Public Private Partnership Projects

Insurance Cover as Part of the General Risk Management Strategy

ITA Conference Prague, May 8, 2007

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The Idea of Public Private Partnership

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„Public Private Partnership get things moving which would otherwise get stuck in the investment backlog.“

- Are putting infrastructure projects on the map more quickly
- Shorter planning and construction times
- Lower overall lifecycle cost
- Easing the burden on public coffers
- Assumption of more risks by the private partner

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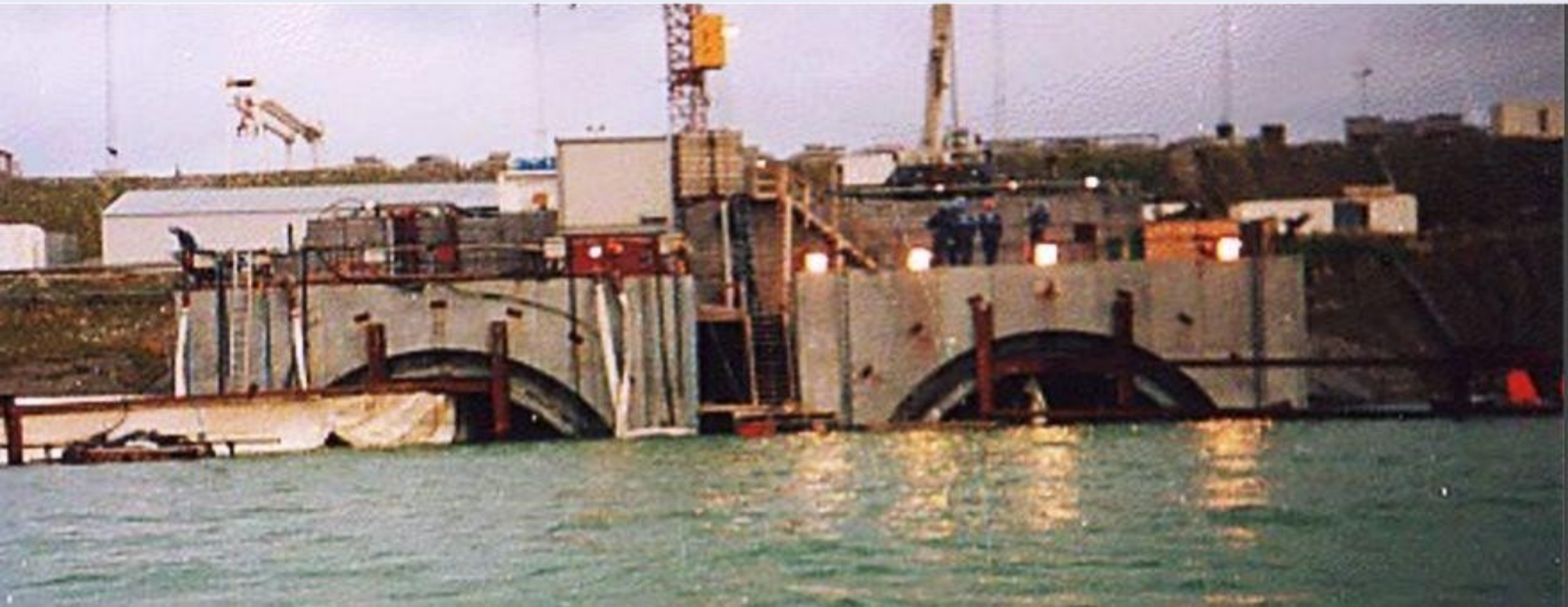
Who is taking the Risk?



