

Business from technology



## **Risk management in the procurement of innovation – a conceptual overview**

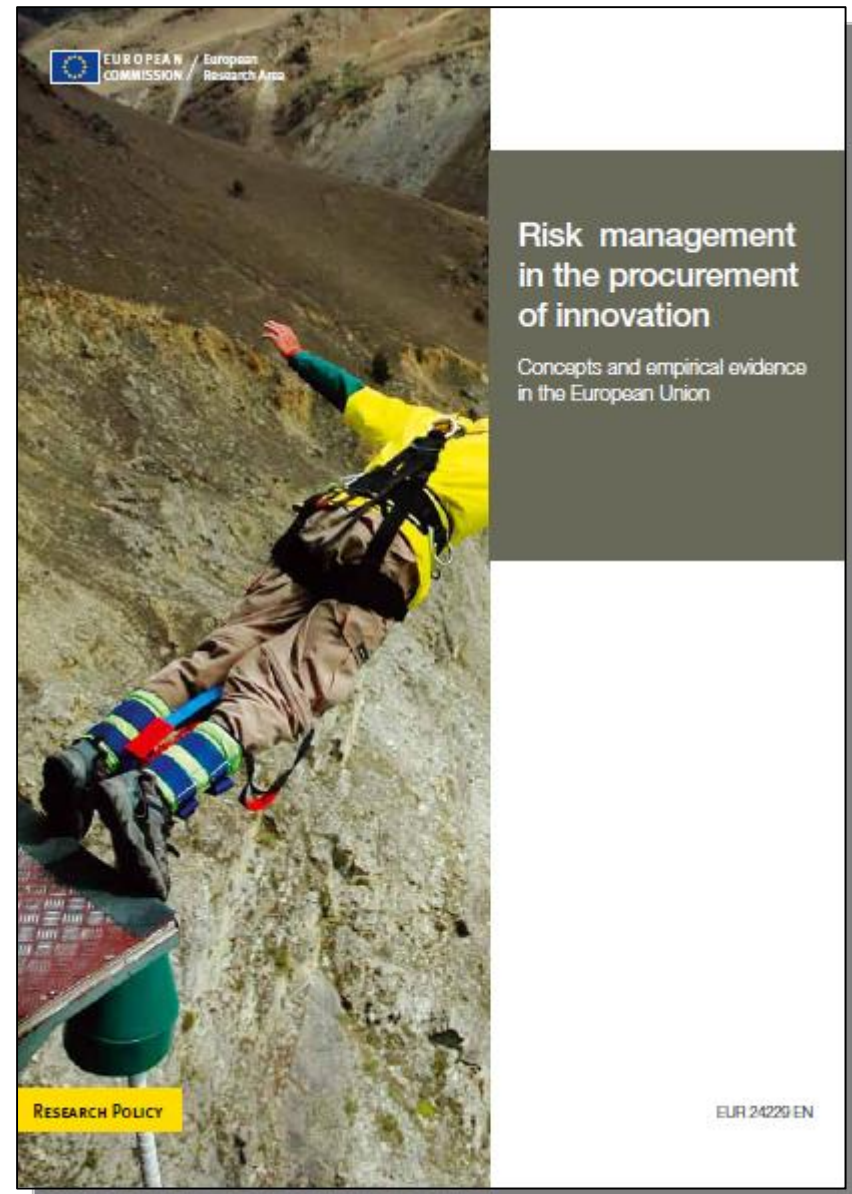
TEM seminar 3 February 2012

Ville Valovirta

VTT Technical Research Centre of Finland

## Expert Group Report

This presentation largely draws on and directly quotes the report of the European Expert Group “Managing Risks in Public Technology Procurement”, European Union, 2010.



## The **concept of risk** in procurement of innovation



In public procurement of innovation, at least some aspects of the procured item or service are uncertain or unknown.

Risk: measurable uncertainty of outcome, whether positive opportunity or negative impact



## Three major tasks in risk management

- 1. Risk identification** – define risks and reward for all partners involved
- 2. Risk assessment** – for each risk, take action to avoid or reduce the likelihood of risk to materialise and allocate responsibilities to take action to reduce the likelihood
- 3. Risk response** – for each risk, define action to mitigate the potential consequences and allocate who bears the cost of mitigation and the reduced benefits

## Typology of risks

- **Technological risks** – non-delivery / under-performance
- **Organisational and societal risks** – acceptance / compatibility / absorptive capacity
- **Market risks** – no spillover to private markets / supply-side failure
- **Financial risks** – costs / funding
- **Turbulence risks** – complexity / unexpected events

