production (#6)

## Mistakes

- ▶ Operational preparations too late
- ▶ Operating organization not capable
- ▶ Commissioning separate from the rest
- ▶ Configuration not under full control

## Lessons

- ▶ Operational solutions and matters have to be part of owner's decisions from start.

**Do we lead the preparations and take ownership proactively?**

# How to evaluate supplier's capabilities?

- ▶ Top-down view driving owner's focus and attention, supervision and audits.
- ▶ Clearly stated success criteria for all main delivery entities
- ▶ Acceptable status (●●●) depending on the project stage.

Lead & manage	Licensing	Engineering	Off-site	On-site
Planning & people	Lead engineers	Resource management	Supply chain management	Site and civil works
Processes & practices	Safety assessment	Configuration management	Procurement and controls	Construction and installations
Products & data	PSAR and FSAR	Systems design	Systems and components	Buildings and structures
Local ecosystem	Owner and regulator	Application of national codes	Equipment qualification	Civil partners

# Risks (#7)

## Mistakes

- ▶ Contracting without risk analysis
- ▶ No top-down risk view
- ▶ No clear risk ownership
- ▶ Only downsides – no upsides

## Lessons

- ▶ Risks have to form the key focus area for management attention and dialogue.

**Do we drive contracting with a combined success and risk view?**

# Program (#1 – #7)

## Mistakes

- ▶ Talking about project > executing program
- ▶ Controlling deliverables > enabling people
- ▶ Managing time and cost > leading content
- ▶ Minimizing failure > maximizing success

## Lessons

- ▶ A sustainable story has to be created and shared by all key parties to drive progress.

**Do we have a solid plan for turning expectations into performance?**

# Turning expectations into performance

**Program plan**  
to be developed early  
incl. a business risk analysis

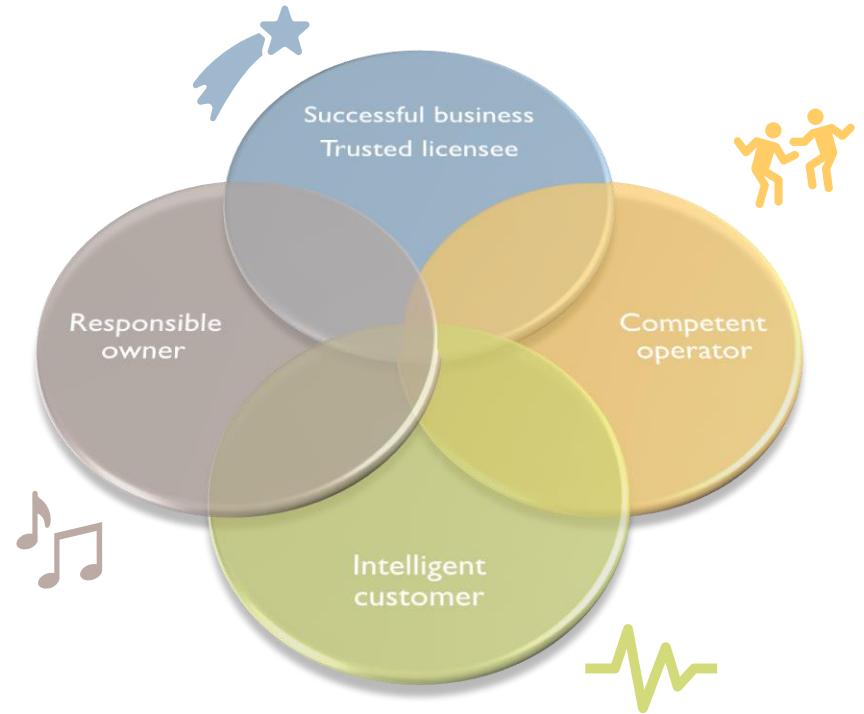
	<i>Expectations</i>	<i>Targets</i>	<i>Criteria</i>	<i>People</i>	<i>Implementation</i>	<i>Output</i>	<i>Value</i>
<b>1. Stakeholders</b>	Business case and investment plan	Shareholders and lenders	Government and authorities	Suppliers and contracts	Regional and local	Partnerships and services	Media and public relations
<b>2. Phases</b>	Site and environment	Technology and supplier	Plant safety and licensing	Supply chain readiness	Construction readiness	Operational readiness	Decommissioning
<b>3. Plant</b>	Regulatory requirements	Design adaptation and maturity	Procurement and supply chain	Construction and localization	Validation and commissioning	Operational features	Replacements and refurbishments
<b>4. Organization</b>	Responsibility and governance	Competence and commitment	Recruitment and consultants	Roles and responsibilities	Learning and training	Management system	Information management
<b>5. Projects</b>	Management and integration	Contracts and scopes	Planning and time schedule	People and capacity to deliver	Delivery progress and quality	Reporting and control	Claims and disputes
<b>6. Production</b>	Fuel and waste	Power and upgrades	Availability and outages	Operators and qualifications	Trade and load follow-up	Operation and maintenance	Plant lifetime and extension
<b>7. Risks</b>	Risk assessment	Investments and financing	Agreements and contracts	CAPEX and project risks	OPEX and uncertainties	Plant performance and output	20xx-20yy €/MWh

# Our recommendations for future owners

1. Key **expectations** are ensured to match between the main stakeholders.
  2. Clear **targets** are set for each phase of the owner's program and investment lifecycle.
  3. Tangible technology and delivery **criteria** are defined for selection and final acceptance.
  4. Owner's organization is developed to be **competent** for executing each main program phase.
  5. Exact **requirements** are specified and implemented by the supplier to meet owner's criteria.
  6. Production and **operational** perspectives are part of owner's decisions from the start.
  7. Financially oriented business risk analysis is used to **focus** management attention.
- ⇒ **Leading** all the **people to** accomplish what is **good enough** for safety and quality.
- ⇒ **Managing** the **risks by** ensuring **progress** proactively, actively and reactively.

# We help you to lead via top-down views

- ▶ Planning the full program from the very beginning to meet stakeholder expectations
- ▶ Selecting technology with clear criteria covering also supplier's delivery capability
- ▶ Coaching key leaders in setting up the right direction and supporting the organization
- ▶ Analysing project and production risks in advance to focus management actions on areas critical at each program phase.



# Looking forward!