

The logo for K&L GATES, featuring the company name in white, uppercase letters on an orange rectangular background.

K&L GATES

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# Allocating and Managing Risk in Major Rail Projects

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# TOPICS TO BE COVERED

- Identifying and managing risks
- Forms of contracts
- Common issues with risk allocation in Rail contracts



# Identifying and Managing Risks

# TYPES OF RISK ON RAIL PROJECTS

- Broader than the usual financial and safety risks on construction projects.
- Potentially prevents or affects the railway/project from functioning as intended, leading to uncertainty, e.g.:
  - Cost overruns;
  - Project delay;
  - Safety issues in relation to both construction and operation;
  - System integrity and reliability.

# CATEGORIES OF RISK ON RAIL PROJECTS

- Technical risks:
  - Design, e.g. completeness, integration, intellectual property rights
  - Construction/operational, e.g. safety, quality control, labour
  - Technology and obsolescence, e.g. use of unproven/outdated technology
  - Location, e.g. adverse climatic or geological conditions
- Commercial and procurement risks:
  - Size of the project, links to other procurements
  - Budget constraints and immovable timescales
  - Type of contract
  - Dispute resolution

# CATEGORIES OF RISK ON RAIL PROJECTS

- Interface risks
- Financial risks:
  - Funding and budget constraints
  - Changes in exchange rate
  - Inflation.
- Legal and Political risks:
  - Government policy, uncertain regulatory environment
  - Taxation
  - Public perception.

# RISK MANAGEMENT

- Risk management is an ongoing process which continues throughout the life of a project and includes:
  - Identification
  - Assessment
  - Allocation
  - Mitigation
  - Monitoring and review
  
- Risk matrix/risk register

The image features a bokeh background of light blue and white circular spots. A solid orange horizontal band is positioned in the middle, containing the text "Forms of Contract".

# Forms of Contract



# COMMON CONTRACTING STRUCTURES

## Engineer-Procure-Construct (EPC) Contract / Design-Build (D+B)

- e.g. FIDIC 'Silver' Book, NEC3 Option A
- Single point of responsibility
- Cost certainty

## Engineering Procurement and Construction Management (EPCM)

- EPCM contractor manages Client-appointed contractors
- Lower cost
- flexibility

# COMMON CONTRACTING STRUCTURES

## Target Cost Contract with Pain share/Gain share

- E.g. NEC3 Option C, ICC Target Cost Contract
- Appropriate where there are uncertainties in the project, e.g. at the earlier stages of planning/design
- Contractor is incentivised to mitigate due to pain/gain mechanism
- Encourages collaborative behaviour as the risk is 'shared'
- Often a heavy administrative burden

# COMMON CONTRACTING STRUCTURES

## Public Private Partnership (PPP) Contract

- Funding advantages for public authorities
- Avoids public sector inefficiencies due to private sector participation
- Can be expensive
- Long term commitment to recoup investment, eg 20-30 year arrangements

The image features a blue background with a bokeh effect of light spots. A solid orange horizontal band is positioned in the middle, containing the title text.

# Risk allocation issues in rail contracts

# ISSUES SPECIFIC TO RAIL CONTRACTS

- Consider different issues and risks for different works packages, e.g.
  - Civils/track
  - Rolling stock
  - Systems
- Often appropriate to break a large and/or complex project down into smaller, more manageable sub-projects or sections e.g. for a systems project:
  - signalling
  - telecommunications
  - power and safety systems

## ISSUES SPECIFIC TO RAIL CONTRACTS

- Systems contracts do not fit easily into a standard construction contract or software contract, in particular, completion mechanisms and defects require detailed consideration.

## SYSTEMS: COMPLETION MECHANISMS

- Careful consideration is required to find an appropriate completion mechanism to mitigate the following risks:
  - cost overruns
  - delays
  - safety of the railway
- Consider shared risk:
  - Collaborative working
  - Heavy administrative burden

