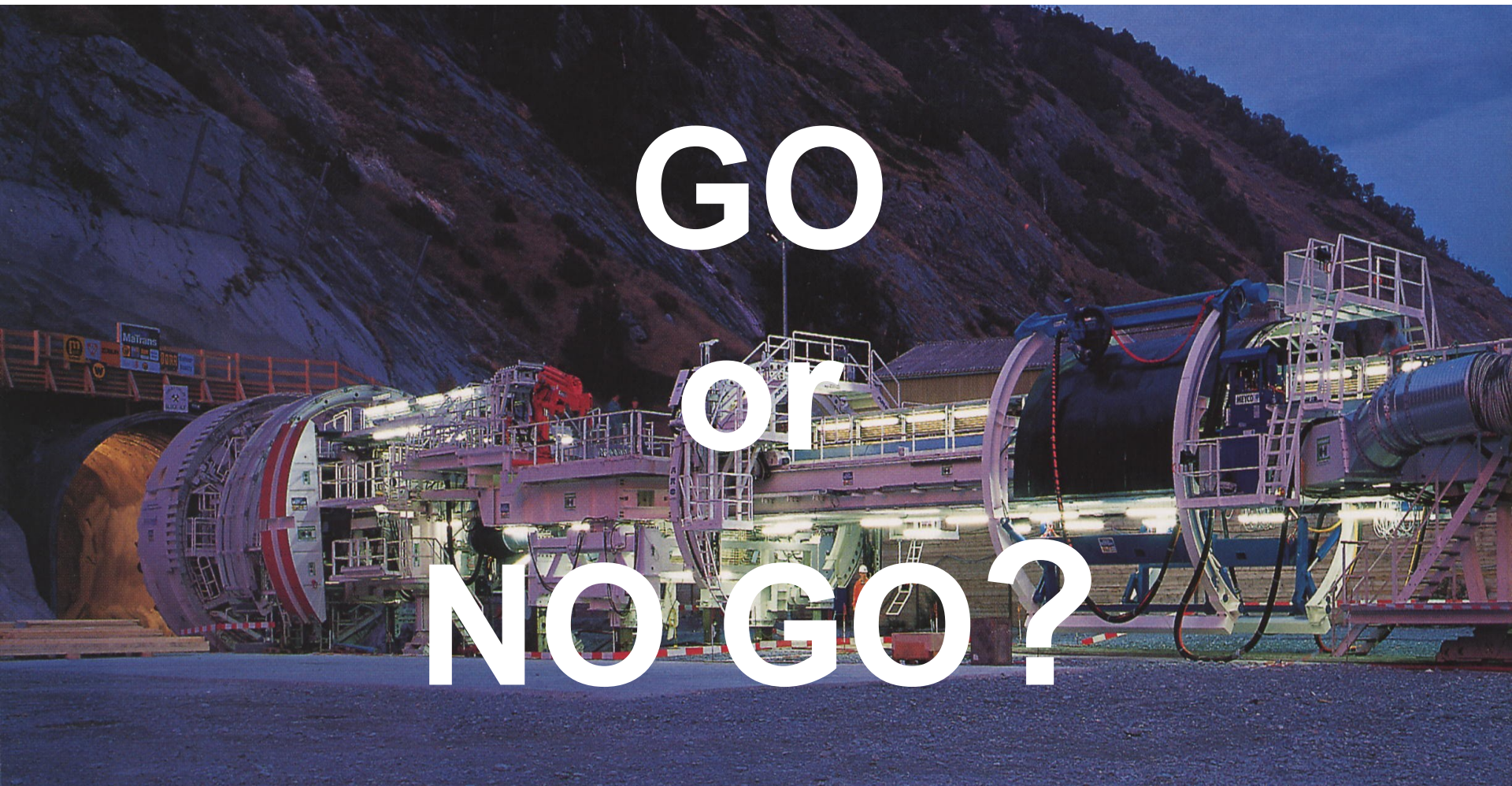


PPP for tunnels – Perspectives for engineering firms?

