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Civil Construction Risk Engineering: An Insurance View

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Civil Construction Risk Engineering: An Insurance View

- CAR Insurance Civil Construction
- Risk Focus
- Risk Engineering Assessment
- Industry Response

Civil Construction Risk Engineering: An Insurance View

- Health Warning:
  The following presentation focuses upon the CAR Civil Construction insurance program as defined within LIU. Other First Party Underwriters may approach this subject differently.



CAR Insurance Civil Construction

- CAR – Construction All Risks
  - Policy Wording, Exclusions, Limits and Deductibles
- First Party Cover
  - OCIP or CCIP
- Third Party
  - Not always included
  - Location, project requirements, separate policy

CAR Insurance – Civil Construction

- Civil Construction in LIU is:
  - Highway and pavements infrastructure
  - Rail Infrastructure; heavy rail, transit
  - Tunnel
  - Bridges
  - Dams
  - Ports and harbours
  - Pipelines
  - Associated earthworks, structures and systems
- LIU Insurance Appetite is:
  - "Heavy" civil works
  - US$150m – US$1.5bn construction value
  - 3-5 year construction program
  - World-wide spread – but not everywhere!

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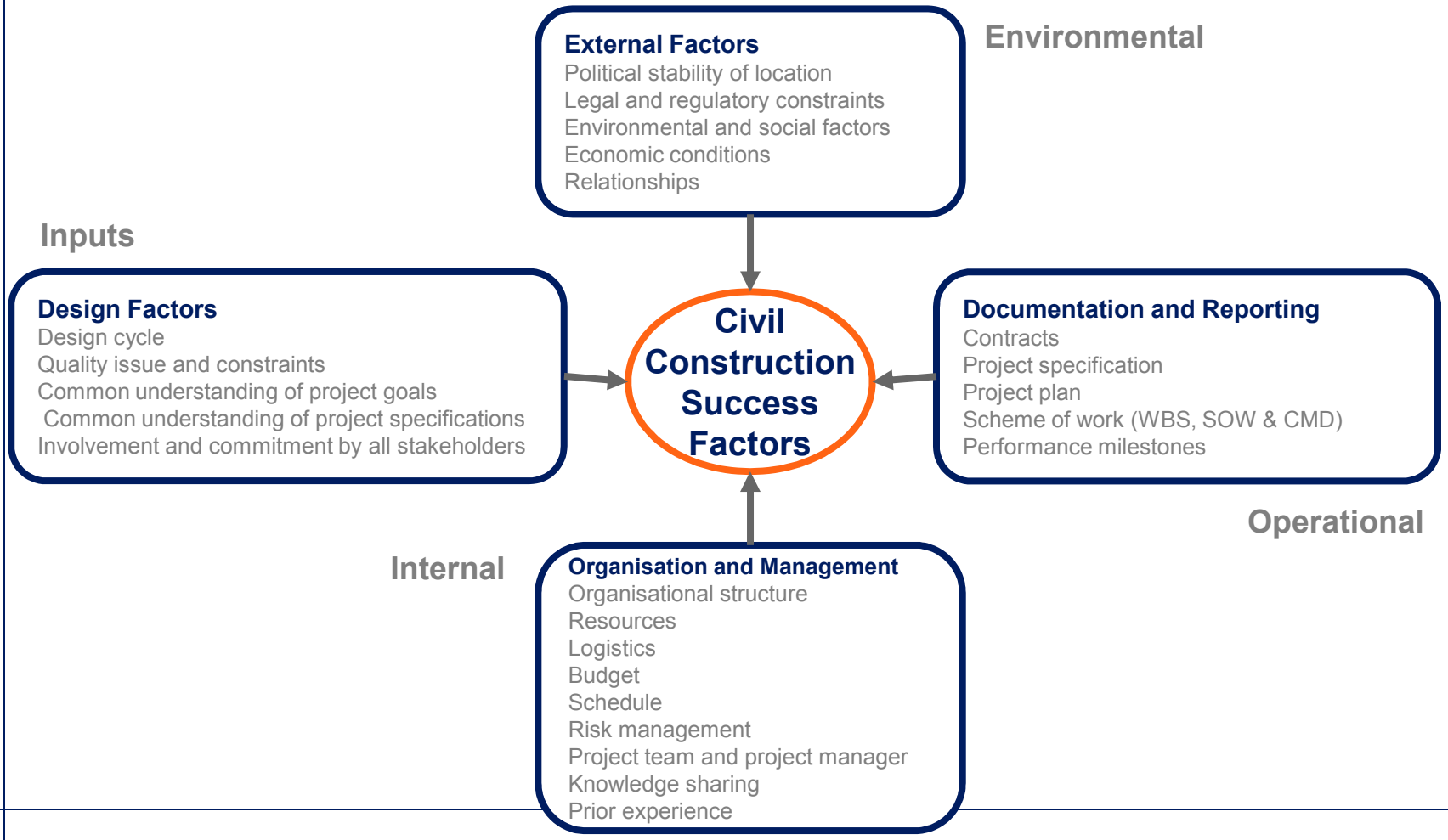
Risk Focus – Civil Construction “Facts”

