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European Perspective on Risk Management in Alternative Project Delivery

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Introduction...

- *The European Perspective*
- *Alternative Project Delivery (APD)*
- *Managing risks on APD projects*
- *When things go wrong...*
- *Conclusions*

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Who are the Europeans?

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Back in History...



London, 1943

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Back in History...




Photo Courtesy ASAF Museum
B-24 Bombers, 1944

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Back in History...

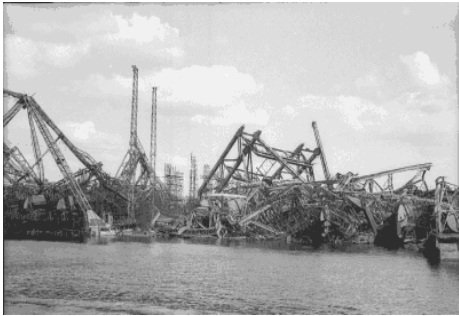


Hamburg, 1944


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Back in History...

- European Perspective
- What is APD?
- Managing Risks
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Port of Hamburg, 1944




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9th Canadian Infantry Brigade, D-day 1944



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Normandy (Post D-day), 1944



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Liberation of Paris, August 29, 1944



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70% of the industrial capacity of Europe was destroyed between 1939 and 1945.



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The Marshall Plan

- \$13 Billion US funds provided to reconstruct Europe from 1948 to 1951 in addition to over \$12 Billion provided by USA between 1945 and 1947
- Delivered through OECD
- Purpose was to support the modernization of Europe using American economic models, reduce trade barriers and install a sense of hope and self-reliance
- By 1951, output in all countries receiving Marshall plan assistance was at least 35% higher than in 1938

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How did Europe Rebuild?

- Public-private partnerships supported the creation of large infrastructure contractors following WWII
- New management approaches were needed to manage fast-track design, procurement and construction
- Materials were scarce – contractors vertically integrated by necessity

London
Paris
Hamburg

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Why Europe Matters Today...

- Very Large Contractors (Among Canadian Contractors, only PCL would rank in the top 50 list of European contractors at #32)
- Great Depth of Experience
- Vertically Integrated Business Units
- Sophisticated Management
- Strong Balance Sheets
- Strong Government Relationships
- International Presence
- Capable Competitors

Stade de France
EIFFAGE
le Viaduc de Millau

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European interest in North America...

- Large contracts
- Complex projects
- Projects where competitive advantage may be exercised:
 - Integrated Design-Build
 - Project Finance
 - O & M

VINCI
Confederation Bridge
ACS
acciona
HOCHTIEF
Port Mann Highway 1, Vanouver BC

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European interest in Ontario...

VINCI
acciona
ACS
OHL
acciona
OHL

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Alternate Project Delivery

- A different way of procuring goods and services
- More risks and responsibilities are transferred to the construction contractor
- New players at the table: banks, financial institutions & insurers
- Various models: PPP, DBFO, DBF, DB, CM

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APD enhances value potential

Policy
Planning
Design
Construction
O & M

Contractor Gets Involved Earlier
Contractor Commits to BAFO

5% + 10%?

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Key Success Factors for APD

- Partnering philosophy
- Collaboration
- Trust
- Problem-solving attitude
- Fairness



Le plus proche de tous. Martin Bouygues et Nicolas Sarkozy se sont connus quand le candidat à l'élection présidentielle n'était que le jeune maire de Neuilly. Depuis, Nicolas Sarkozy considère le patron du géant du BOUYGUES comme son "meilleur ami".





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The Risks...



RISK ~ UNCERTAINTY




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Scope Risks...

- *Nature of Bid Documents*
 - Clarity of owner expectations
 - Prescriptive or performance-based specs
 - Management & administrative processes defined
 - Mechanisms defined for scope changes and conflict resolution
 - Industry-standard documents
- *Quantity Risk*
 - Incomplete design
 - Incomplete specifications
 - Unforeseen ground conditions
 - Environmental compliance requirements
 - Stakeholder concessions
 - Errors & omissions



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Schedule Risks...

- *Scope changes*
- *Design duration*
- *Site availability*
- *Utilities coordination*
- *Management of traffic*
- *Approvals & permits*
- *QA/QC requirements*
- *Labour productivity & volatility*
- *Material availability*
 - Long delivery items
- *Equipment availability*
- *Supplier and sub-contractor performance*
- *Testing & commissioning requirements*
- *Operations & maintenance Impacts*
- *Climate & weather*



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Budget Risks...

