



Moscow – Saint-Petersburg high-speed rail project (HSR 1)

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Deputy director

Brief description of the HSR 1 project

Main characteristics of the project:

Length – 660 km

Travel time – 2 hr 30 min

Maximum speed up to 400 km per hour

Forecast traffic level – 42 pairs of trains per day

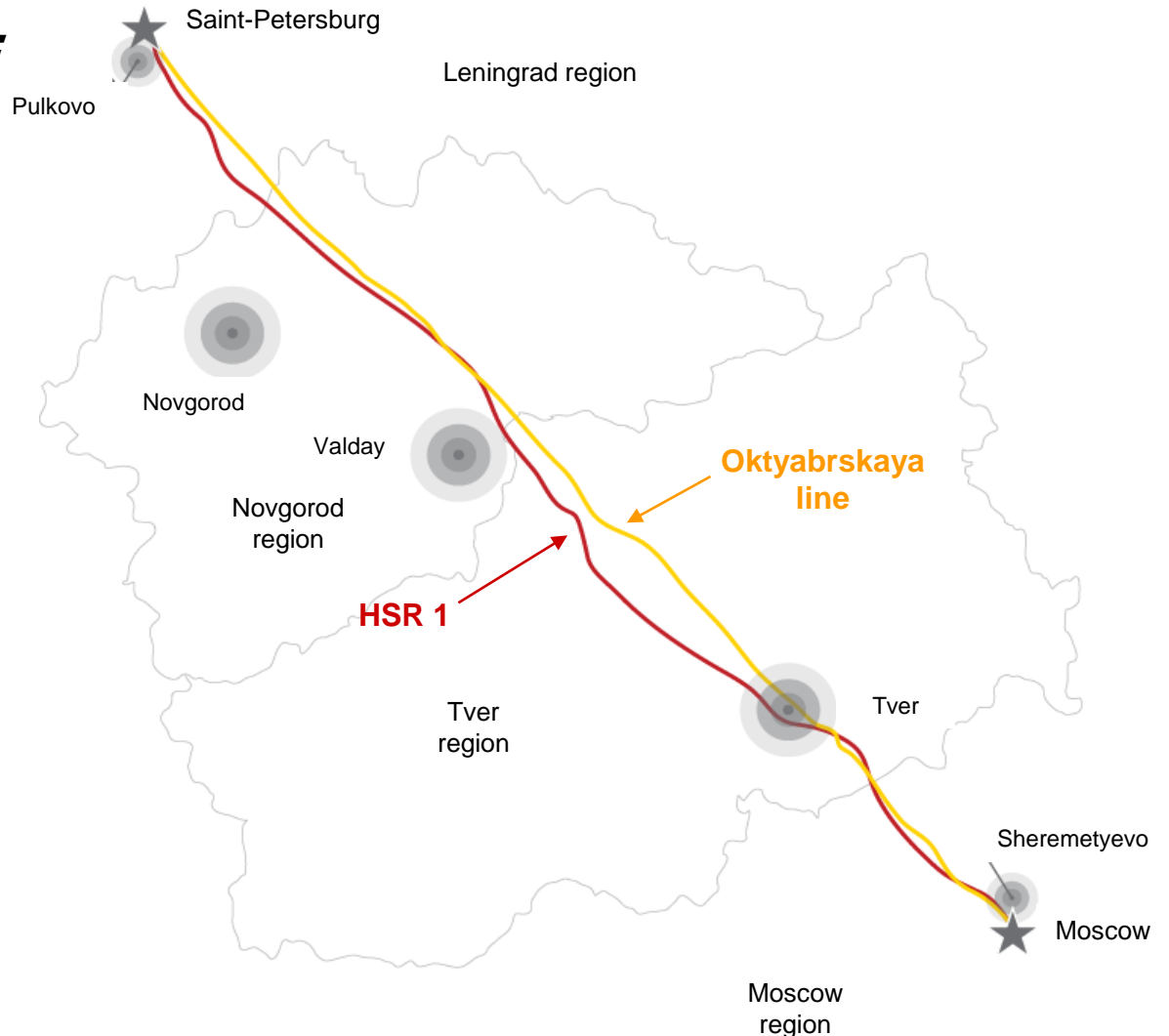
Forecast traffic – 14 ml people per year

