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Integrated Project Deliveries in Finland

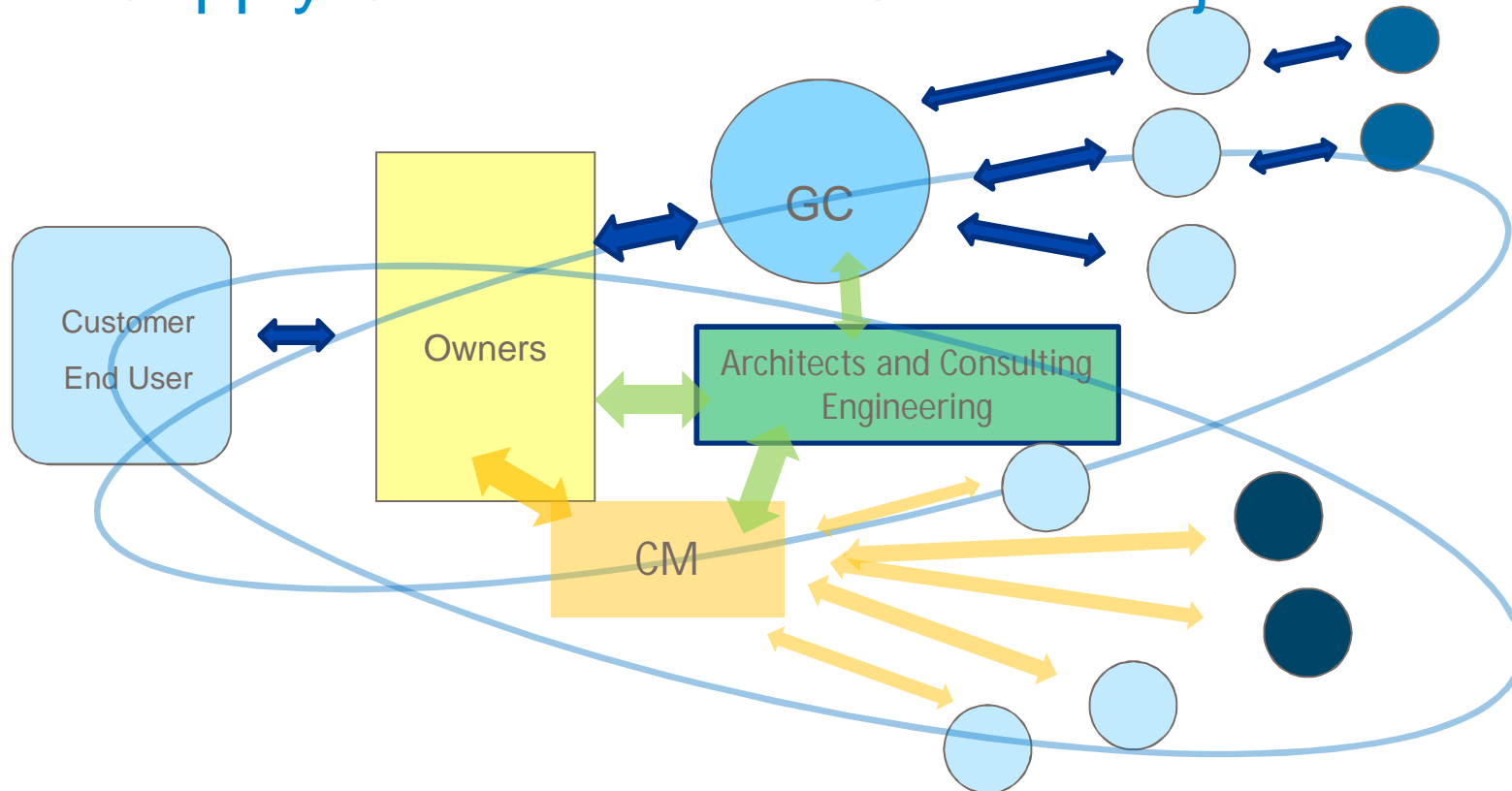
Yli-Villamo 11.9.2012

Agenda

- Why integrated project delivery
- Alliancing in Finland
- Pilot projects
- Value for Money in Integrated Project deliveries
- Lessons learnt

Why?

Supply Chain in Public Sector Projects



Traditional project delivery

- Bilateral contracts
- No risk sharing but risk transferring
- No shared targets
- Lack of trust
- ...