Structure of Infrastructure PPP-Projects

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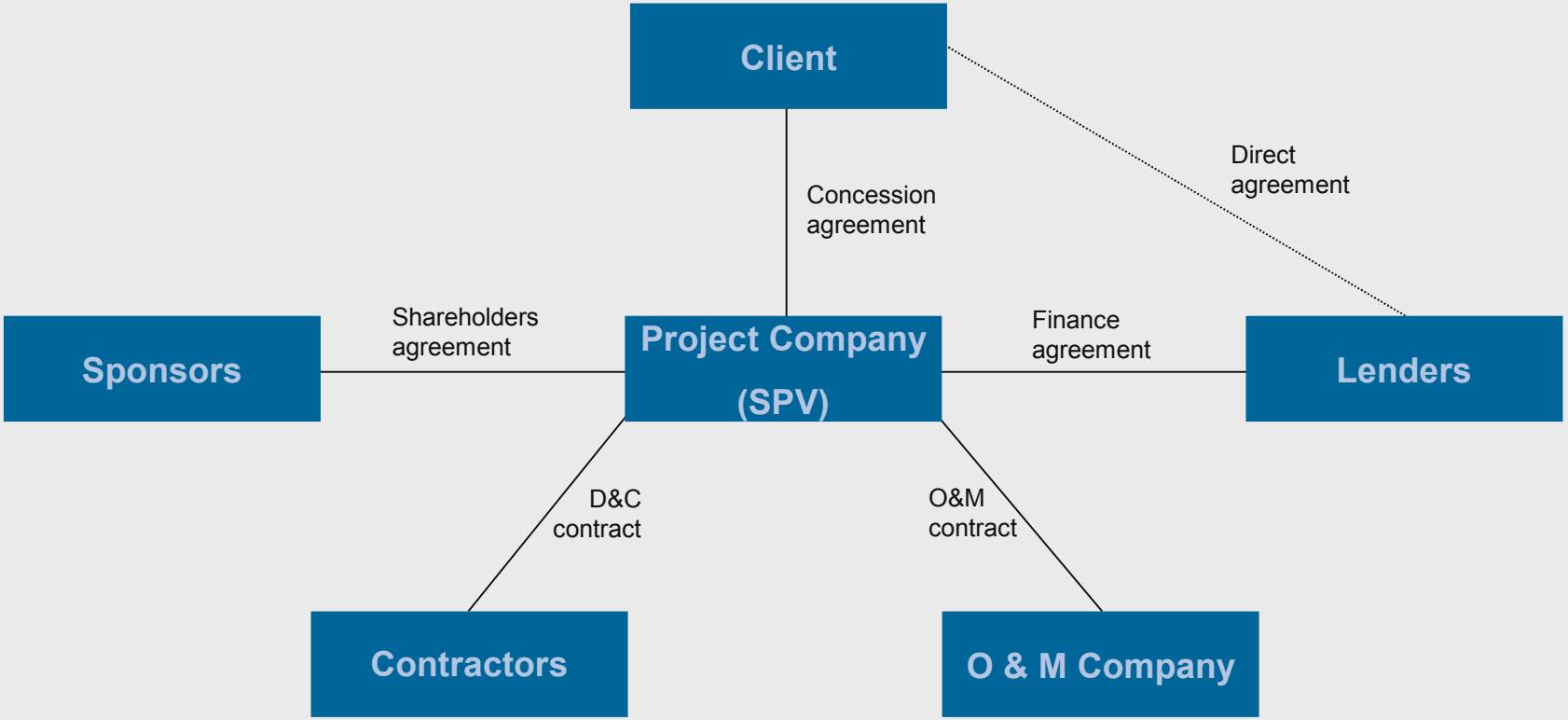

Insurer‘s Role

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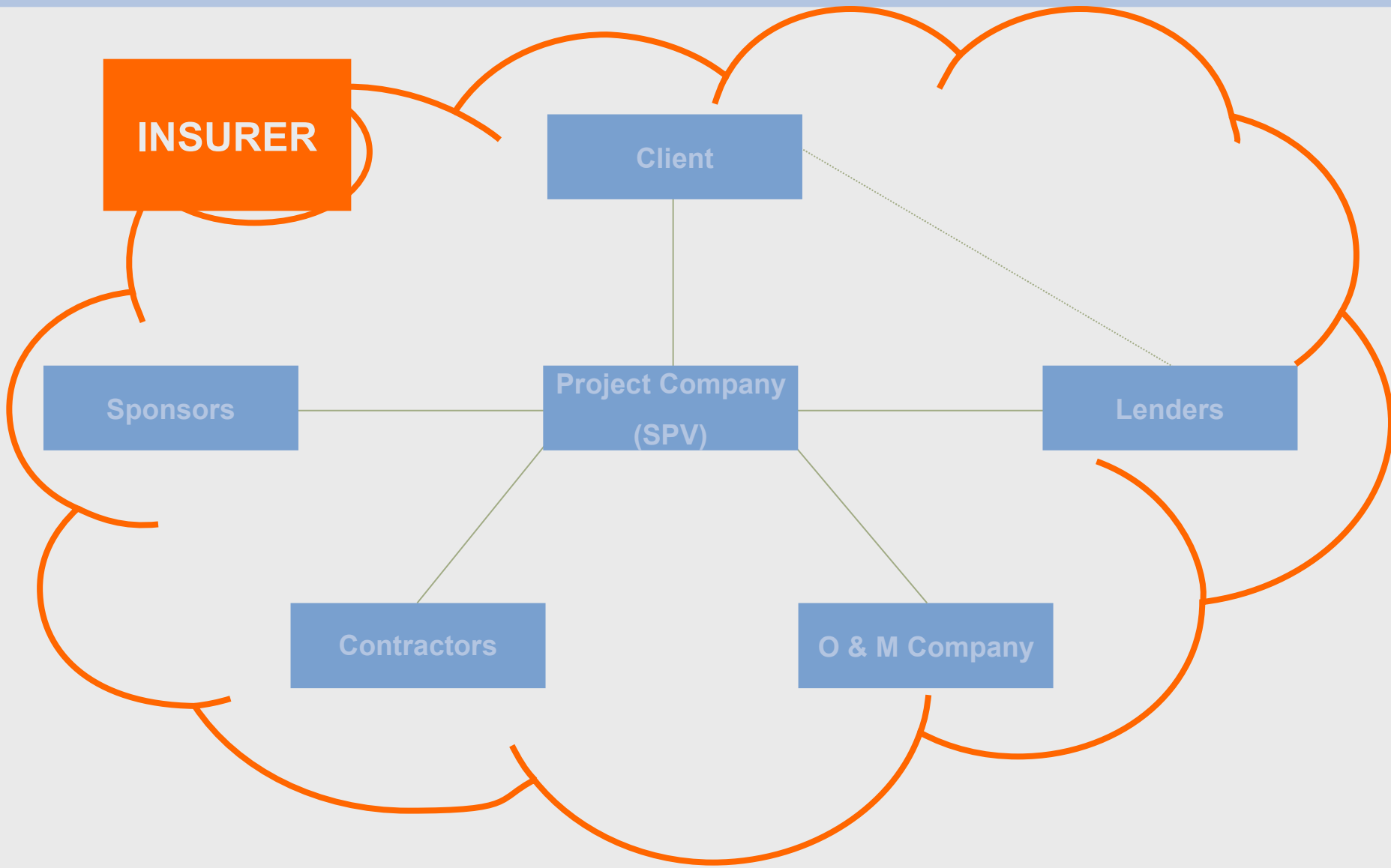