Structures – 256 per 72 km

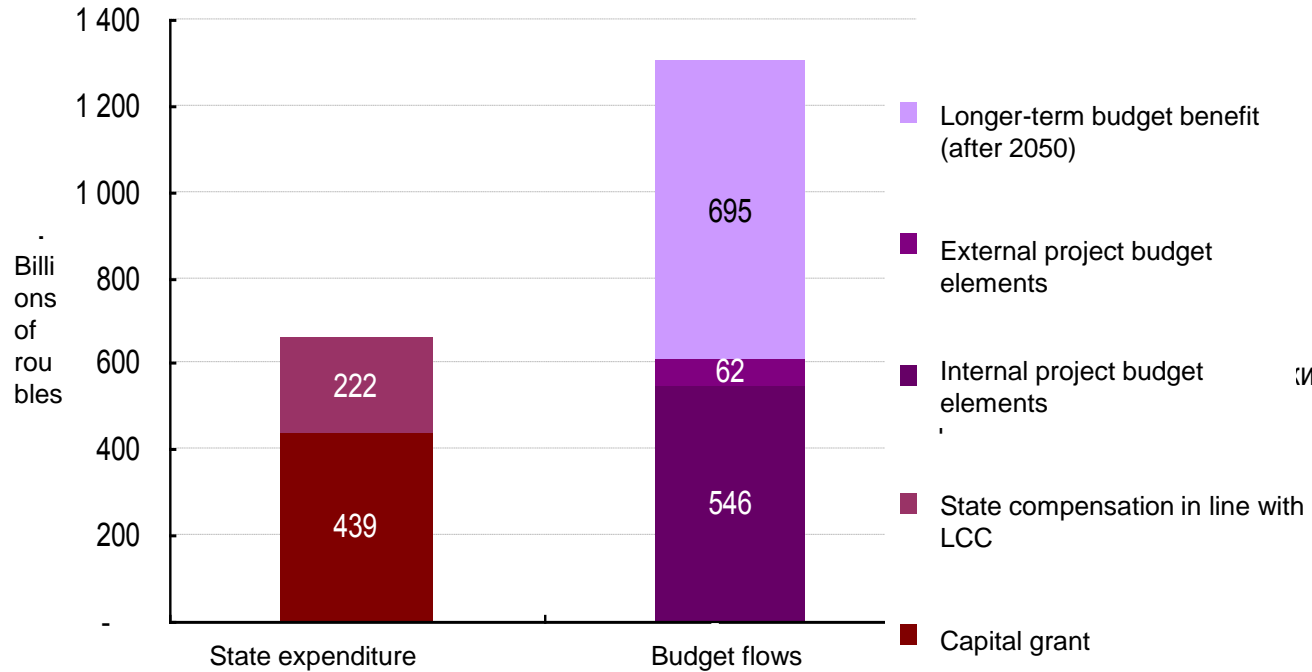
Gauge – 1 520 mm

Procurement basis – PPP (LCC)

CapEx (estimation) – 20 bn Euro



Will Russia benefit from HSR 1?