Integrated project delivery

Working together as a team in order to get:

- Better designs
- Better production plans
- Better reliability
- More productive project execution

Alliancing in Finland

Alliance Background in Finland (LIPS = Lean In Public Sector)

R&D project on the Project Alliance 2007/2008, no piloting

Lean Construction Institute (LCI) comes to Finland 2008

- Lean principles, Integrated project deliveries and Lean Construction tools and methods started to achieve understanding

LIPS in Karlsruhe in Germany 2009, Jim Ross introduced the Project Alliance

- EU-legislation challenge in the public sector

LIPS in Washington DC 2010

- We might be able to challenge the EU-legislation

LIPPI in Brisbane Australia 2011

- First Project Alliance has been established, several others coming

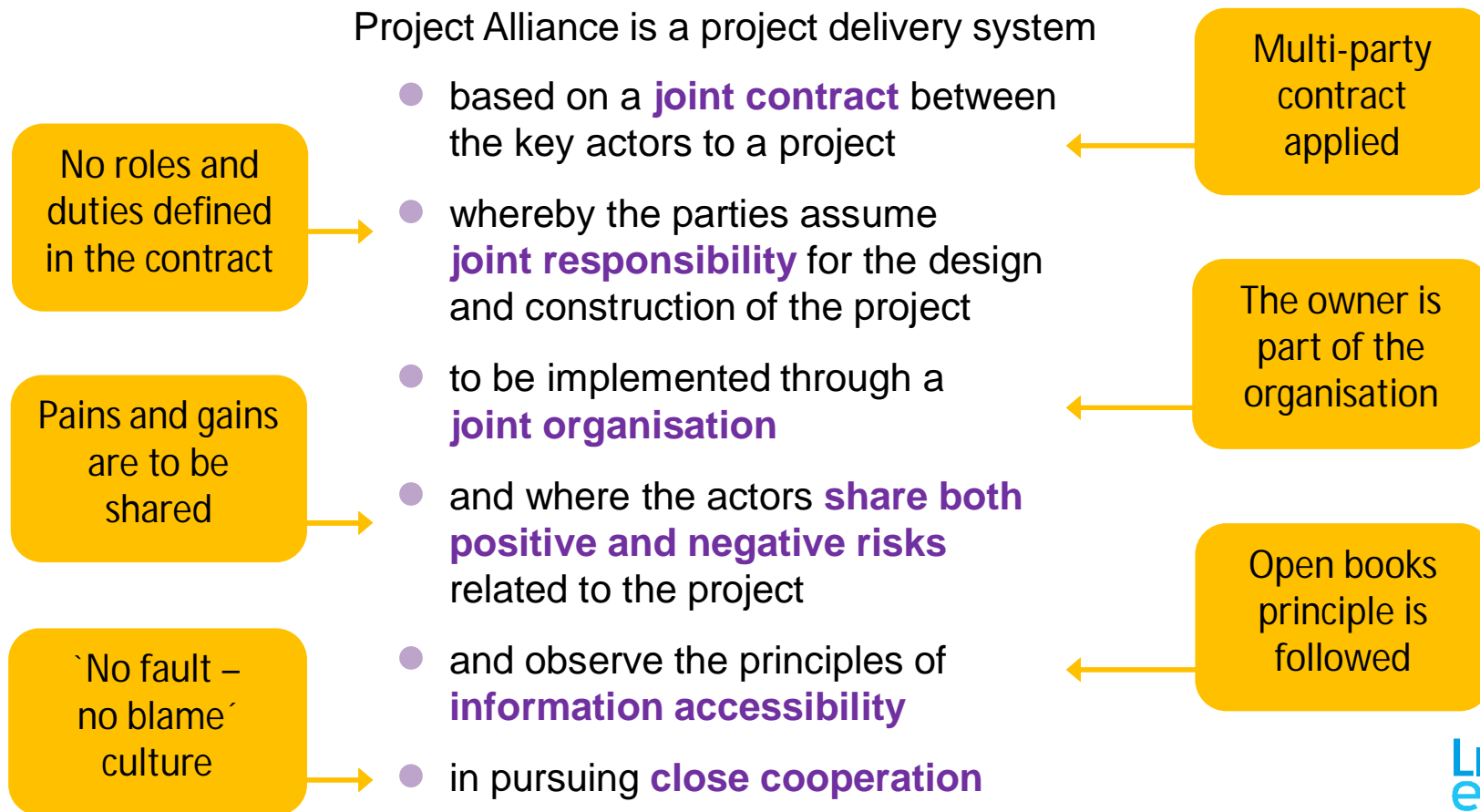
EIPS in Copenhagen Denmark 2012

- Second Project Alliance in evaluation phase – interlinked with an R&D project

LIPS in Tampere Finland 2012

- Here we are now

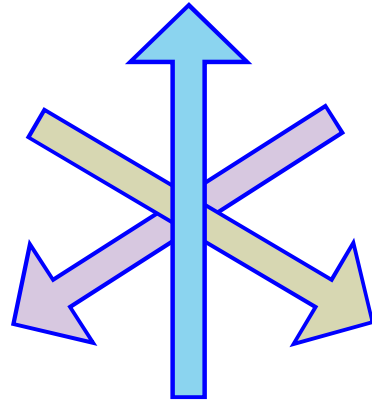
Alliance Contracting and/or Project Alliancing in a nutshell



