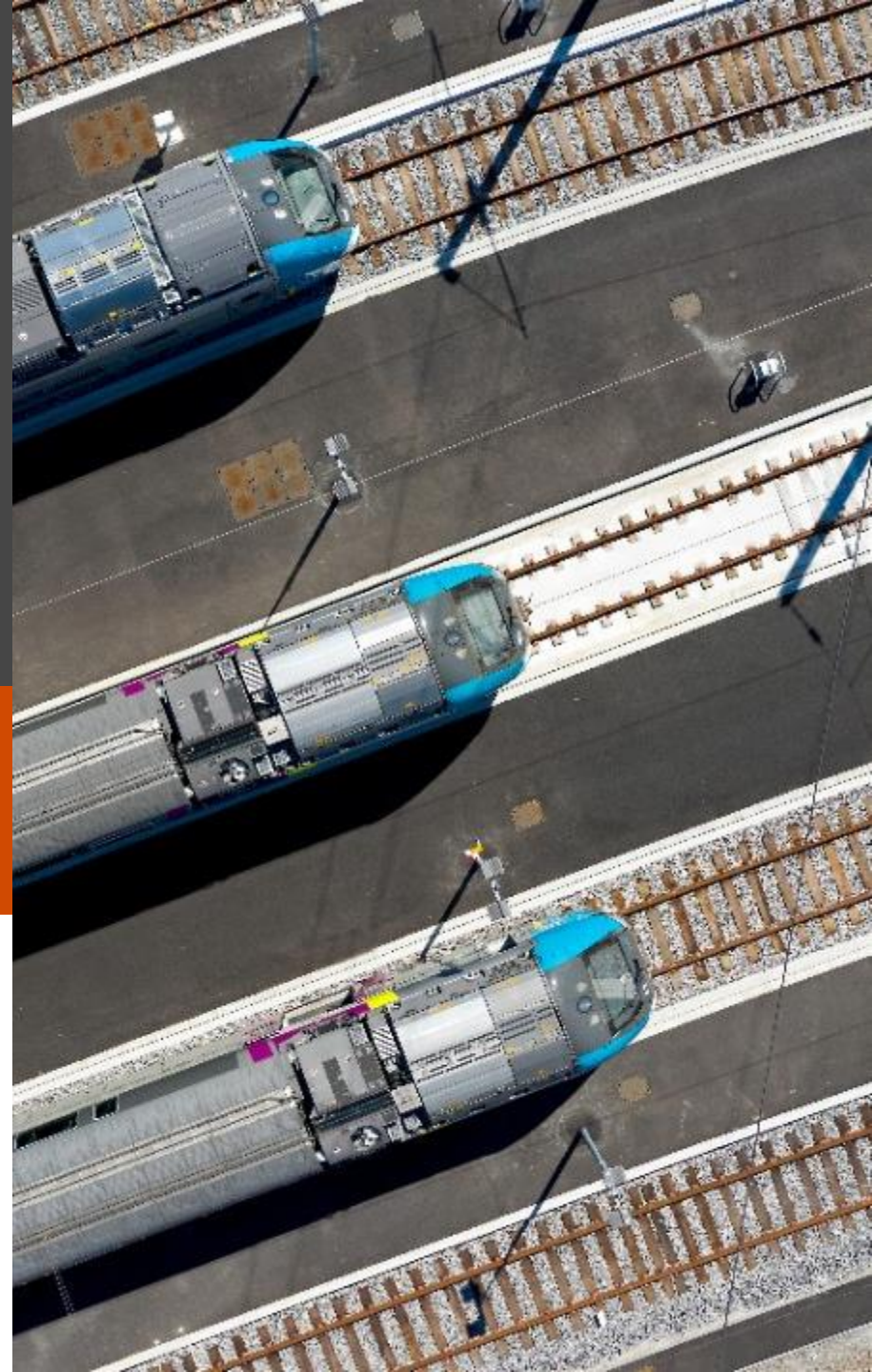


PPP schemes for rolling stock

Opportunities beyond securing financing

UN-ECE Workshop on the role of PPPs in the financing of investment in railways
Geneva, September 2nd, 2024

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Agenda

- ❖ Objectives of a PPP scheme for rolling stock
- ❖ Risks in traditional procurement
- ❖ How PPP schemes could ensure better risk management
- ❖ What “perimeter” should the PPP have
- ❖ Key issues to be considered



Objectives of a PPP scheme for rolling stock (as a reminder)



SECURE PRIVATE SECTOR FINANCING to ensure timely project implementation and compensate the financial constraints in available public funds (both from national and international institutions), by translating upfront capital expenditure into future service payments.



TRIGGER BETTER RISKS ALLOCATION to the party best able to manage them at least cost/effort and with the best skills (e.g. avoiding that incomplete, wrong or unsuitable design decisions taken by the public sector will impact rolling stock performances during operating life)



GENERATE OVERALL LIFECYCLE EFFICIENCY OF THE PROJECT e.g. PPP including maintenance service provision provide the private sector with strong incentives to minimise costs over the whole life of the rolling stock, to respect reliability targets etc.