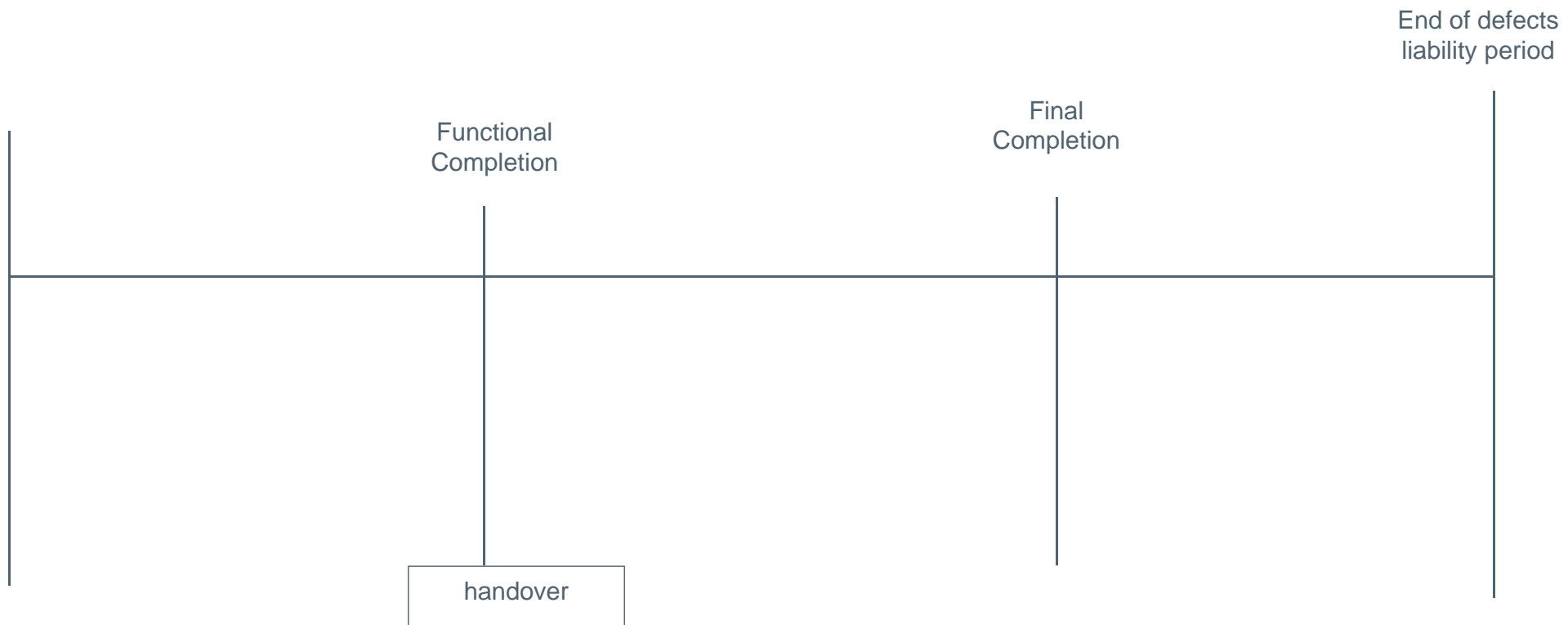
# SYSTEMS: COMPLETION MECHANISM

- Completion structure
  - Standard forms do not address achieving performance requirements and RAMS targets and heavy bespoke amendments will be required.
  - Contract should address the period between handover, when the System is “functionally complete” and in revenue service and “final” completion, where the System has been proven to be consistently performing as required.
    - Fine tuning and software fixing
    - Reliability
  - Sectional Completion?