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What are the Risks?

Development Risk

- All expenses to be borne by the private sponsor at the developments stage before financial close
- No lenders or other parties committed at that stage

✘ No insurance protection available at that stage

Design Risk

- Structural damage during construction and operational periods (collapse, water leakage)
- Damage by natural perils due to inappropriate design during construction and operational periods (flooding, earthquake, windstorm)

✓ Design cover under Contractors' All Risk Insurance (CAR)

✓ Professional Indemnity Insurance

Construction Risk

- Structural damage (collapse, subsidence, fire)
- Theft
- Third party property/bodily injury
- Cost overruns, delays, penalties

✓ Material damage cover under Contractors' All Risk Insurance

✓ Third Party Liability under CAR

✘ No performance guarantee cover

Causes of Underground Construction Failures

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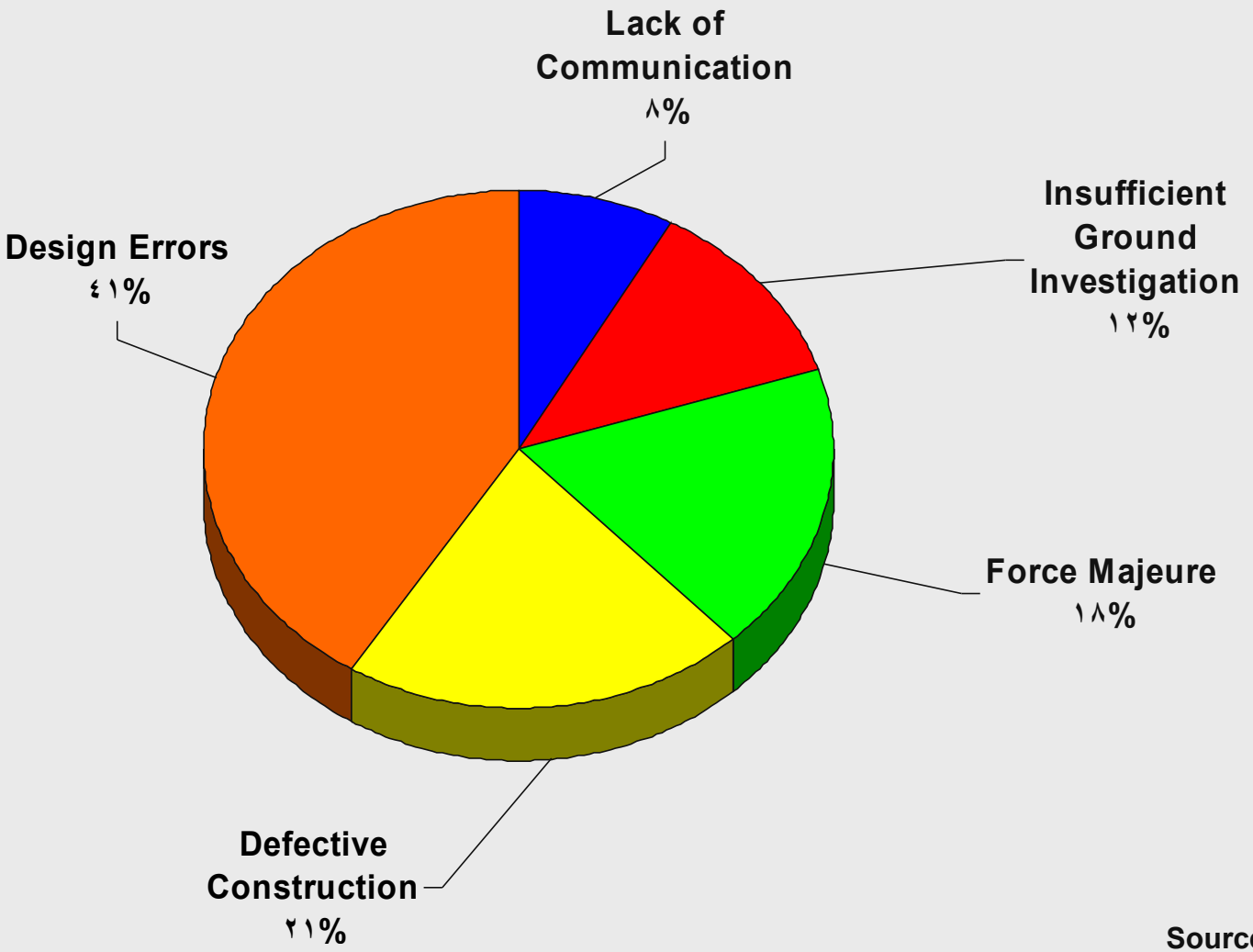