Source type	Institutional/ societal	Financial	Market	Technological	Other	Source type
<b>Stages in the Procurement cycle</b>	<b>Definition risk</b> Failure to define needs & communicate to market	<b>Financial planning risk</b> Innovation far beyond initial budget	<b>Supplier market risk</b> Not enough capable bidders	<b>Technical risk</b> Solution not feasible or suboptimal	<b>Turbulence risk</b> Unforeseen events mainly associated with large scale-projects	<b>Stages in the Innovation cycle</b>
<b>Planning and preparation</b>	<b>Legal/regulatory</b> Changes in regulations, misalignment with & proc. objectives	<b>Financial market risk</b> Failure to secure funding	<b>Supply chain risk</b> Supplier taking hidden risks Supply chain deficient	<b>Contract design/award/evaluation proc.</b> not adequate for technology		<b>R&amp;D stage</b>
<b>Notification and pre-qualification</b>						<b>Adoption by public client</b>
<b>Tendering</b>	<b>Adaptation risks</b> Internal integration/external acceptance	<b>Market spillover risk</b> No spill over to private markets	<b>Lack of complementarities with networks/standards</b>	<b>High cost of upgrade and maintenance</b>		<b>Diffusion in Public Realm</b>
<b>Evaluation</b>						<b>Diffusion in Private Markets</b>
<b>Contract Award</b>	<b>Policy spill over</b> No adoption/use by other services/policies	<b>Cost monitoring</b> Poor cost controlling, and choice of payment modalities	<b>Market competition risk</b> Dependency on few suppliers/ Distorsion of competition	<b>Technological Lock-in</b>		<b>Maintenance and updating</b>
<b>Contract Management</b>						<b>New cycle</b>
<b>Evaluation</b>	<b>Procurement Risks</b>			<b>Innovation Risks</b>		

## How to deal with technological risks?

- **Early supplier involvement** – enables capacity planning on the part of the suppliers and plan their innovation investments
- **Supplier screening** – provide market intelligence to screen potential suppliers
- **Pre-commercial procurement** – soliciting R&D procurement or design contests before the actual bidding process
- **Research grants** – combining the long term procurement process with research grants; supplier shares the risk with a public funding body
- **Involving potential users** – helps improve the acceptability of the innovation in the market place
- **Incentive contracts** – e.g. quality bonuses
- **Risk transfer** – Transferring risks to the suppliers by means of financial instruments (PPP / PFI)
- **Restricted competition** – to provide incentives for suppliers to invest in preparing the bids
- **Technical advisers** – Using technical experts to identify technological risks



## How to deal with organisational and societal risks?

- Risk of insufficient expression of needs
- Risk of insufficient adoption of the innovation by users
  - Marketing and awareness campaigns
  - Joint foresight with public and private lead users
  - Transparent life-cycle cost-benefit models to overcome short-termism
  - Early user involvement: reference groups, users associations
  - Subsidise / sign binding contracts with early adopters
  - Long-term contracting and framework contracts
  - Ex ante analysis of which other services are affected (to deal with "knock on effects")

## How to deal with market risks?

- **Demand risks (private demand not responding):**
  - Demand side measures e.g. market awareness and user training schemes
  - Demand aggregation (bundling)
  - Reserving a percentage of contracts to SMEs in order to prevent market concentration
- **Supply risks (suppliers not responding to tenders):**
  - Split supply into smaller lots
  - Market intelligence and in-depth technological knowledge
  - Standards, regulation
  - Supply chain information

## How to deal with financial risks?

- **Cost of additional bidding, non-completion, cost overruns and costs of non provision or poor provision of the public service**
  - Contingency plans
  - Payment modalities
  - Auctions, e-procurement
  - Aggregation of demand
  - Cost-benefit analysis
- **Non-functioning financial markets**
  - Improving access to funding

## How to deal with turbulence risks?

- **Unforeseen events lead various actors in large-scale projects to re-assess their priorities leading to dysfunctional reactions**
  - Constant discourse / brainstorming
  - Monitoring of actor behaviours
  - Adequate contract clauses
  - Insurance schemes

## Assigning risks

- General principle: Risks should be assigned to the stakeholder best suited to deal with the risk.
- The more risk the public procurers assign to the supplier the higher the price.
- Technical risks can be shifted to the supplier whenever the suppliers see public procurement as a means to:
  - Excellent market prospects
  - Adoption of industry standards
  - Be the first mover in the prospective markets



*'We've considered every potential risk  
except the risks of avoiding all risks.'*

“There are risks and costs to action. But they are far less than the long range risks of comfortable inaction.”