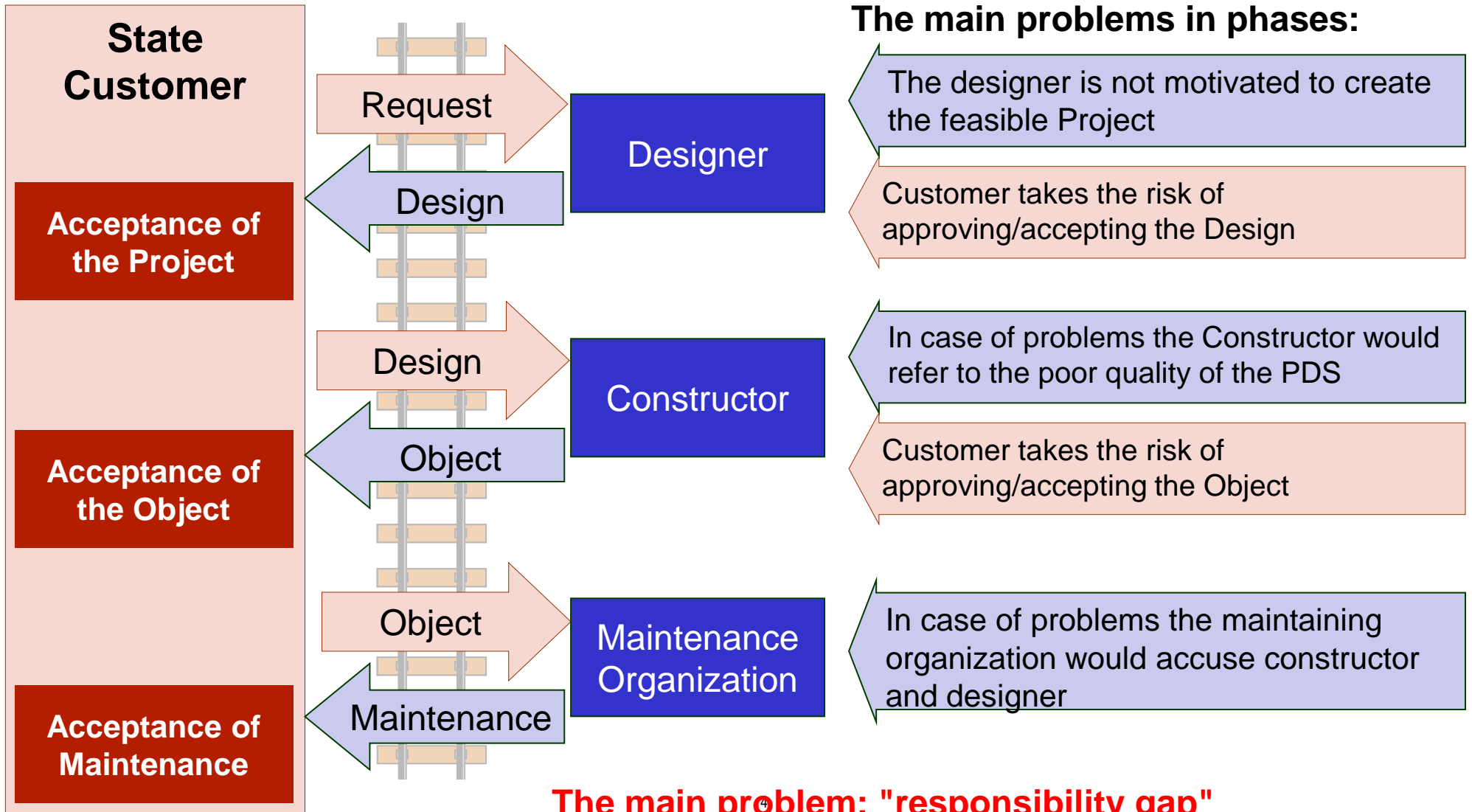


FYI: After 30 years of HSR operation in France the socio-economic benefit was four times greater than the cost.

- Budget efficiency: $RI = 1.97$
- Cost effectiveness: $Et = 0.055\%$
- Aggregate discounted social benefit: 1.5 billion

- Mobility of population
- Regional development
- New investments attraction
- New jobs
- National prestige

"Typical" scheme: step-by-step implementation of the project



Life-Cycle Contract: "No service - no payment"

**Russian
Railways**

**Purchasing
Service**

Contract:

- Term: 30 years (the life cycle of the object)
- SPV builds the road, bringing their funding
- JSC "RZD" starts an annual payments after the launch of the road
- The amount of the annual payment is fixed, with changes subject to simple functional requirements:
 - *Time on the trip*
 - *Capacity*
 - *Safety/Accidents*