Source: TU Hannover

Force Majeure

- All Natural Hazards (Earthquake, windstorm, flood, lightning, etc.)
- Aircraft impact
- Nuclear radiation

✓ Cover for Natural Hazards under CAR and operational fire policies

✓ Adverse weather coverage

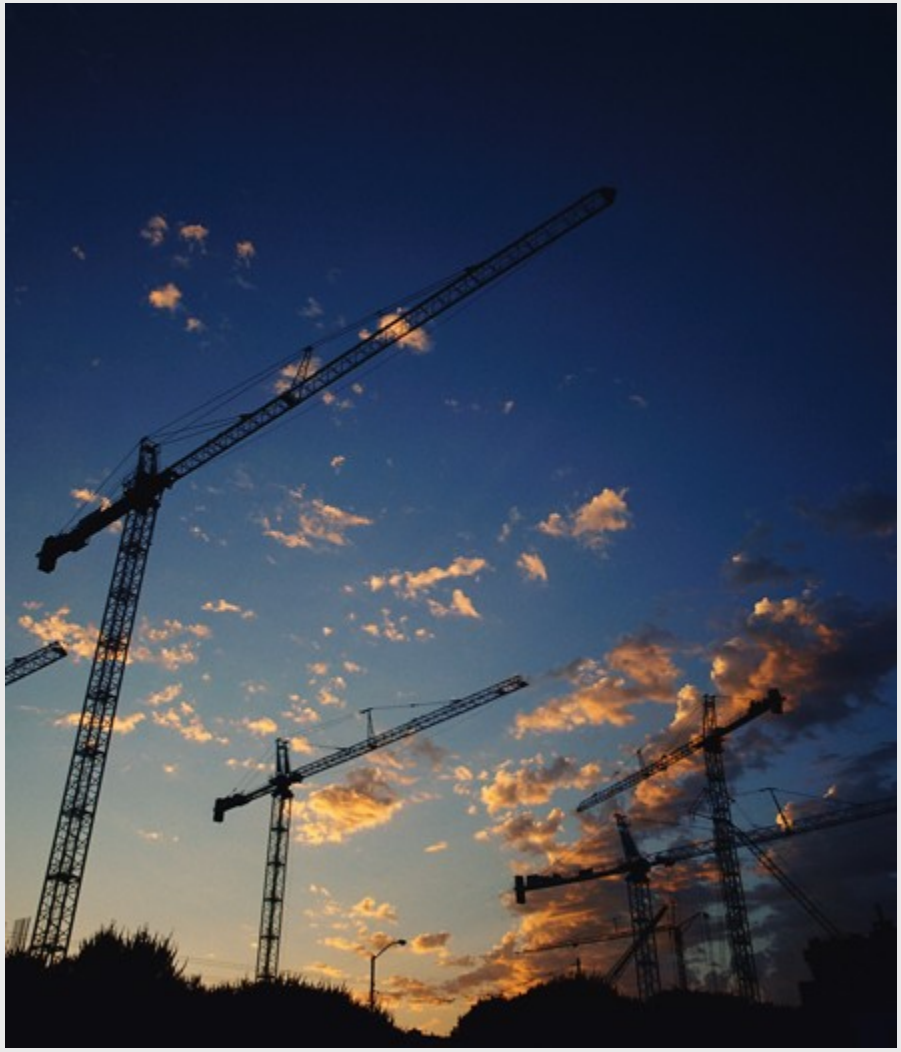
✘ No insurance protection available for aircraft impact and nuclear radiation

Technology Risk

- Performance deficits during construction due to malfunctioning of key equipment (e.g. TBMs)
- Performance deficits during operation (e.g. unproven technology etc.)