- *Labour rate inflation*
- *Labour productivity*
- *Commodity price fluctuations (inflation)*
 - Steel, fuel, electricity, asphalt, etc.
- *Changes in material specs or suppliers*
- *Equipment rate inflation*
- *Approvals & permitting costs*
- *Administrative burden*
- *Insurance*
- *Taxes*
- *Interest*
- *Penalties*
- *Administrative Burden*
 - Compliance monitoring & reporting



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Environmental Risks...

- *Character of the Client*
 - Attitude?
 - Trust?
 - Fairness?
 - Collaboration?
 - A Partner or an Antagonist?
 - Payment policies?
- *Character of the Client's Advisors*
- *Character of the Client's Project Manager*
- *Social and Political*
 - Political will
 - Community activism
 - Union attitudes
 - Special Interest Groups



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Environmental Risks (cont'd.)

- Legal Issues**
 - Rule of Law
 - Legislative & regulatory environment
 - Independence of the adjudication system
 - Body of jurisprudence
 - Corporate structure requirements
 - Ownership and governance restrictions
 - Experience of legal profession
 - Sanctity of contract
 - Dispute resolution mechanisms
 - 3rd Party claims
- Jurisdictional issues**
 - Special Requirements
 - Disadvantaged Business Enterprises
 - Davis Bacon Act
 - Americans with Disabilities Act




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Environmental Risks (cont'd.)

- Crime & Criminality**
 - Security payments
 - Supplier cartels
 - Bid rigging
 - Labour extortion
 - Corrupt officials
- Jurisdictional issues**
 - Special Requirements
 - Disadvantaged Business Enterprises
 - Davis Bacon Act
 - Americans with Disabilities Act
 - OSHA/OHSA requirements

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Managing Risks...

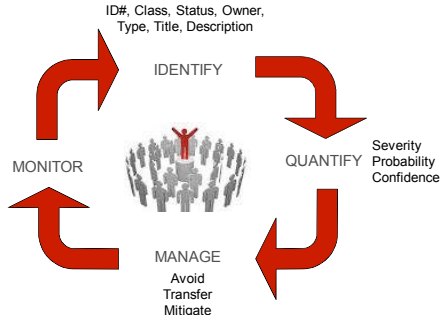
- ISO 31000:2009**
 - the identification, assessment, and prioritization of risks (defined as the effect of uncertainty on objectives, whether positive or negative) followed by coordinated and economical application of resources to minimize, monitor and control the probability and/or impact of unfortunate events or to maximize the realization of opportunities.
- PMI Practice Standard for Project Risk Management**



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Risk Management Cycle


ID#, Class, Status, Owner, Type, Title, Description



MONITOR

MANAGE
Avoid
Transfer
Mitigate
Accept



QUANTIFY
Severity
Probability
Confidence



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Typical Risk Matrix


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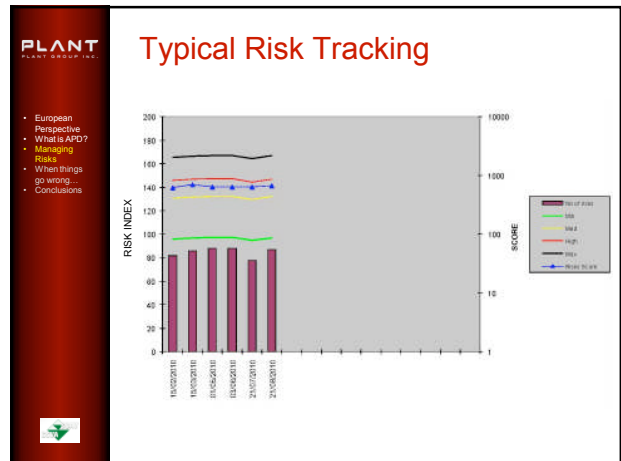
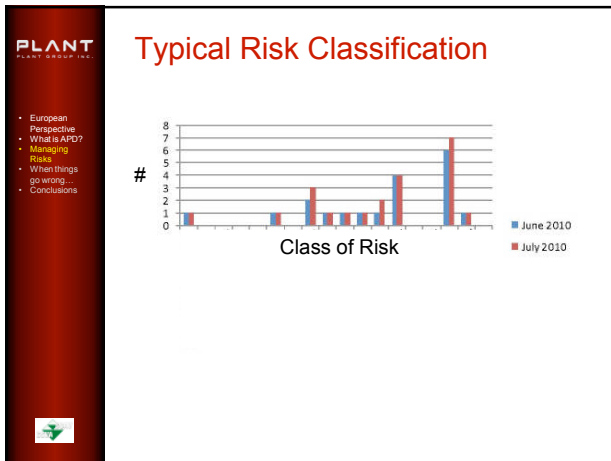
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Typical Risk Characterization