**Special Purpose
Vehicle
(SPV)**

Design

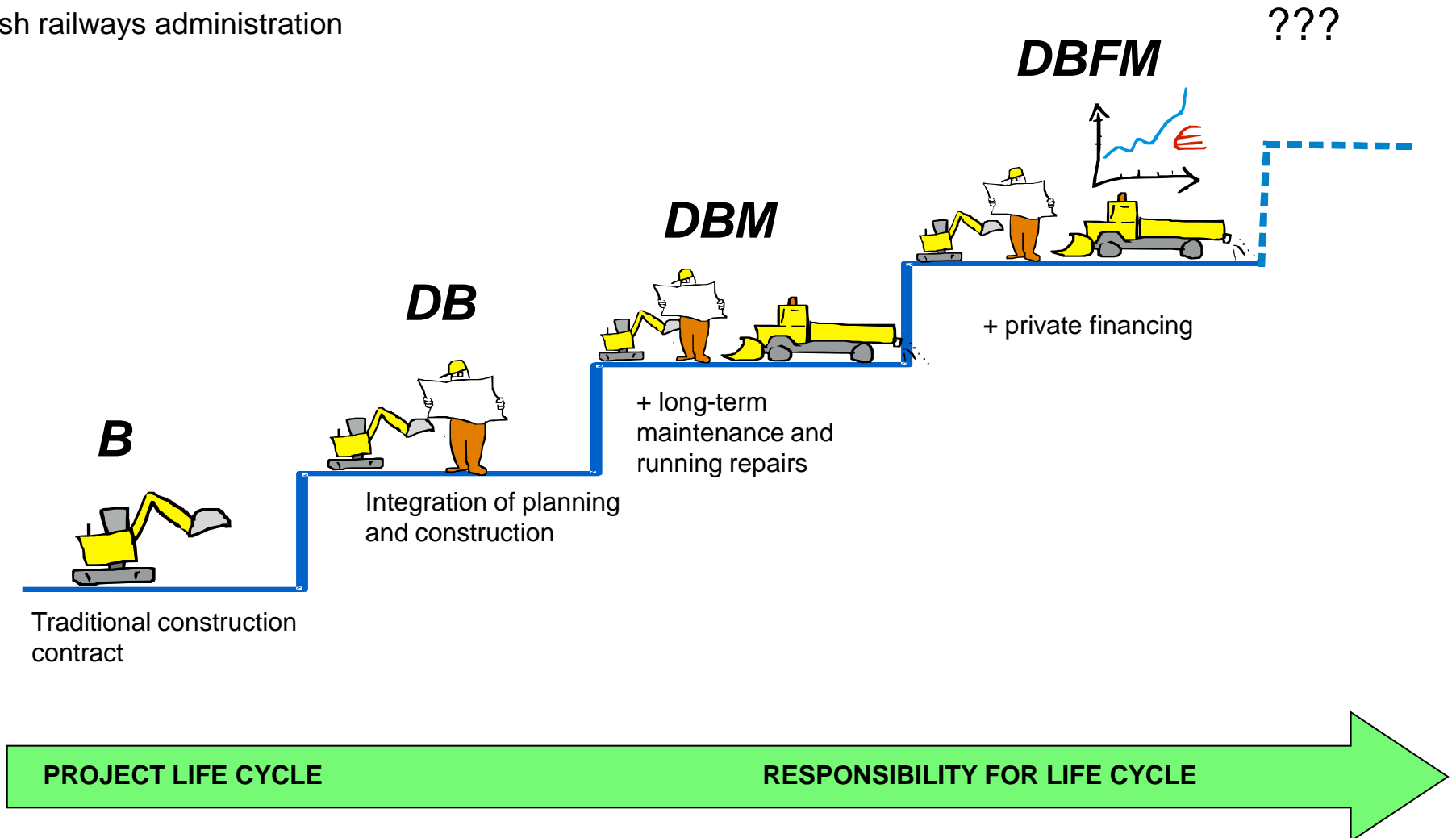
Construction

Maintenance

Finance

Stages in improvement of life-cycle contracts

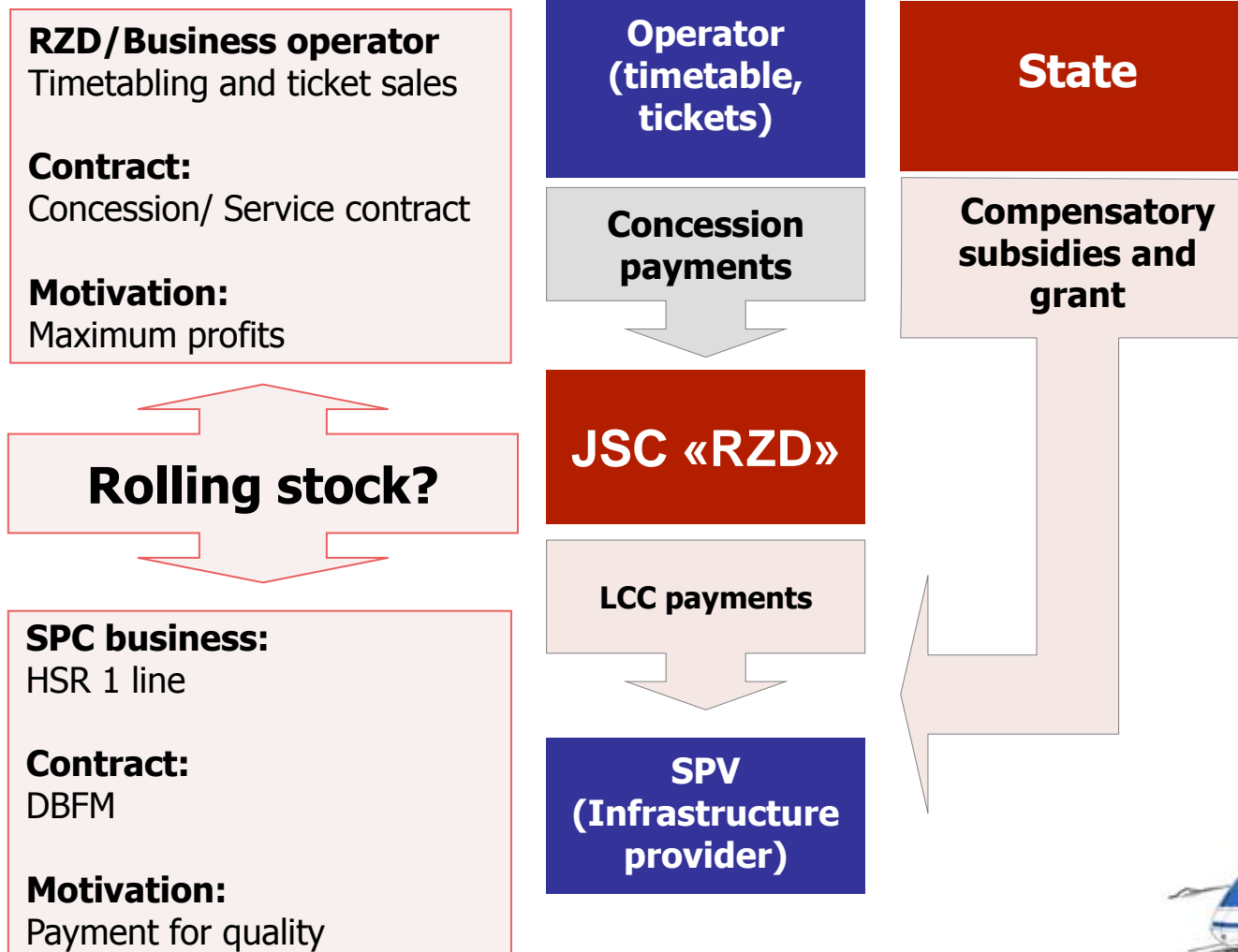
© Finnish railways administration



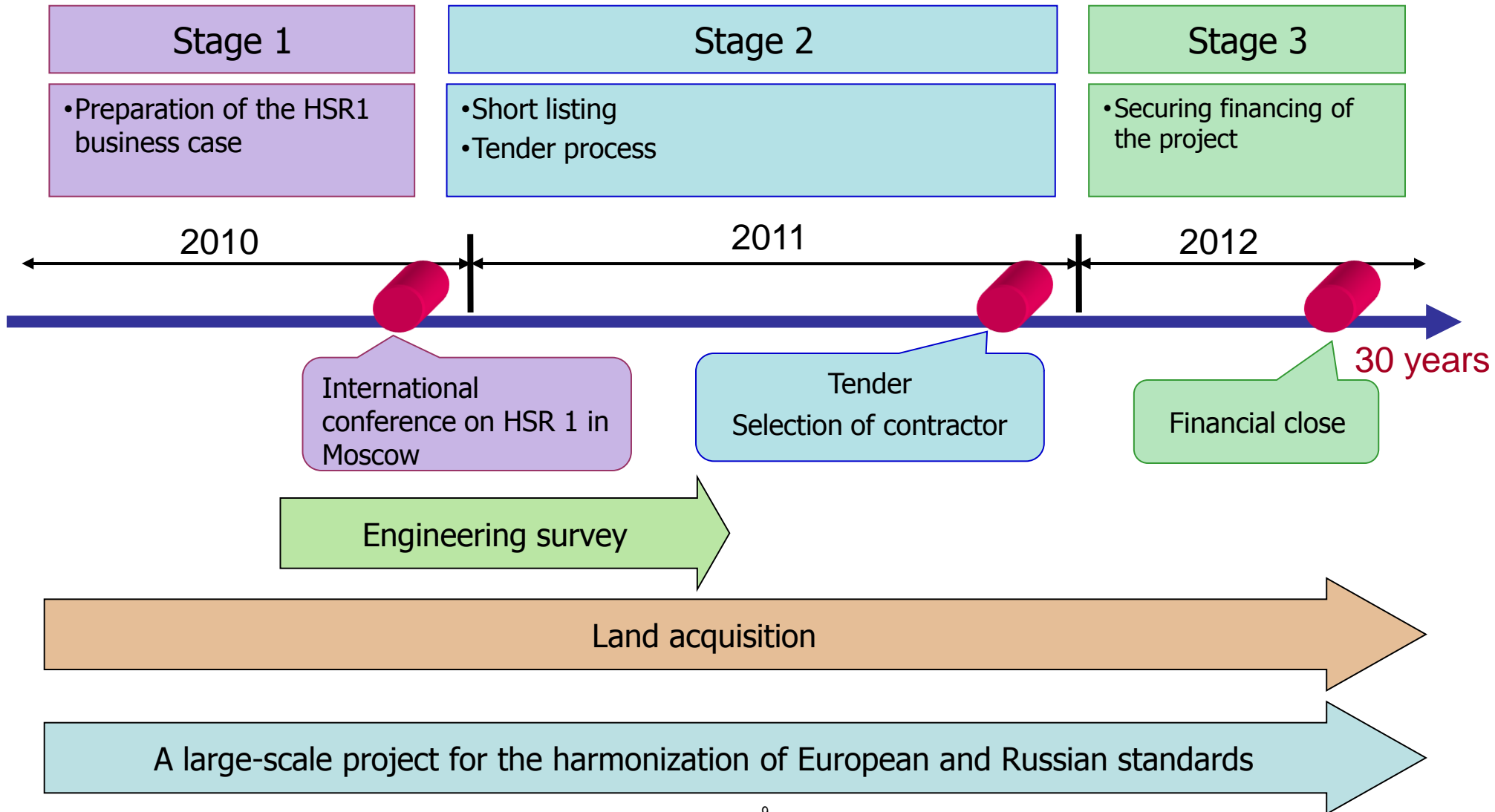
Advantages of Life-Cycle Contract

- LCC developed worldwide over last 15 years
- Transfer of technological and planning risks from Government to the Contractor
- Natural incentive for Contractor to build in time with good quality
- LCM encourages innovation
- Private capital attracted
- Eases the pressure on the budget
- **NB! For the first time the state moves from a cost-based economy to purchasing services**