- Generally linear, often without “work-around”
- A key risk is water – in all its forms
- Subsurface conditions can vary significantly
- Subsurface conditions influence means, methods and cost
- Contractors do not accept risk, they price risk
- Owners want lowest construction cost
- Contracts that anticipate risk result in lower cost and fewer claims

Risk Focus - Critical Success Factors



Risk Engineering Assessment: 4 Pillars

1. Organisation and Structure – *who*
2. Technical – *what*
3. Natural Perils – *where*
4. Program & Budget – *how*

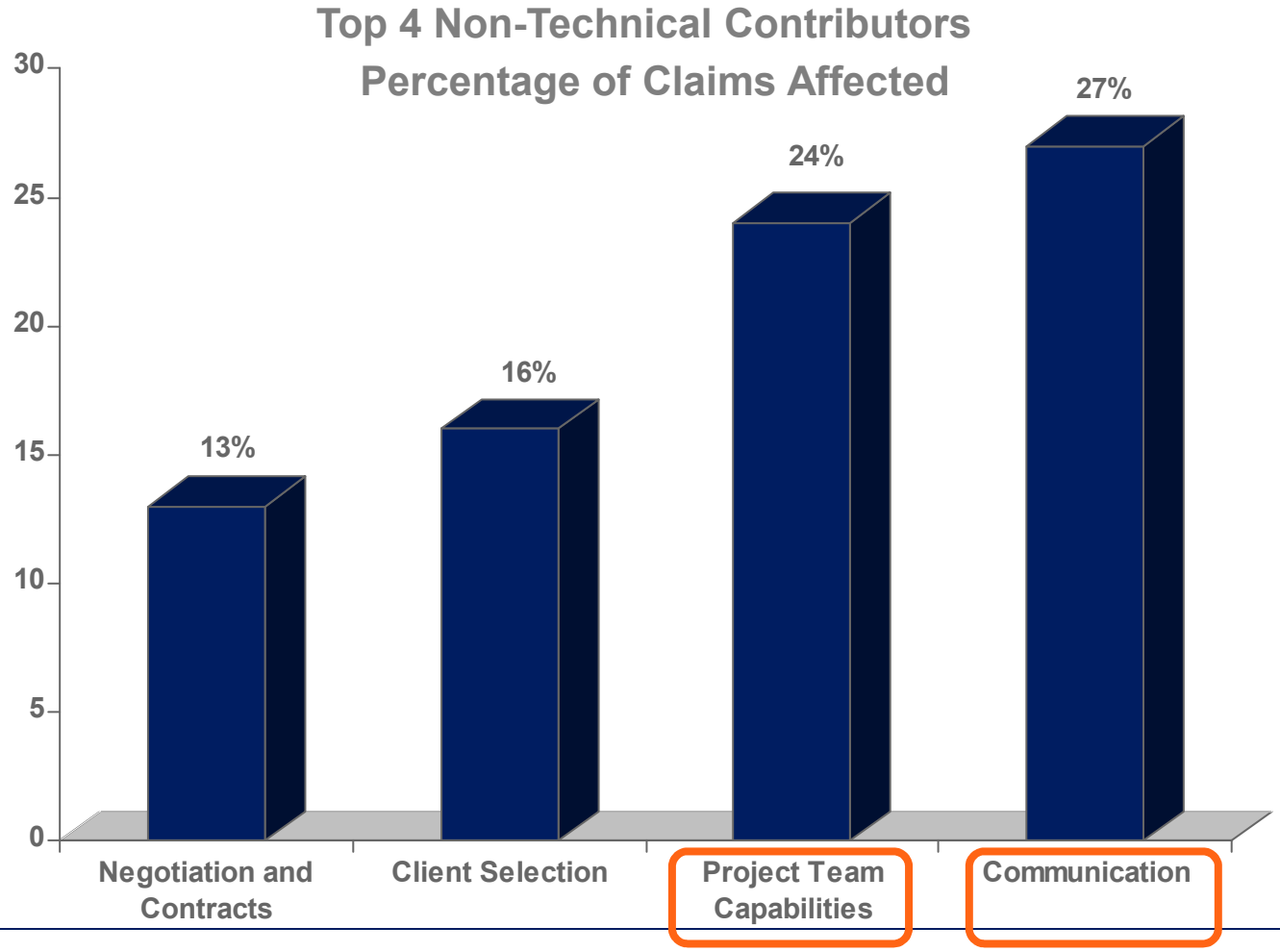
Risk Engineering Assessment: 4 Pillars

1. **Organisation and Structure – *who***

   Client
   Project Team –Contractor, Designer, PM, etc.
   Procurement – of project services, transparency
   Contract Form – relationship and risk allocation
   Pro-active Risk Management, JCoP
   Processes – PMP, QMS, HSSE

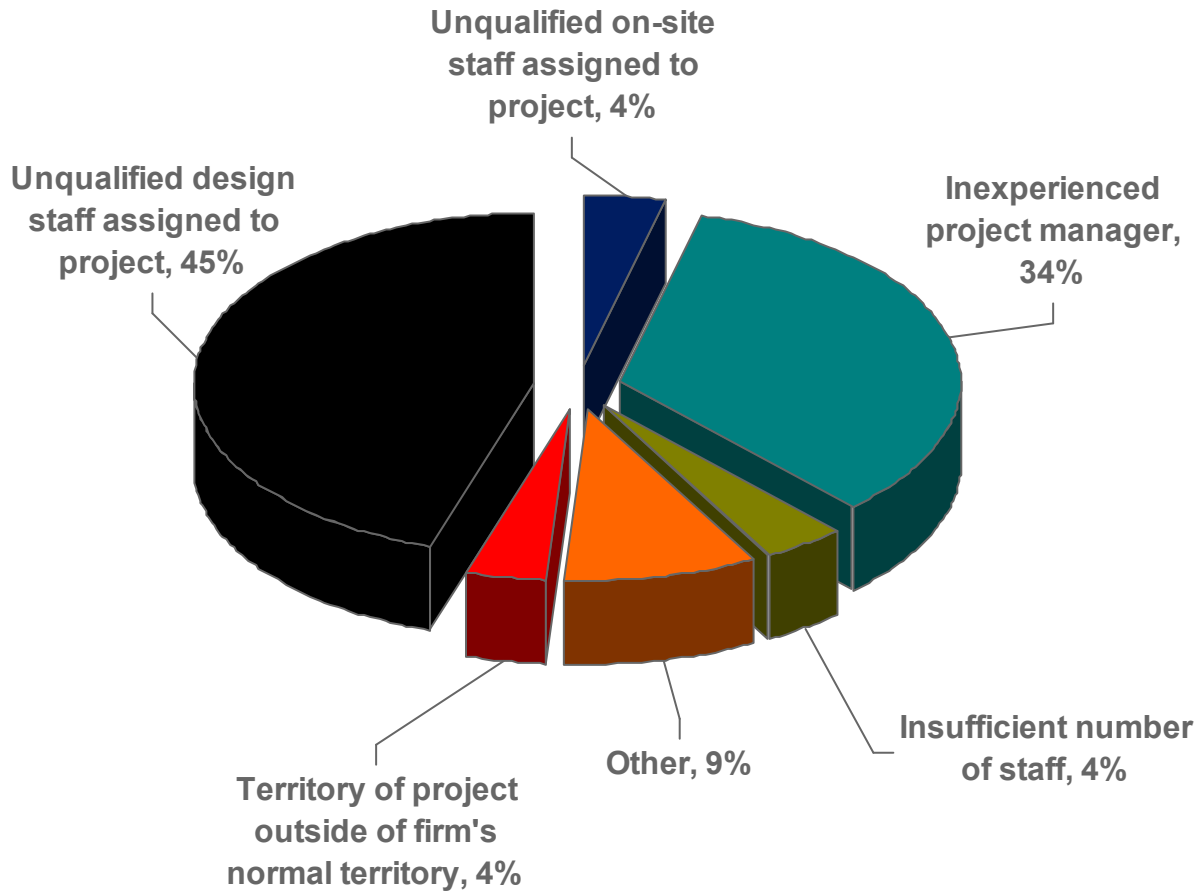
   Behaviours, People, Processes, Communication