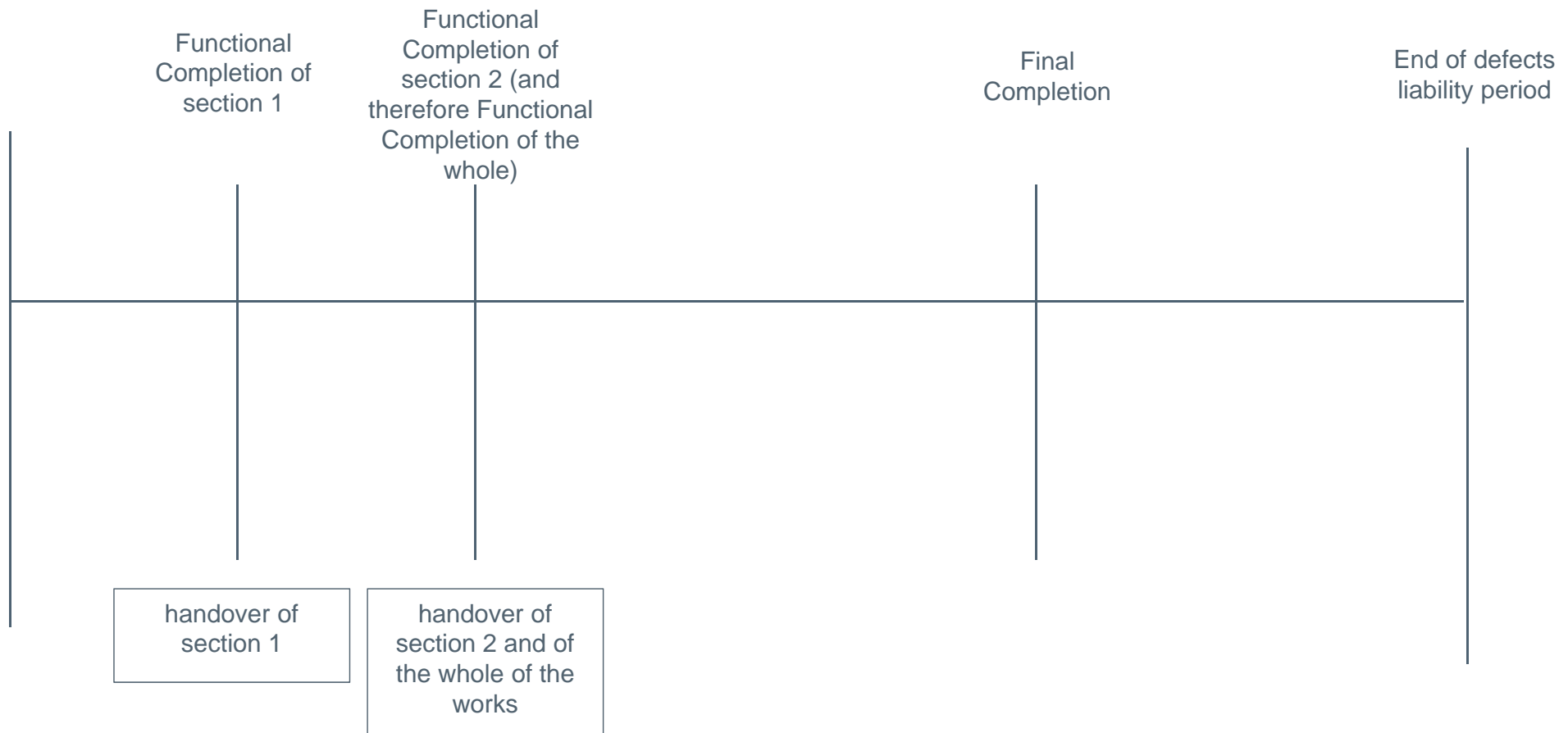
# SYSTEMS: COMPLETION MECHANISMS

## Optional No. 1: No Sections but Functional Completion



# Systems: Completion mechanism

## Optional No. 2: Functional Completion of two Sections



# SYSTEMS: DEFECTS

- Defects, software and low performance
  - Software defects
  - Loss of functionality
  - Categories of defects:
    - E.g. Critical defects and non-critical defects
    - Time for correction
    - Payment
  - Defects liability period

# INTELLECTUAL PROPERTY RIGHTS AND INTERFACES

- Intellectual Property Rights
  - Licences
  - Source Code in escrow
- Interface issues
  - Existing assets/infrastructure/adjacent projects
  - Other packages and sub-packages
  - Maintenance
  - Delays
  - Detailed bespoke interface provisions and access regimes are required.

# ALLOCATING RISK: CONTRACTUAL PROTECTIONS FOR CLIENTS

- Common protections against poor by the Contractor/Supplier:
  - Parent company guarantees
  - On-demand bonds
  - Collateral warranties
  - Project monitoring and step-in rights
  - Change of control
  - Caps on liability
  - Delay damages
  - Performance regimes

# PERFORMANCE REGIMES AND RAMS TARGETS

**Office of Rail Regulation, March 2015, Track Access Guidance:**

- “(a) provide adequate and continuous incentives for both parties to improve performance, both in terms of punctuality and reliability;*
- (b) make reasonable provision for compensation for the expected revenue loss to passenger operators and a mix of revenue loss and costs for freight operators;*
- (c) give an appropriate balance of risk and reward for each party;*
- (d) avoid perverse incentives that could affect the way Network Rail regulates the operation of the network and, in particular, to ensure that the performance regime does not encourage Network Rail to discriminate unduly between users of the network; and*
- (e) avoid undue constraints on the network or acting as a barrier to new entrants.”*

# PERFORMANCE REGIMES AND RAMS TARGETS

- Measurable qualitative standards to improve the provided service.
  - Availability thresholds
  - Reliability targets
- Incentivise v penalise.
- Key Performance Indicators (KPIs):
  - Bonus Payments
  - Abatements
- Damages for Service Disruption:
  - Customer compensation regimes
  - Operator/maintainer issues
  - Fault allocation rules

# CONCLUSION

- Consider the risk profile you are prepared to accept including its effect on the price
- Try to ensure through your contracts that risks are placed with the party who is in the best position to manage them
- Establish a risk identification/assessment mechanism within the contract
- Ensure key contractual mechanisms are tailored to address rail-specific issues
- Consider protections and incentives to improve performance e.g. performance regimes.



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