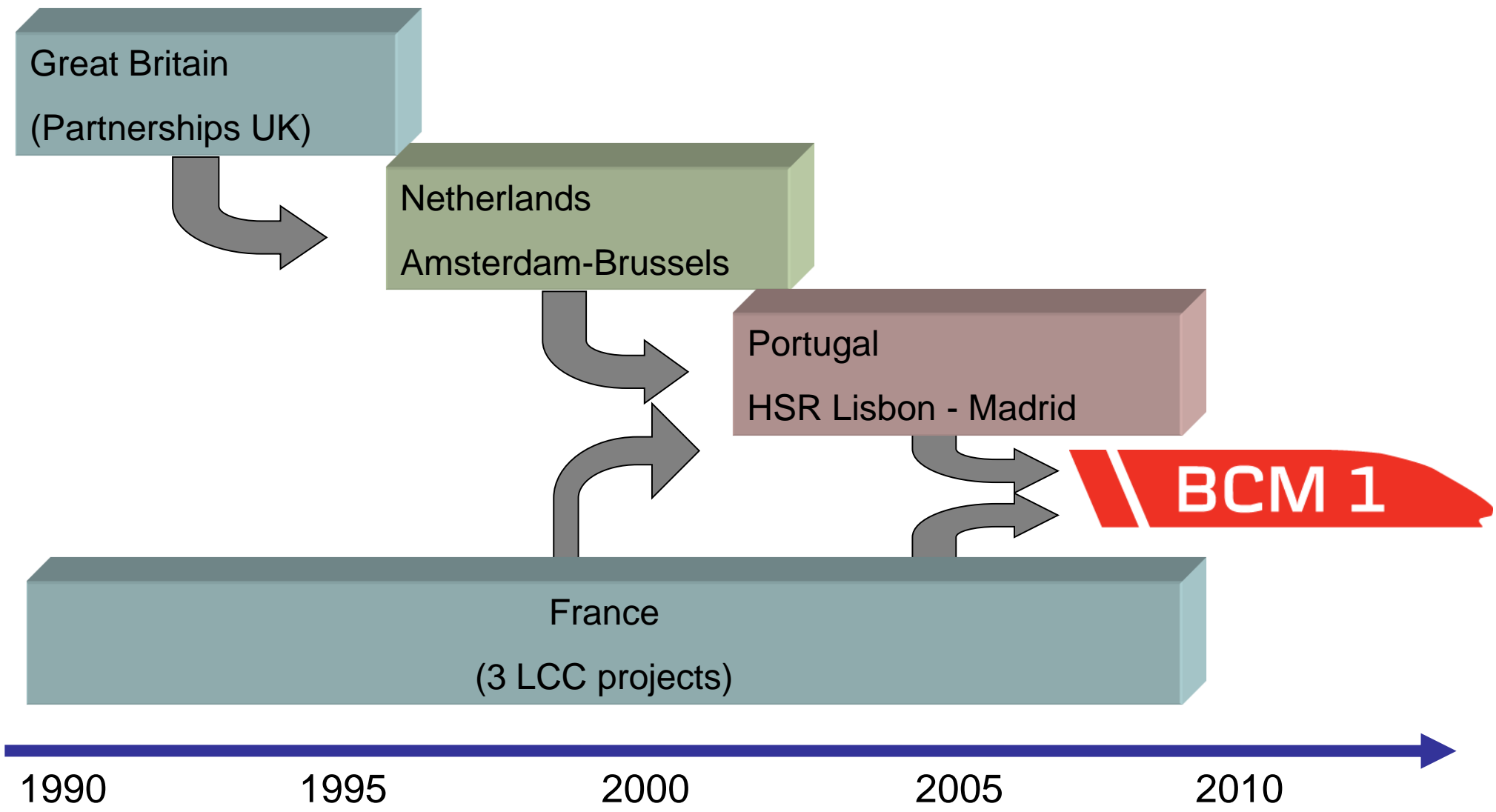
HSR 1 PPP Scheme



Main stages of the project



Leveraging on the international knowledge



HSR 1: Which standards to choose?



HSR standards

NO HSR standards

Railroad standards

Railroad standards

Civil construction standards



Civil construction standards

There are 2 ways to describe products



Functional requirements (performance based)