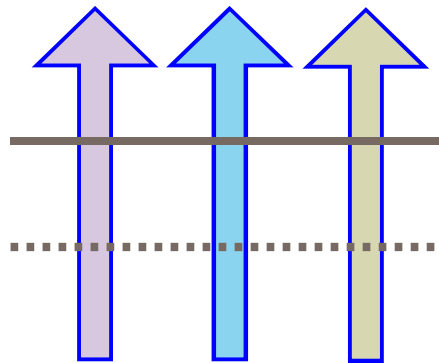
Basic idea of Alliance Contracting

Interests of the contracting parties

Traditional project (too often)



Alliance project (supposedly)



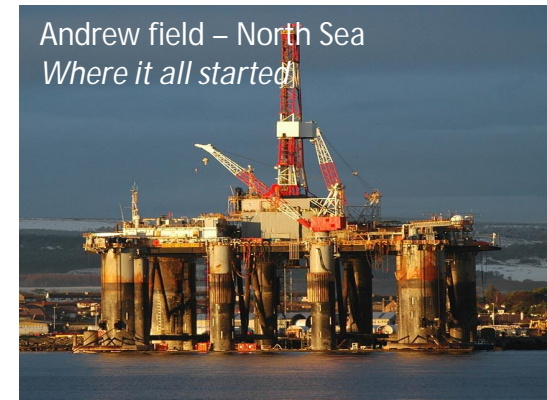
The aim of alliance contract and process solutions is to

- harmonise the actors' interests with regard to reaching the aims of the project
- combine broad, versatile expertise at an early stage to benefit the project
- improve the economic aspects of risky projects in particular (cf. pricing of risks)