✘ No insurance protection available at that stage

Performance Risk



- Cessation of construction works due to bankruptcy of contractor or subcontractors
- Failure of concessionaire to comply with his contractual obligations

✓ Performance or completion bonds

✓ Concession bonds

Initial Revenue Risk

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- Delays of the construction period due to insured accidents

✓ Delay in Start-Up insurance

- Loss of revenue due to performance-related delays

✘ No insurance protection available

- Traffic volume does not meet expectations

? Traffic volume insurance

Project Delays after Losses

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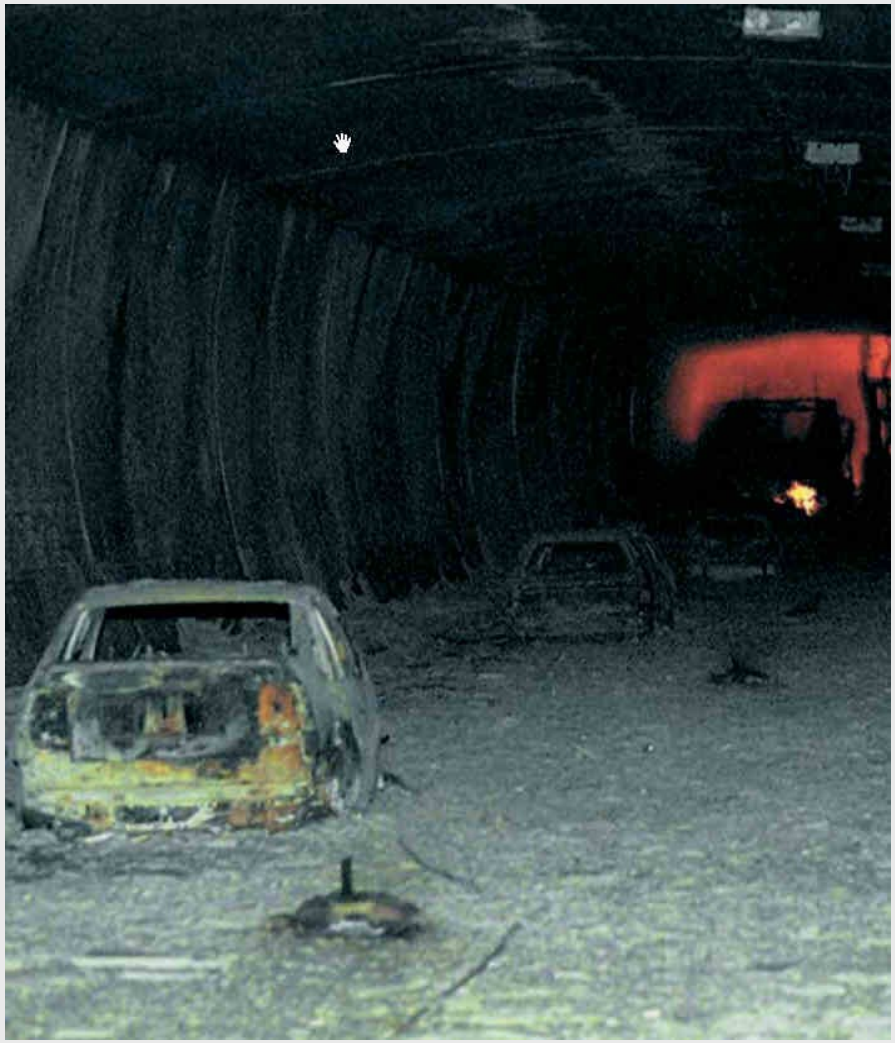
Year	Project	Cause	Loss	Delay
1994	Munich Metro, Germany	Collapse	US$ 4 million	10 months
1994	Heathrow Airport, UK	Collapse	US$ 141 million	14 months
1999	Hull Sewage Tunnel, UK	Collapse	US$ 55 million	26 months
1999	Bolu Tunnel, Turkey	Earthquake	US$ 115 million	36 months
2000	Taegu Metro, S. Korea	Collapse	US$ 24 million	9 months
2002	Autoroute A86, France	Fire	US$ 8 million	6 months
2003	Shanghai Metro, China	Collapse	US$ 80 million	47 months*
2004	Circle Line, Singapore	Collapse	t.b.a.	36 months*
2005	Barcelona Metro, Spain	Collapse	t.b.a.	24 months*
2005	Kaohsiung Metro, Taiwan	Collapse	t.b.a.	24 months*