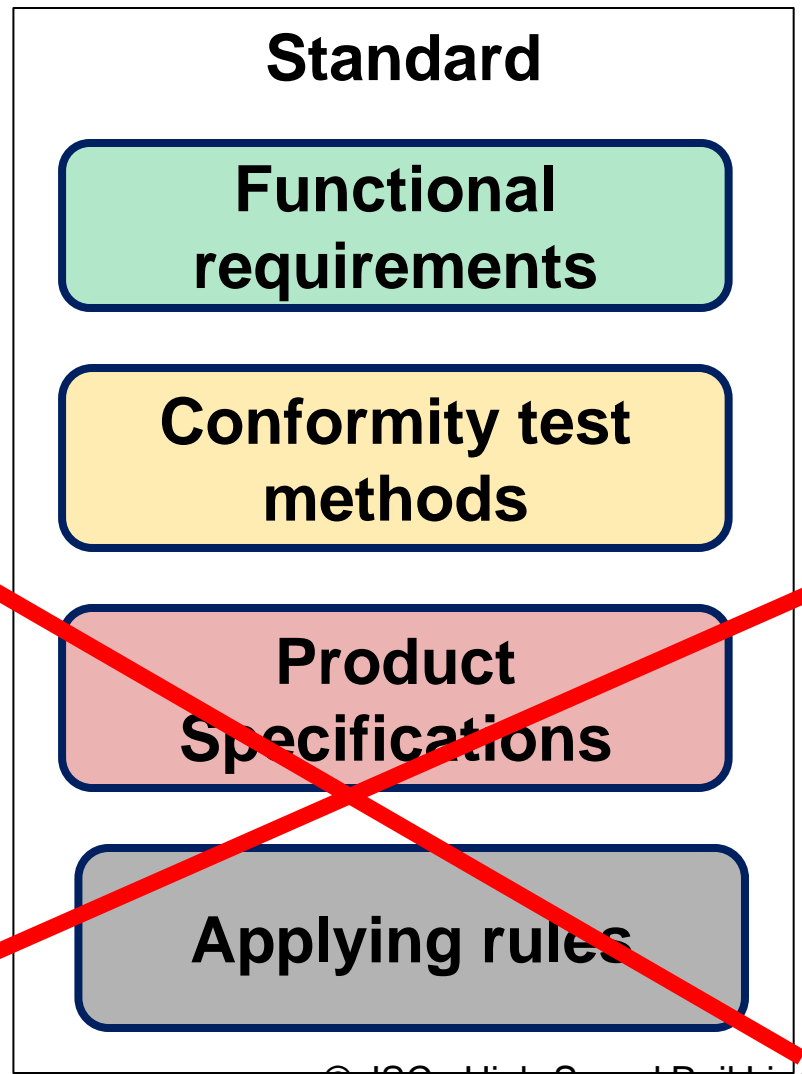
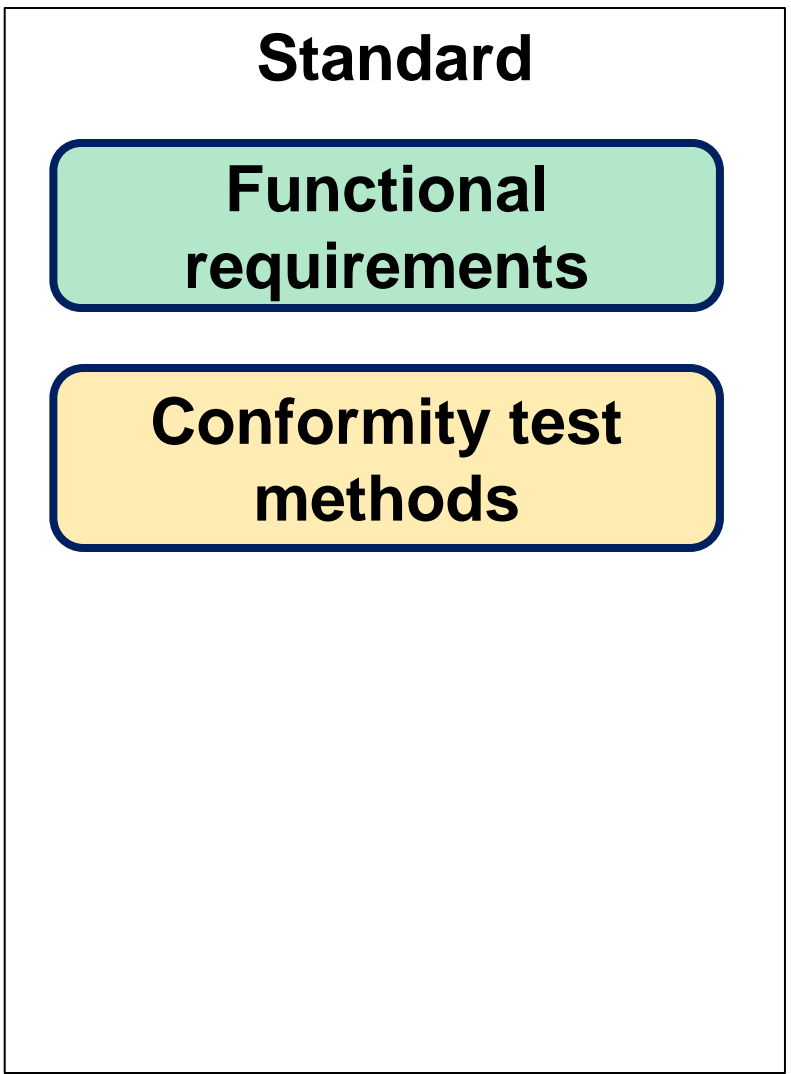
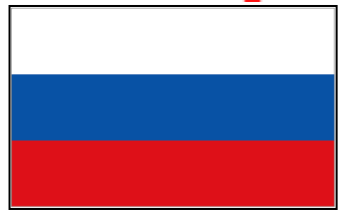
Pole should reflect light with certain efficiency; be safe on impact ; ecologically safe and so on...