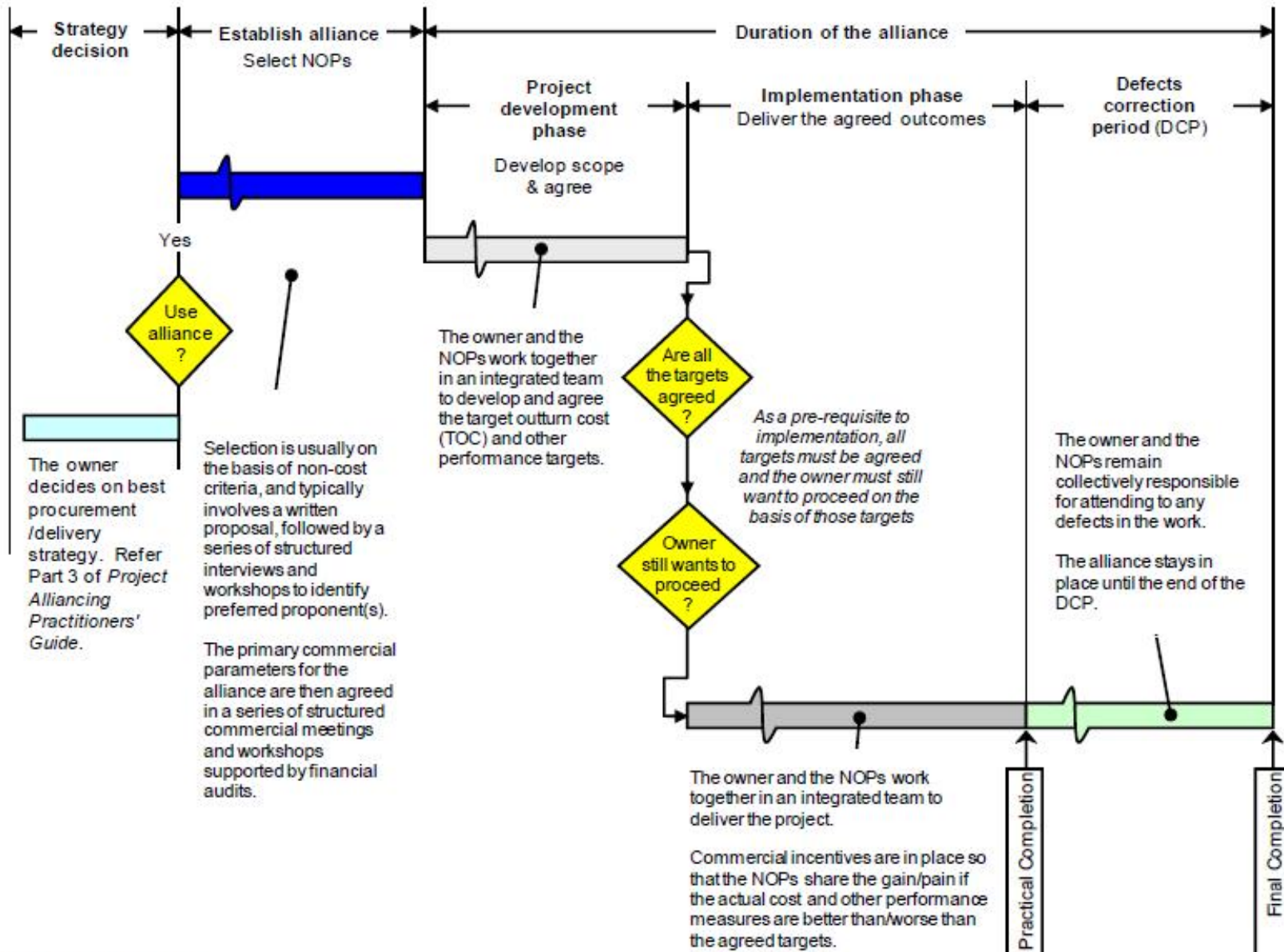
— Performance level

Project Alliance Principles

- Alliancing is a project delivery method.
- Alliancing has been used in Australia and New Zealand.
- A project alliance is a commercial framework between contracting authority, private client **"Owner Participant"** and one or more private sector parties **"Non Owner Participants"**.
 - "We all win or we all lose"
 - "Owner" and NOPs establish a core team
 - Core team has common goals (PAA)
 - Core team is engaged to innovate and to reach outstanding execution
 - Core team shares of all project risks and bonuses
 - No fault, no blame and no dispute between the alliance participants (except for wilful default)
 - All actions are based on "open book"