FACILITATE THE ADOPTION OF UP-TO-DATE TECHNOLOGIES since the private sector has (or could acquire more easily) experience and also has stronger incentives to develop the project by introducing technical innovations that will benefit rolling stock performances

How to project risks are managed in the traditional procurement approach for rolling stock

Non-exhaustive

RISK TYPE	PUBLIC	PRIVATE	NOTE
DESIGN	●		The public entity designs the rolling stock & stipulates the specifications, so risks related, for instance, to safety regulations changes impacting on design are under its responsibility, such as errors or insufficiency of the design
FUNDING	●		The public entity is fully responsible of ensuring timely and adequate funding
CONSTRUCTION		●*	Delays in delivery and quality of the rolling stock are on the private sector, *although within the limits set by the contract specifications
SUPPLY CHAIN		●	The private supplier is usually responsible of ensuring that changes in availability and costs of parts will not impact on rolling stock delivery, except in the case of “force majeure” issues
APPROVAL	●	●	New rolling stock typically requires technical approval by governmental safety authority, that is practically carried out by the private supplier, but with responsibility related to design issues remaining on the public
MAINTENANCE	●	●	The private supplier is typically requested to ensure certain “maintainability” targets (i.e. max unit maintenance costs), but takes full responsibility only when the contract includes “full service”
OPERATIONS	●	●	The private party takes responsibility about operating performances post delivery only within the limits set by the contract and provided a proper management of the rolling stock

Example of main risks in a rolling stock contract

High speed train sets (1/2)

ILLUSTRATIVE

DEFINITION	CATEGORY	RISK ASSESSMENT	
		IMPACT *	PROBABILITY **
Increase in supply costs due to consolidation of the bill of materials	Design		
Delay in delivery of trains compared to the supply plan	Construction - Delivery		
Variations in planned times and costs of design and production	Design & Costruction		
Provision of supplies from consortium partners (in charge specific of sub-systems) coherent with the expected frequency of delivery	Supply Chain		
Provision of external supplies coherent with exp. frequency of delivery	Supply Chain		
Authorised commissioning < contractual requirements (e.g. max speed)	Rolling stock approval		
Delay in tests and technical admission by Rail Safety authority	Rolling stock approval		
Feasibility of technical admission on foreign networks (if foreseen)	Rolling stock approval		
RAMS Index: Exceeding contractual reliability target	Operation		
RAMS Index: Exceeding contractual availability target	Operation		
Disagreement on price revisions during contract execution	Other		

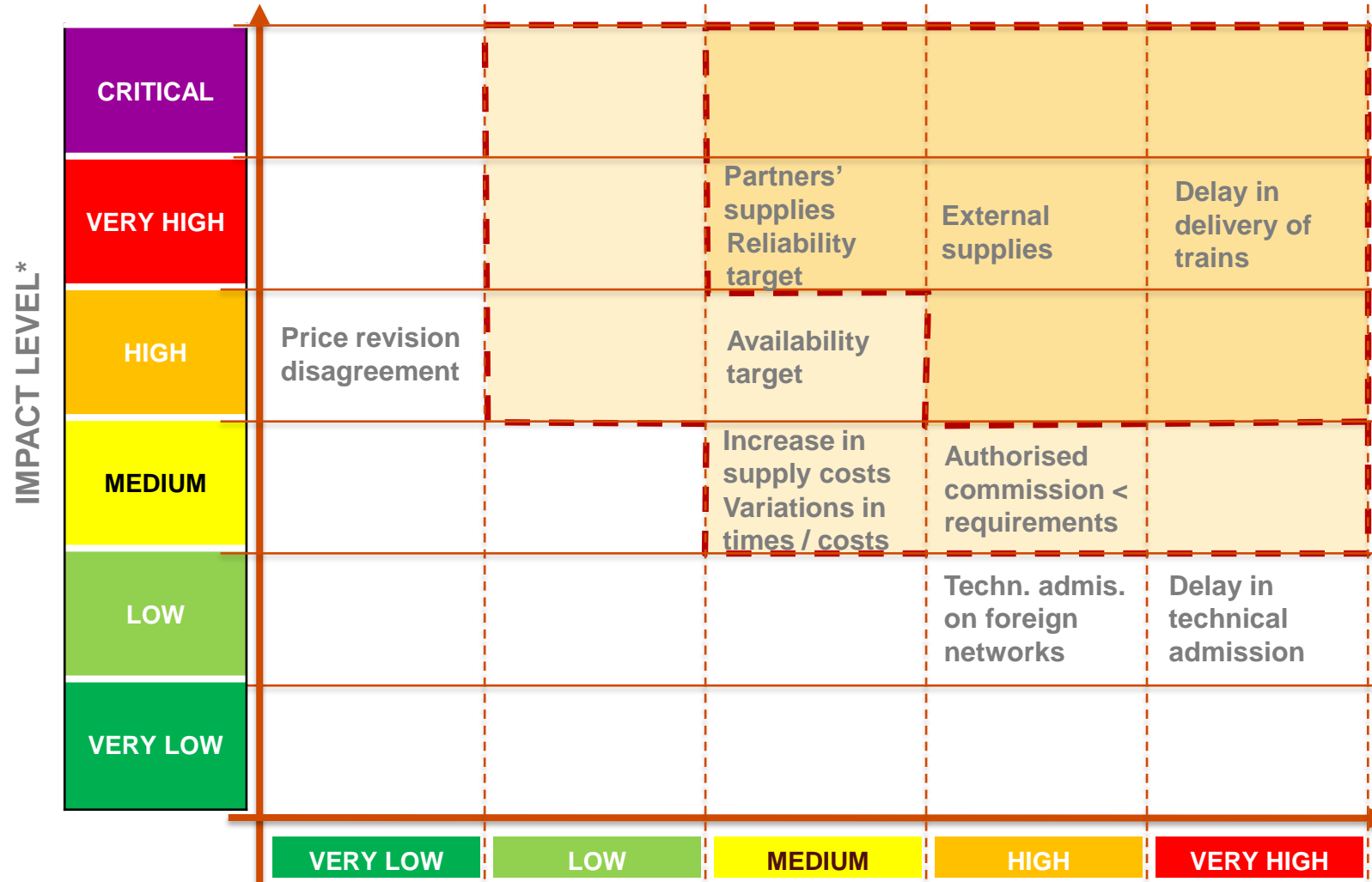
* According to the economic effect in % of contract value