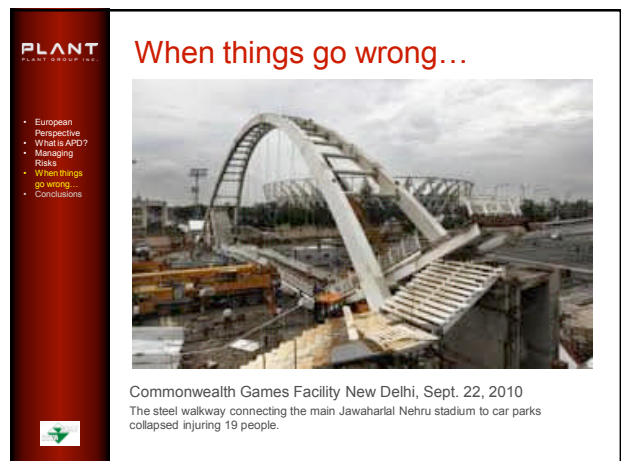
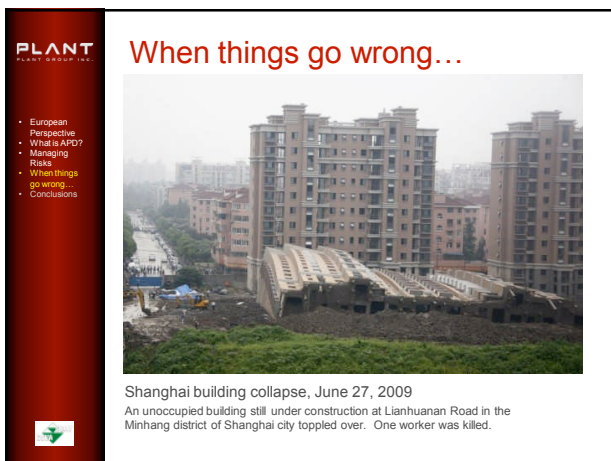
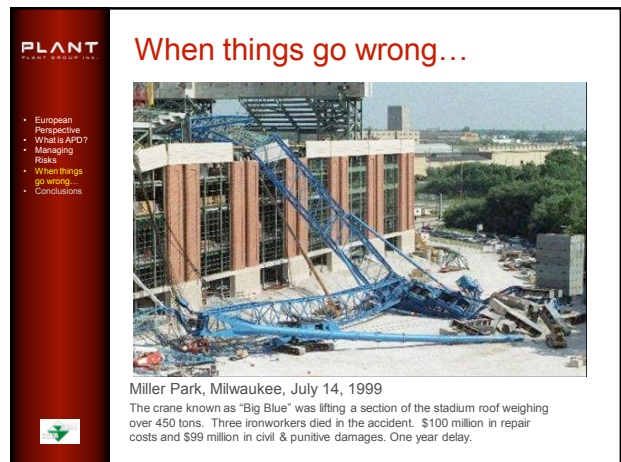
87 risks
23 majors risks

		Severity					
		1	2	3	4	5	
LIKELIHOOD	VERY HIGH	5	1	2	2	4	1
	HIGH	4	1	2	5	4	
	MEDIUM	3	5	15	6	4	
	LOW	2	3	7	10	5	1
	VERY LOW	1	4	3	1		1






- ### Why Bother?
- Increased performance certainty
 - Safer work sites
 - Reduced insurance premiums
 - Increased transparency
 - Increased trust
 - Fewer claims
 - Fewer disputes
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When things go wrong...



2011 Tōhoku earthquake and tsunami, Japan: Mar 11, 2011
Tsunami surge advances across Sendai Airport. Magnitude 9.0 earthquake and tsunami killed over 16,000 and caused widespread damage that will take years to repair at a cost of over \$300 Billion.




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When things go wrong...

- A Risk Management process ensures:
 - Contingency plans are in place
 - Impacts on scope, schedule and budget are minimized



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Conclusions...

- European firms:
 - Are large and sophisticated
 - Seek large and complex projects
 - Respond well to APD opportunities
 - Explicitly manage risk
 - Are successful



Golden Ears Bridge, Vancouver



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Questions?

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