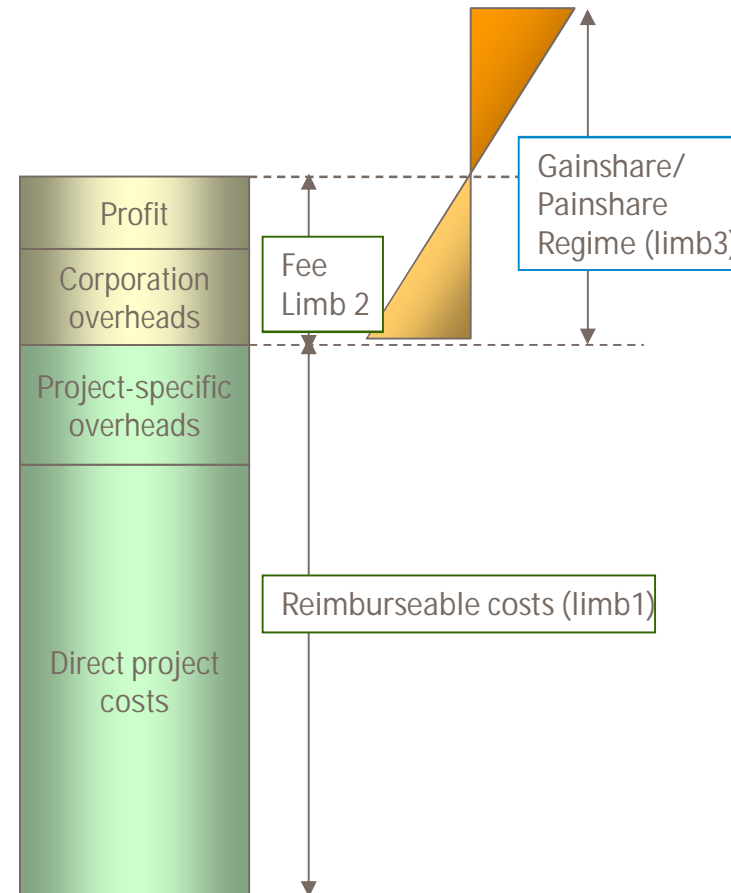


The Alliance Overall Process

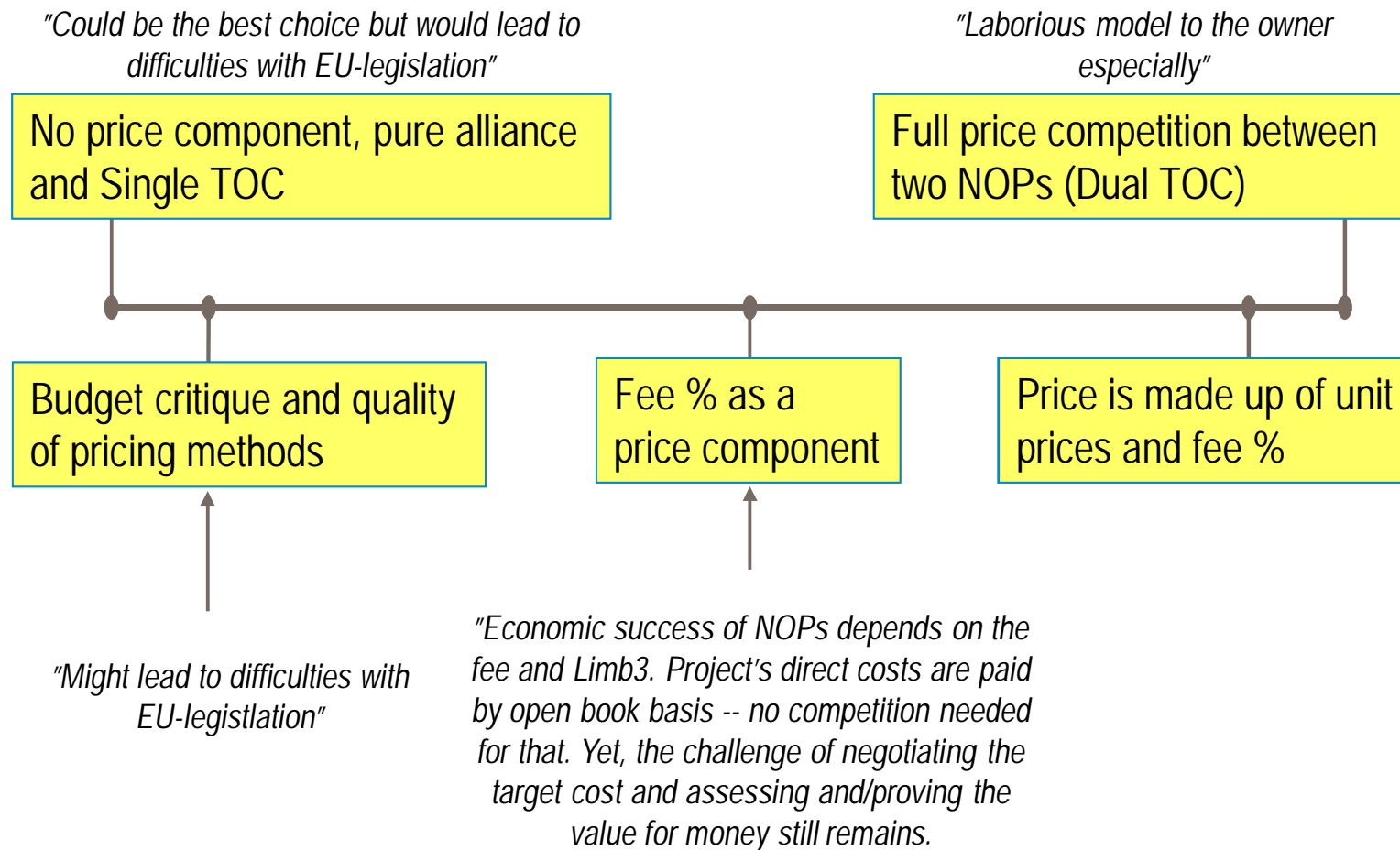


Compensation Model

- Everyone's financial result depends on the result of the Alliance, not just on their own performance
- Compensation model
 - Direct costs are reimbursable (project costs)
 - Corporation overheads and the profit (Fee) are maximum risk for the proponents
 - Gainshare / Painshare regime is common and will be shared in rations that are agreed in advance



Choices to use Price component



Alliancing versus European union procurement legislation

The Project Alliance model (used at that time) in Australia has two aspects, which are not in line with European Union legislation^(*):

- There is no need to use price in comparison
- There is no need to write out verbal comparison about every comparison criteria

^{*}) The directives 2004/17/EC and 2004/18/EC; implemented in and Finnish Legislation by the Act on Public Contract 348/2007, and Act on public contracts by contracting authorities in the water, energy, transport and postal service sector 349/2007

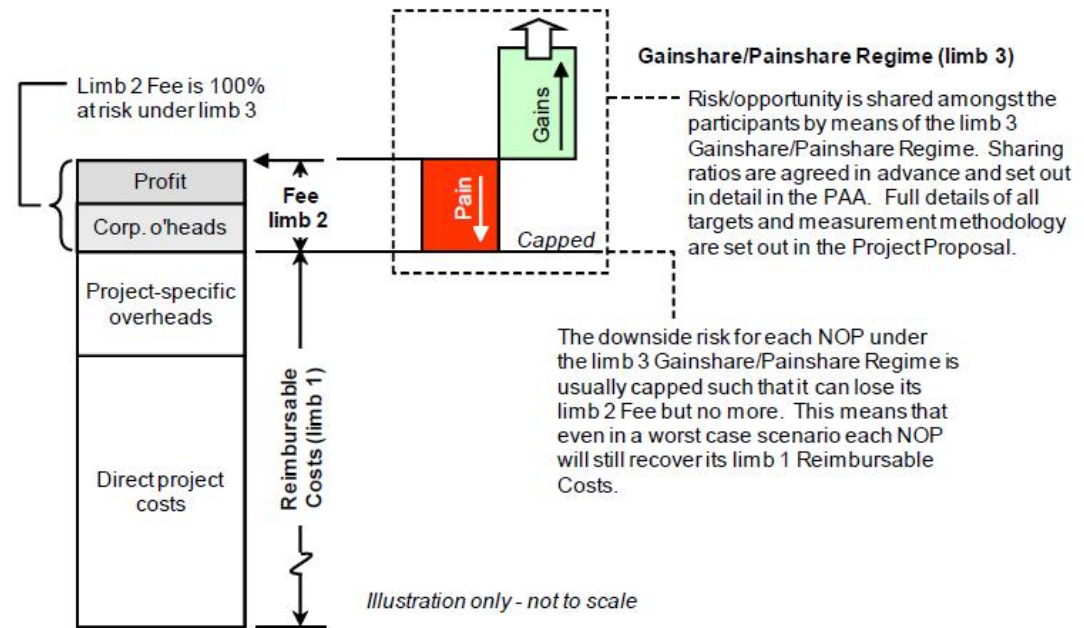
The EU directives and Finnish legislation