Why Focus on the Management of the Project?



Source: Competitor RMI Conference, Steve Bates 2009

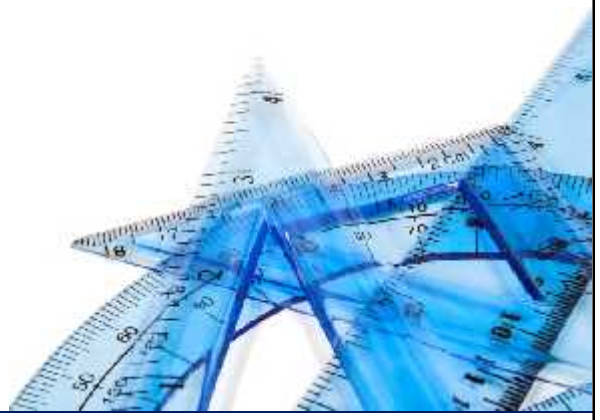
Project Team Capabilities Issues



Risk Engineering Assessment: 4 Pillars

2. Technical – *what*

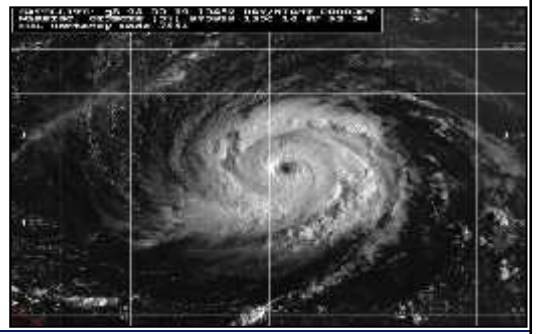
Project Brief
Prototypical designs
Innovative methods or materials
Design Standards and norms
Base Data, site investigations, GBR
Fitness for Purpose



Risk Engineering Assessment: 4 Pillars

3. **Natural Perils – *where***

Topography
Water – rain, groundwater, flood, etc.
Geology
Earthquake
Storm
Hazardous materials
Dust, Fire, Hailstorm, etc.



Risk Engineering Assessment: 4 Pillars

4. Program & Budget – *How*

An independent assessment of Time and Cost
Project Master Program (Level 2)
Phasing, critical path & milestones
On and Off-Site logistics
Project Budget, Spend Rate
Breakdown of Values(WBS)

Industry Response

- **Who is the industry?**

  Owners, Project Sponsors
  Project Delivery Team (Designers, PM, Contractors, Suppliers)
  Financiers, Lenders
  Insurers

  All have an alignment of interest in achieving a successful project outcome.

Industry Response

- **Tunnel Works**

  1990-2000s, major tunnel losses and insurance claims

  Insurers reduced their exposure – a lack of cover

  Response: Joint Code of Practice (JCoP) – Ref. ITIG
  Risk Registers
  Reference Conditions (GBR)

  Increased risk awareness and allocation

  Improved risk selection, involvement by insurers post-binding

  Price adequacy

Risk Assessment in Civil Construction

Selecting projects constructed by…..

….the right people
…….doing the right thing
…….in the right place
…….in the right way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