* = estimate

Operational Risk



- Fire, flooding, collapses
- Traffic accidents
- Business interruption
- Third party liability

✓ Property All Risk insurance (PAR)

✓ Business interruption insurance

✓ Third party liability insurance

Business Interruption (B.I. and Repair Cost)

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Year	Tunnel	Cause	B.I.	Repair Cost
1996	Eurotunnel, France/UK	Lorry Fire	€ 204 million	€ 48.5 million
1999	Mont Blanc, France/Italy	Lorry Fire	€ 203 million	€ 189 million
1999	Tauerntunnel, Austria	Car Collision	€ 20 million	€ 8.5 million

* = estimate

Political Risk

- Change in legislation and law
- Confiscation, dispossession
- Strike, riot, civil commotion (SRCC)
- Denial of access
- Terrorism

✓ SRCC under CAR and PAR policies

✓ Terrorism cover available

✓ Political risk coverage

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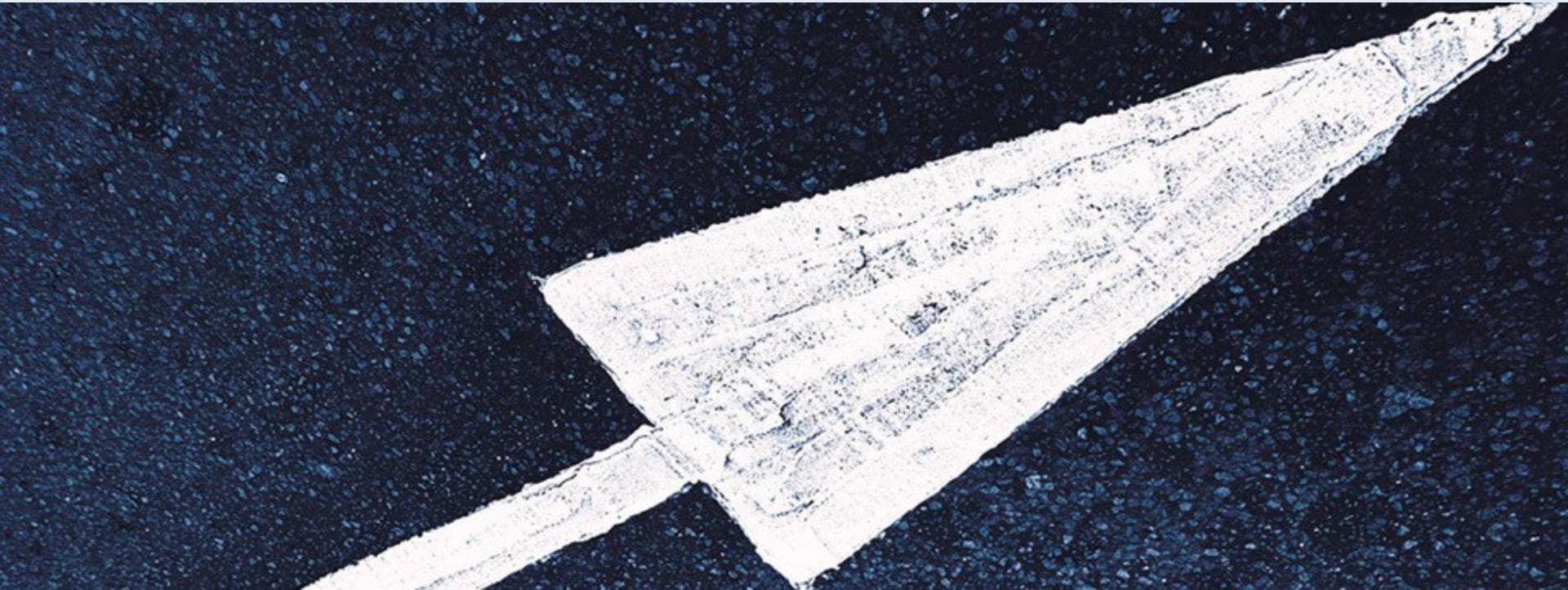
Insurance Aspects



Status Quo

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- Insurance procurement for PPP/BOT projects typically towards the end of the project development stage
- Demand for Delay in Start-Up insurance (DSU) has strong influence on availability of sufficient insurance capacity
- Multi-line property and liability policies available
- Comprehensive cover for entrepreneurial and political risks more problematic
- Lenders‘ requirements sometimes critical (Wide coverage!)