The price should be included in criteria, when contracting authority is making comparison of tenders, since two possible selection criteria are:

1. The lowest price or
2. the most economically advantageous tender (so-called quality and price)

In our case, we used limb 2 presented in the figure as a price element.

The “3-limb” NOP compensation model



Project Alliancing
Building on the Australian experience – May 2010 Helsinki

Slide 24

Alliance selection process characteristics

- Workshops and interviews in addition to evaluation of documents
- Procurement of organization, top-team
- Selection process binds momentarily a lot of resources and needs commitment. People need to be familiar with the alliance model
- Bidding for an alliance requires less effort than DB and PPP but new kind of skills are needed
- A bidder must bind key persons to the project already at the bidding stage and it's not possible to use a separate bidding organization anymore
- The owner's role changes from a buyer and supervisor to an active project actor and this requires new competence
- New roles: probity adviser, alliance specialist, independent estimator, financial auditor

Key points of the selection process

- Procurement method is 'competitive dialogue'
- Bidders quality / ability has a large weighting
- Procure a proponent that
 - Has the ability to execute the project together with the owner
 - Has the best understanding on the alliance principles and philosophy and is committed to it
 - Can best fulfill the project goals
 - Can work cost efficiently and innovatively
- The goal for the selection process is to prepare the organization for alliance execution
- To earn trust between the parties
- The selection process is openly told to the proponents
- External alliance specialist directs/facilitates and probity adviser supervises the process

Pilot projects

Lielahti–Kokemäki renovation project in short

- Lielahti–Kokemäki railway renovation project 90 km
- Project budget 91 M€ (material 20–30 M€)
- Goal for the renovation is to:
 - Improve safety for railway section and reduce maintenance costs by renewing and repairing constructions (railway sleepers, rails, ballast, culverts, bridges, drainage, build new and tear down old platforms)
 - Reinforce surface and bench structures of the railway track so that it is possible to operate on 250 kN in 80-100 km/h.
- Besides the renovation there are improvement needs, such as:
 - Changes in bench width
 - Removal of railway grade crossings

Project Key Result Areas

KRA	Alliance Objectives
Safety	Zero harm in traffic and work safety on good level, open reporting culture
Schedule	Meet all milestone dates and project commissioned and handed over on agreed date
Operations	Zero reliability incidents, including no late return of track possessions
Usability	Use of railway track on agreed speed level