Yann LEBLAIS - ARCADIS
ITA Open Session 2007 Prague



Content

- PPP - What it means
- Business opportunities
- Working for the SPC
- Risk management and sharing
- Conclusion



PPP – What it means

Strong market evolution

Strong financing needs for large infrastructures

- Lack of public money or better use of it
- Increase in private financing

Improving value for money

- Cost and Time for construction
- Quality in delivery of the related service on a long period

For the owners

- Challenging their in house approach
- Benchmarking the operators

PPP – What it means

Tentative definition

Any form of partnership between public and private partners
with

The purpose of carrying out infrastructures projects
and/or

Providing public services

=

Contractual PPP, Services concession, IPPP

PPP – What it means

Global answer – Long term involvement

- Design / Build / Operation / Maintenance / Finance
- Whole life cycle cost
- Existence of some risks
- Design and build / Agility

Long term partnering and liability
The team is liable for several decades

PPP – What it means

Impact of society

- Environmental constraints
- Health & Safety
- Social and Economical concerns
- Evolution in regulations and standards
 - More performance based
 - More tailor made

More challenging and ... more exciting for us

Business opportunities

A complex ball game

Engineering consultancy must combine

- Attractive design and competitive cost
- Largest gap between the cost and the added value of the services

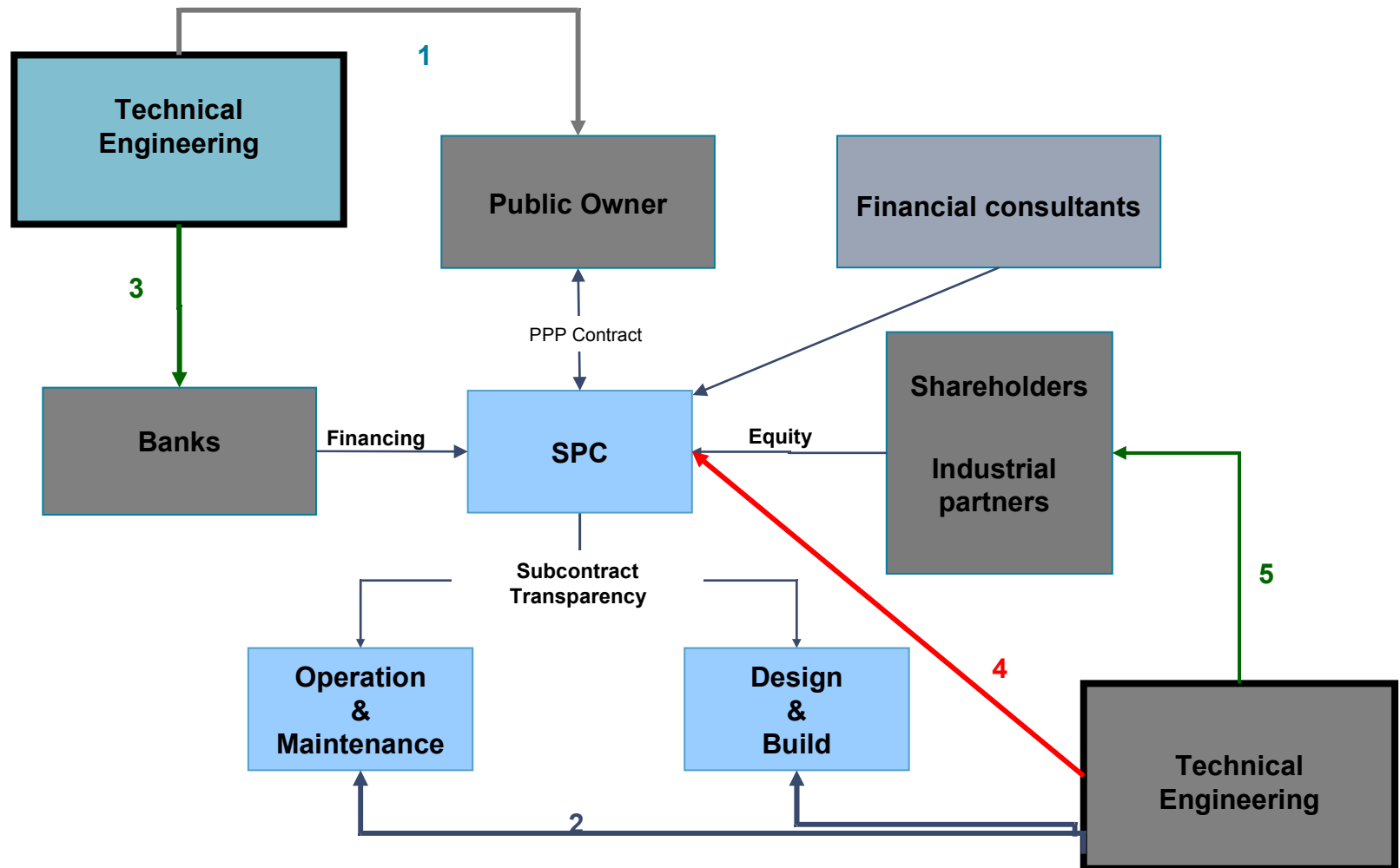
And should be fairly paid today by his client