Typical Project Insurance Products

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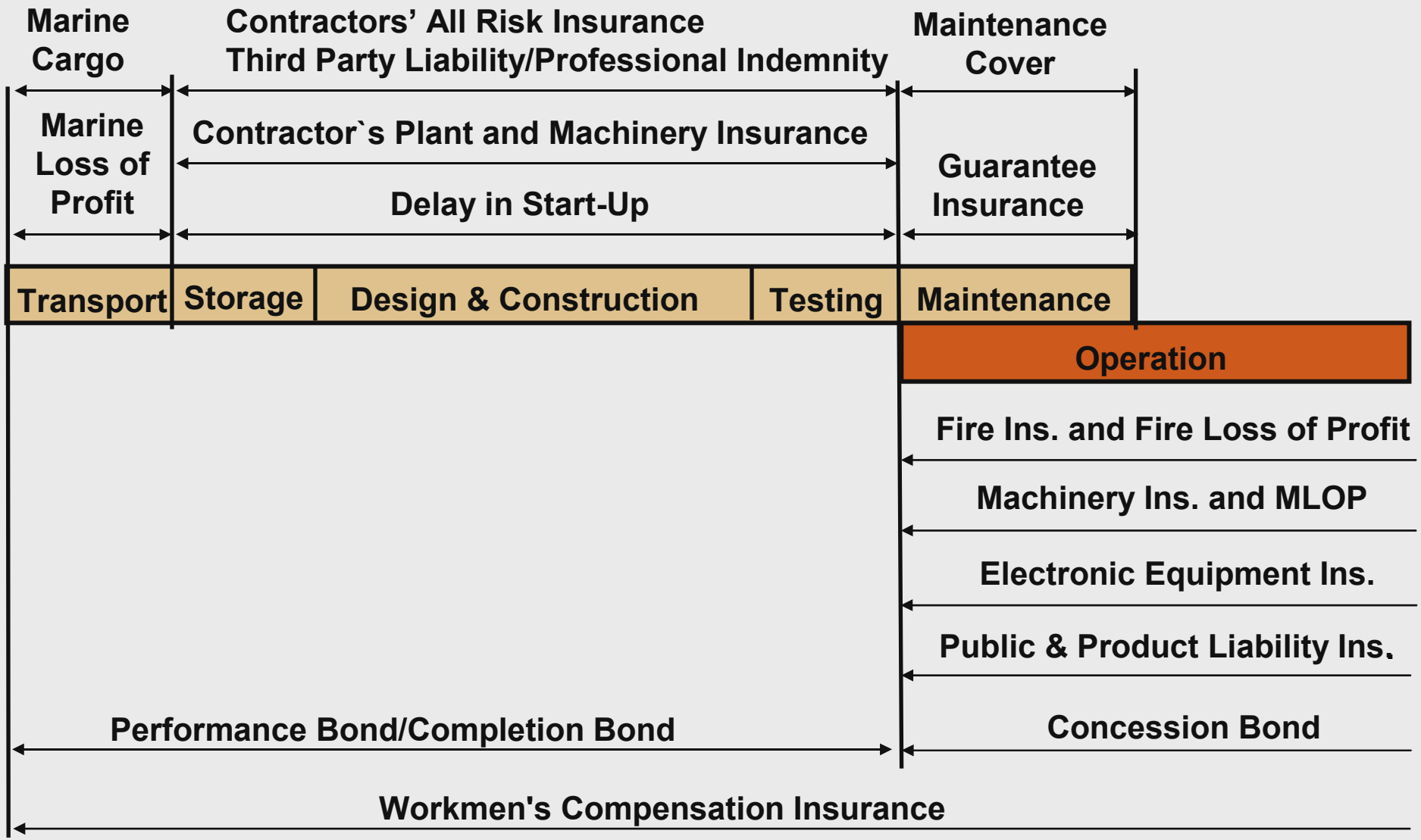