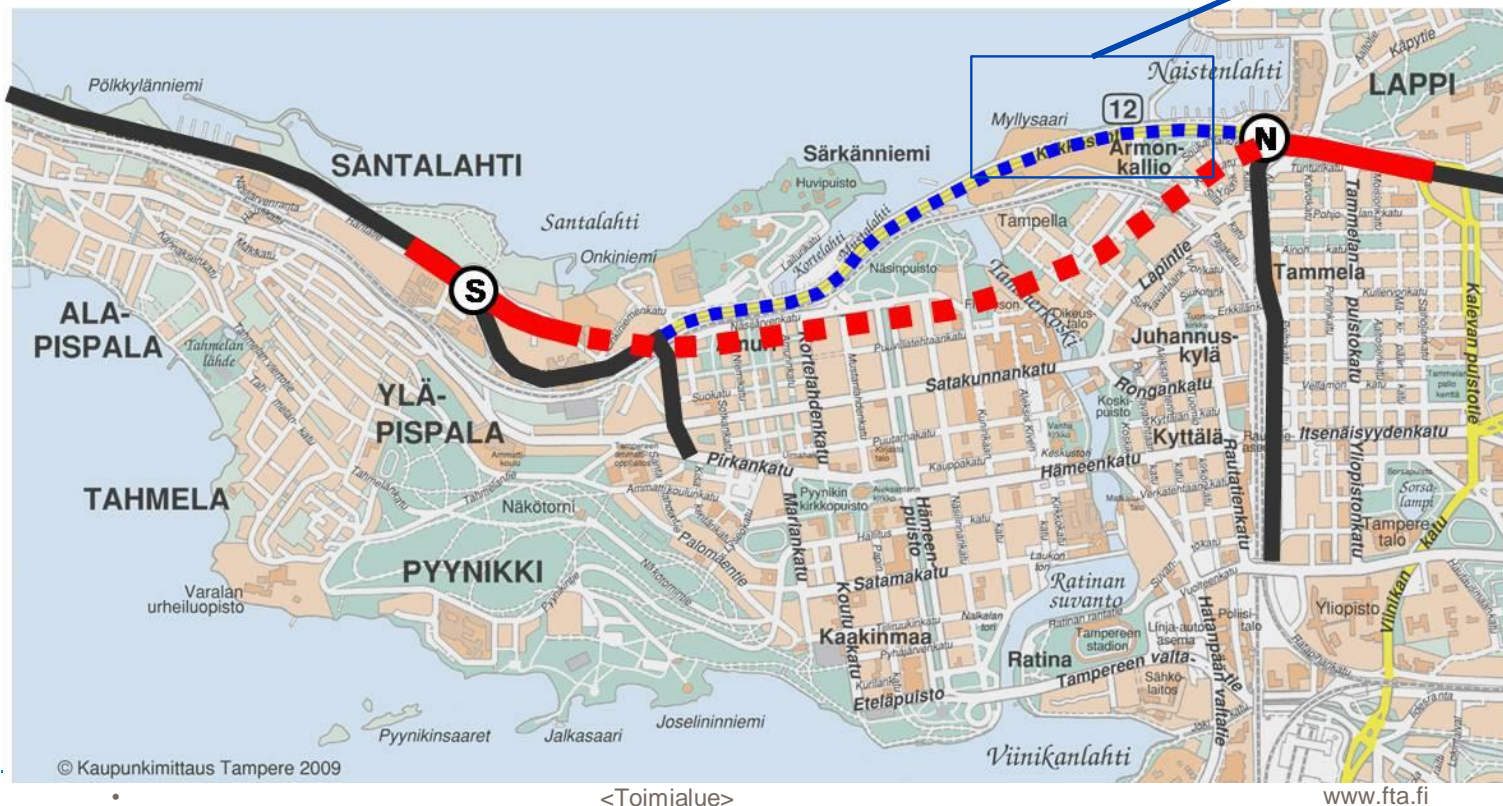
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Characteristics of performance target levels

Performance target level	Characteristic
Breakthrough	<ul style="list-style-type: none"> Aspirational target not achieved before in the rail industry in Finland Can't be done using past practices – requires new ways of thinking Don't know how to do it, but nonetheless Liekki-Alliance believe it can be done and the Alliance is 100 % committed to achieve it
Stretch	<ul style="list-style-type: none"> Has been done before, but rarely Liekki-Alliance can see a way to do it, the Alliance can use previous practices, but will have to stretch resources/people to the limit to achieve it Does not require new ways of thinking
Minimum Conditions of Satisfaction (MCOS)	<ul style="list-style-type: none"> Significantly better than has been consistently achieved by the individual participants working in other projects Consistent with the performance that would be expected of best-in-class resources working in an integrated team
Fail	<ul style="list-style-type: none"> Unacceptable levels of performance that fail to achieve the MCOS standards nominated by the FTA

Tampere Onshore Road – "Rantaväylä"

- Is located in the centre of Tampere. Between the city centre and Lake Näsijärvi in the middle of the urban structure.
- Length of the tunnel is approx. 2,3 km
- Tunnel will generate possibilities to evolve land use at the city centre



Challenges to the tunnel construction project

- Numerous technical networks and cables => gas, electric, heating, telephone cables from 7 operators (hot line?), etc.
- A popular movement against the tunnel – claims will be expected in response to every administration decision
- Quality of rock ?
- Dam safety during the construction (old dams of the Tammerkoski rapids)
- Logistic during construction
 - *rock – where to transport?*
 - *traffic is forced to use local streets*
- Vibration from explodes (apartments, business, health services - sensitive instruments)
- Environmental questions: air quality, noise, ...
- Technical systems => traffic control, sprinklers, ...