** According to likely occurrence on similar contracts

Example of risks in a rolling stock contract

High speed train sets (2/2)

ILLUSTRATIVE



* According to the economic effect in % of contract value
 ** According to likely occurrence on similar contracts

A typical issue about risk management in the traditional procurement for rolling stock

- ❖ **Excessive reliance on contractual penalties** for late delivery or low performances of the rolling stock can be **misleading** or **not provide sufficient incentive** to the supplier, since
 - the private party is often **better structured** to avoid taking full responsibility of delivery issues (e.g. suggesting the inadequate design was the cause)
 - it could even “**budget**” a **certain level of penalties** if some performance target are considered to be unfeasible
 - at the end of the day, the public sector’s objective is to **have the needed rolling stock on time and with the requested level of performances**, not levying penalties on the OEM



How PPP schemes could ensure better risk management for rolling stock procurement

Non-exhaustive

RISK TYPE	PUBLIC	PRIVATE	NOTE
DESIGN	● → ●	●	Although general specifications remain responsibility of the public entity, the final design and its quality vs safety requirement, technological innovations, compatibility with infrastructure etc. are largely transferred to the private entity
FUNDING	● ↔ ●	●	Private sector shall ensure a certain amount of funding, typically translated into future service payments (so that it is also incentivized on delivery the rolling stock on time and providing the expected level of service)
CONSTRUCTION		●!	Delays in delivery and quality of the rolling stock remains on the private sector, triggered not just by contract but also by the economic incentive it has in order to start receiving service payments based on delivery & running of the rolling stock
SUPPLY CHAIN		●!	For the same reason, such risks are likely to be more carefully managed (in particular n terms of suppliers selections of key parts) to ensure that there will be no impact on project delivery
APPROVAL	● → ●	●	Compared to traditional model, approval by safety authority is entirely under the responsibility of the private sector since it is in charge on the final design
MAINTENANCE		●	The private supplier has a direct economic incentive to ensure certain “maintainability” targets (i.e. max unit maintenance costs), since maintenance is typically part of the its obligations
OPERATIONS	● → ●	●	The private party <u>may</u> also take responsibility about operating performances post delivery, not limited to the construction warranty period & limits

What “perimeter” should the PPP have, considering also likely system’s evolutions

Assets



Rolling stock including relevant technology e.g. onboard command & control systems



Trackside command & control equipment (only if highly specific for the procured rolling stock)



Maintenance facility (especially in case of no available / suitable workshop) or its internal equipment



Software necessary for rolling stock management, operating simulation, etc.



Some key issues to be considered

- ❖ **TAKE INTO ACCOUNT THE ROLLING STOCK MARKET STRUCTURE:** especially for passenger rolling stock, there is an increasingly consolidated market dominated by a limited number of large OEMs, often with limited available production capacity in the short term
- ❖ **FACILITATE OEMs WILLINGNESS TO ENGAGE IN PPP SCHEMES through proper dialogue with them:** some OEMs experienced difficult events in similar projects, so that they did not want to engage on longer term financial relationships (potential affected by political instability etc.) and/or will try to exit from the PPP once the rolling stock delivered
- ❖ **ENSURE POTENTIAL LIQUIDATION OF ASSETS** in case of commercial failure of the project, e.g. avoiding too tight specification + ensuring proper regulatory framework (e.g. by implementing **Luxembourg protocol**)

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Thank you

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