for the client to get to morrow, for his investment

- a better operational level
- a cheaper maintenance

Business opportunities

A minimum of five entrance doors



Business opportunities

A lot of clients

Many stakeholders as potential clients

- Public Owner
- Evaluation bodies
- Investors
- Special Purpose Vehicle (SPV or concessionaire)
- Special Purpose Company (Design & Build)
- Special Purpose Company (Operation & Maintenance)
- Certification bodies
- Third parties

Business opportunities

A lot of contributions as a consultant

Need for larger services

- Technical capabilities is not enough
- Project management
- Socio economical (e.g. traffic studies)

Owner side

- Preliminary design / Work program
- Specification of performance criteria
- TOR
- Evaluation of tenders
- Construction control

Business opportunities

A lot of contributions as a consultant

Bank side

- Risk matrix
- Validation of the technical choices by the industrial partners versus the requirements from the public owner
- Challenging the technical choices of the SPV/SPC
- Value engineering and optimization
- Controlling the costs of design / construction / operation / maintenance
- Looking at a good equilibrium between D&B and O&M
- Validation of the technical contracts (Design & Build / Operation & Maintenance / Interface) with the risks matrix

Business opportunities

A lot of contributions for the SPC

Main tasks

- Conceptual design
- Permitting
- Detailed design
- Supervision of works

During the bidding phase and after

Whatever the quality of the relationship ...
never forget that the SPC is a big player and
your client!

Working with the SPC

Bidding phase

Some obstacles to face

- Level and quality of the preliminary design and data / TOR
- Quality of the technical chart
- Cost estimation of the future design and work supervision
- Risk management
- Time and cost pressure = source of potential mistakes
- Engineering added value versus the financial conditions

Competitive dialogue or similar

- Duration / Remuneration = Commercial exposure
- Cherry picking

Working with the SPC

Positive partnership

- Better if the quality of the engineering partner is a factor of choice selected by the owner in the competition
- Transparency and fair equilibrium
- Identify your own perimeter and the input you need (e.g. permitting)
- Sign a fair protocol from the bid up to the potential completion

Working with the SPC

Positive partnership

To get the engineering knowledge is not free of charge

- Never accept to work for nothing
- Be careful in front of the so called compensation in shareholding in the SPV or SPC
- If you get a cost based agreement for the bidding phase, ask for a success fee linked to the effort you made on your own costs

Working for the SPC

Design and construction phases

- The SPC has to keep the total cost in line with the fixed budget
= Need for permanent optimization and adaptation
- Role of the Engineer in front of the contractor in the D&B
- Quality control
= Check anything or only validate the QM System?
- Size of your contract / your size vs the size of your partners
= Need to be strong?
- Real partnership?
= Risk sharing + profit sharing?

Working for the SPC

Tunneling specific constraints

- Site conditions and environmental conditions
- Ground and water conditions
- Huge impact of the
 - quality of data from the owner
 - designer/contractor level of practice
 - tunneling methods
- Health and safety
 - at work
 - during operations
- How to keep control on the daily work on site?

Risk management and sharing

Definition

- (ref. to the ITA Guidelines for Tunnelling Risk Assessment)
- Hazard = a situation that has the potential for unwanted consequences
- Risk = a combination of the frequency of occurrence of a defined hazard and the consequences of this occurrence

Types of risks

- **Construction**
- Operation
 - Revenue: **Availability** / Demand
 - **Operational cost**
- Interfaces / Engineering special exposure

Risk management and sharing

Principles

- Identification / allocation / covering
- Risks to be allocated to the party best positioned to
 - assess and manage it
 - to bear the consequence of its materialization

Reality

- Strongly depends on the local practices and regulations
- Limited liability or not / immaterial damages or not
- Join and several liability?
- Global PI cover for any stakeholder in the construction process?

Facing a potential large
market

**Be proactive, cautious
and GO!**