Product specification

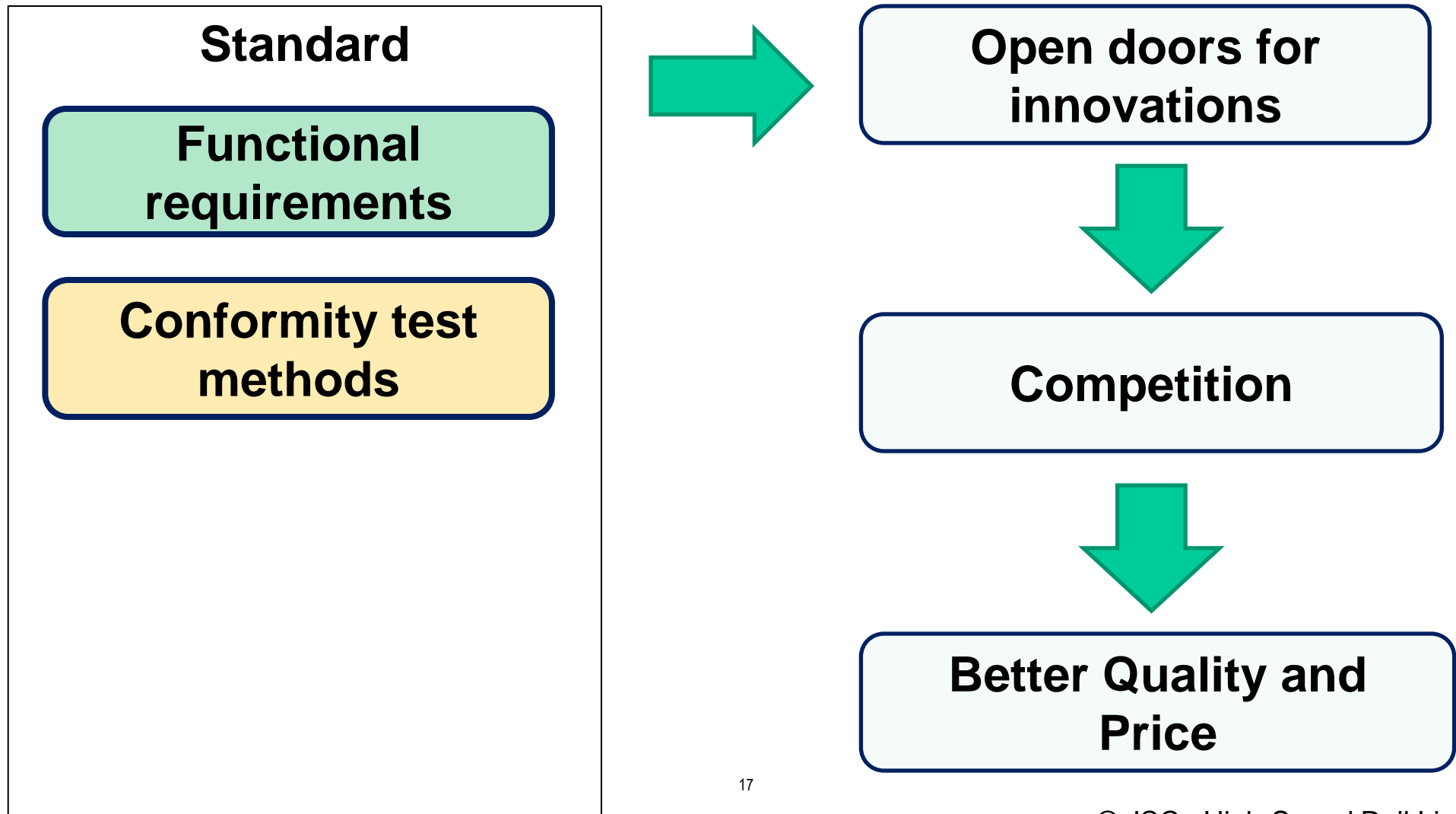
Material – PVC; height – 1 meter; round in section; reflector – specified size, shape and material; installation – 75 cm above surface and 60 cm deep into the ground



2 different models



Advantages of Performance-based Functional Standards



Two ways to get functional standards

Development



+ TIME

Harmonization with
EU



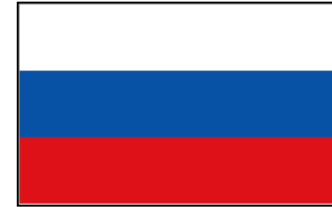
0.00 \$ and very fast

Advantages of real harmonization



1. No need to make and finance own expensive research
2. Fastest way to get new standards
3. Simplifies and stimulates trade between countries
4. Boost competition and makes it fair
5. Decrease protectionism and corruption
6. Reduce construction costs for 10-30%
7. Facilitate integration into world economy
8. Common language for specialists

HSR 1: Which standards to choose?



HSR standards

NO HSR standards

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Railroad standards

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Civil construction standards

**HSR 1 costs: €20 bln.
10% difference = €2 bln**

Action plan

1st Stage. 1 year. ~30 mln roubles

Russian vs European Standards system investigation

Test-run: 10-20 harmonized HSR standards

Develop harmonization plan & technologies

2nd stage. 3-4 years. ~1 bln roubles

Introduction of the harmonized Standards System, in parallel with Russian standards



Спасибо за
внимание
Ваши вопросы?

Александр Турский
Зам.ген.директора

Thank you for your
attention
Questions?

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