Experiences of the selection process

- After announcing that Rantaväylä will be an Alliance project
 - NOPs began to seek partners one year prior RFP
 - Consortiums started coaching and training process
- New resources and commitment required during selection process
 - Construction and consultant companies
 - Owner
- Common information and development workshops are very important for the owners and NOP's
 - Better understanding of each other's business
- New roles
- The feedback of NOP's has been mainly positive
- Consortiums are waiting for the next projects

Value for Money in Integrated Project deliveries

Hard and Soft Values

Customer satisfaction

Safety

Environmental issues

Money

Usability

Innovations

Learning

Characteristics of VfM

- Successful implementation of project
- Tight target cost
- Minimizing construction impacts
- Life cycle and environmental impacts
- Design and construction quality
- Safety

Value for Money vs. Productivity

- Lowest price
 - Confrontation
 - Extra works
 - Problems with time schedules
 - Owner and non-owner do not have common goals => Prerequisites for VfM do not exist

=> Low productivity?

- Integrated teams, integrated project delivery, project alliance
 - Shared goals
 - Better supply chain management
 - Real possibilities for innovations
 - Enables better VfM approach in project management

=> Prerequisites for increasing productivity exists

VfM approach in integrated project delivery

- Owner's objectives could be
 - Minimizing traffic disturbance during construction
 - Delivery in right time
 - Minimizing environmental impacts during construction
 - Target cost
- Companies have objectives like
 - Commercial
 - Safety
- Using VfM approach
 - All objectives can be common
 - KRAs and compensation model can be defined by them
 - VfM objectives are to be defined in contract
 - Reporting VfM has to be defined

VfM requires

- Trust
- Commitment
- Co-operation
- Transparency
- Understanding benefits
 - win-win principle

NOP in FTA's pilot projects have shown they understand VfM principles

- Critical resources
- Own work and subcontracting
- The process and time schedule defining TOC
- Responsibilities in defining TOC
- Target value design
- Innovations
- Risks and opportunities
- Tight TOC

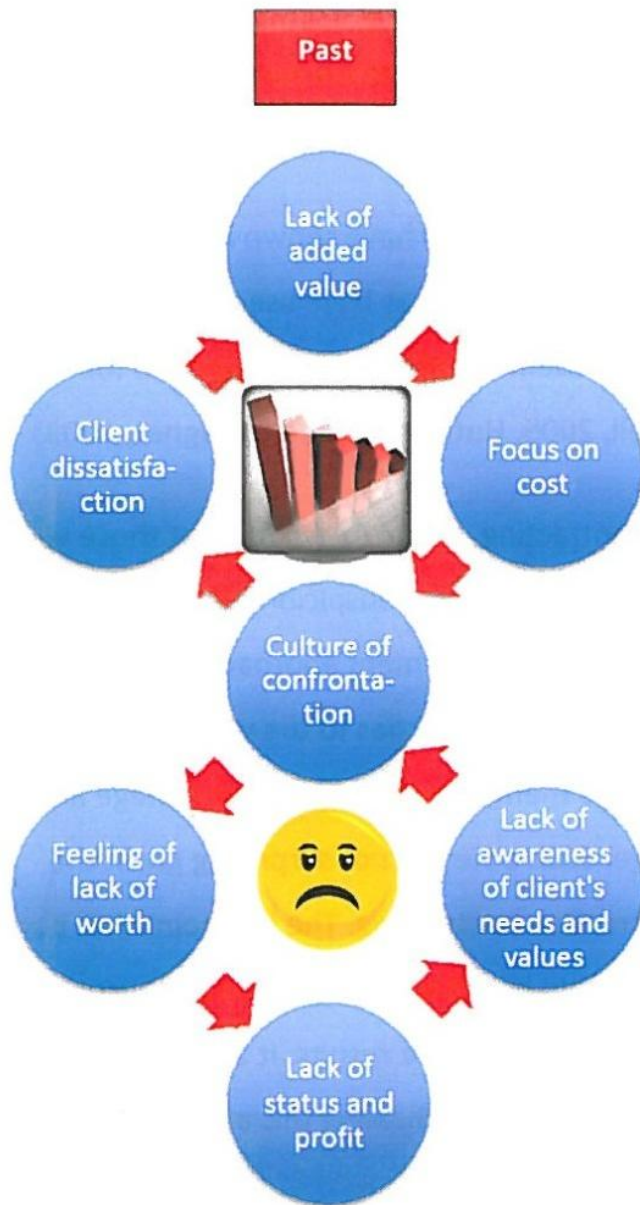
Lessons learnt

Lessons learnt

- There can not be too much communication and dialogue
- Be patient
 - People's ability to adopt new things varies
 - Allow enough time for the culture change
 - There are no stupid questions
- Use experts
- Procurement law is not an obstacle
- Understanding commercial model is very important
- Owner has to put enough time and resources in to process

Leadership challenges and readiness for Project Alliance

- Understanding the philosophy
 - Both owner and industry
- Communication
 - Clear messages
- Fair and simple process
 - Open, honest and straight
- Strong ambition
 - Understandable reasons for using alliance
- Trust
 - Fair pain-gain sharing



MacDonald (2011), Blockley and Godfrey (2005)