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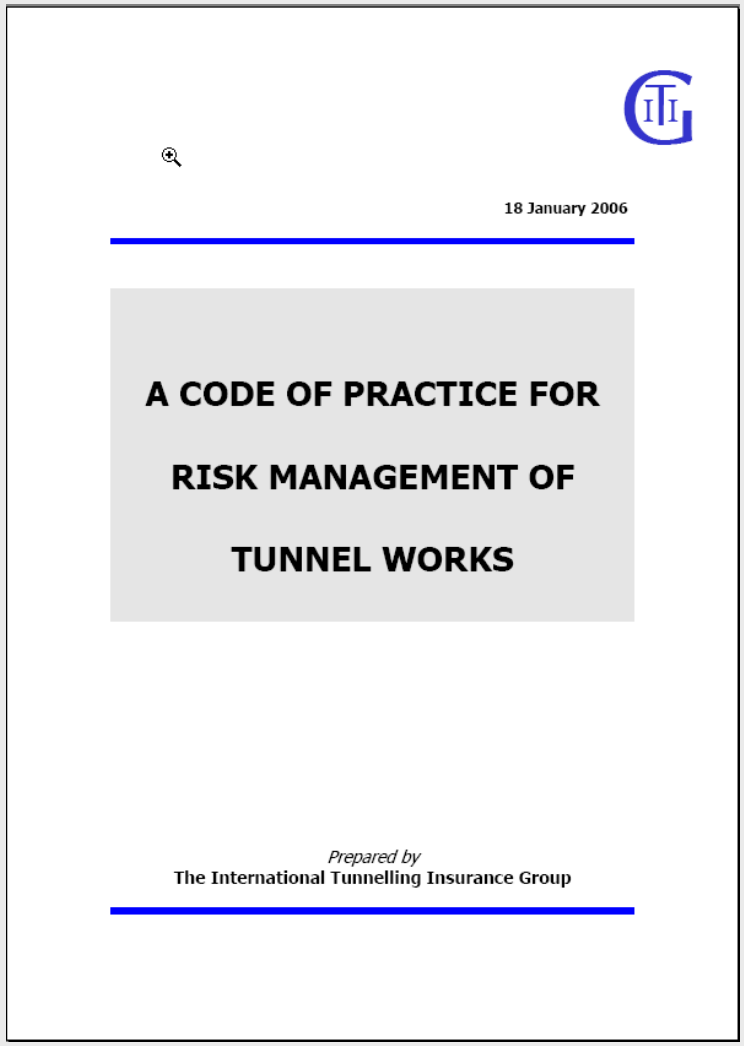
Risk Management

Construction Phase



18 January 2006

A CODE OF PRACTICE FOR

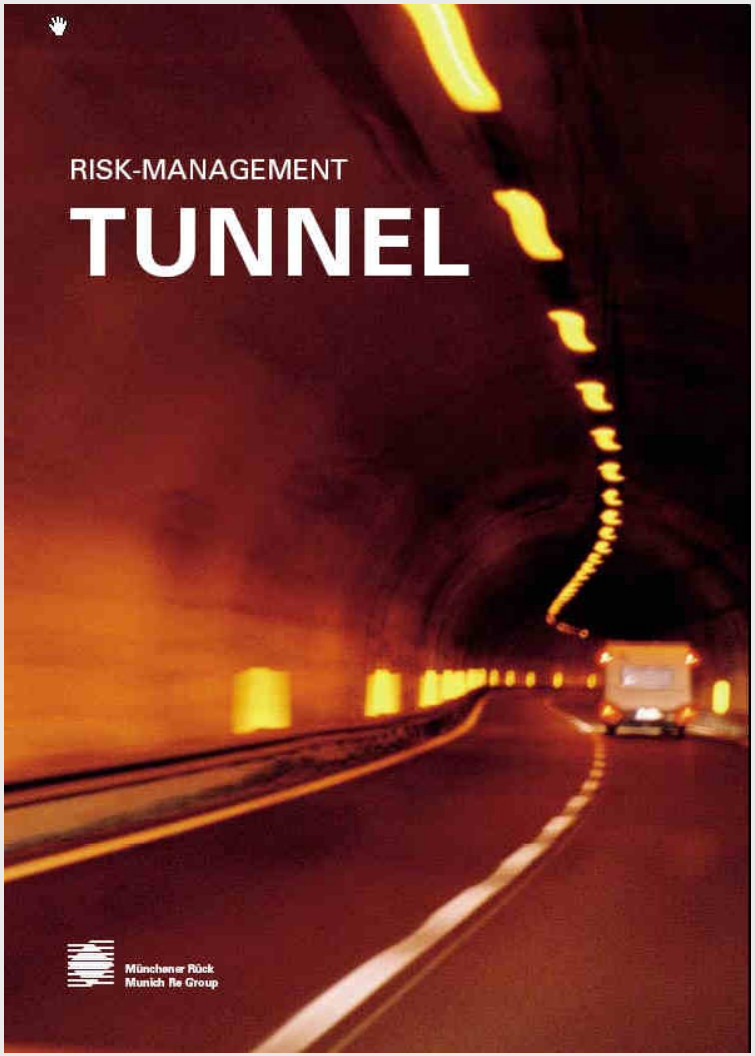
RISK MANAGEMENT OF

TUNNEL WORKS

Prepared by
The International Tunnelling Insurance Group

- Set minimum standards for risk assessment and on-going risk management procedures for tunnelling projects
- Define clear responsibilities to all parties involved in tunnel projects
- Reduce the probability of losses happening
- Reduce the size of claims when they happen

Operational Phase



- Structural fire protection
- Organizational fire protection
- Structures for traffic safety
- Fire detection
- Fire fighting

Conclusion

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- High demand for PPP/BOT infrastructure projects particularly in developped countries or countries with low financial strength
- Large number of risks involved in development, construction and operation of such projects
- Wide range of insurance products available for risk transfer
- Professional risk management standards prime requirement for availability of comprehensive insurance cover

Thank you for your attention!

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