

CRUX Insight Sixth Annual Edition

Forewarned is Forearmed press kit

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Introduction from Josephine Guckian

Thank you for your interest in CRUX Insight, HKA's integrated dispute causation research program.

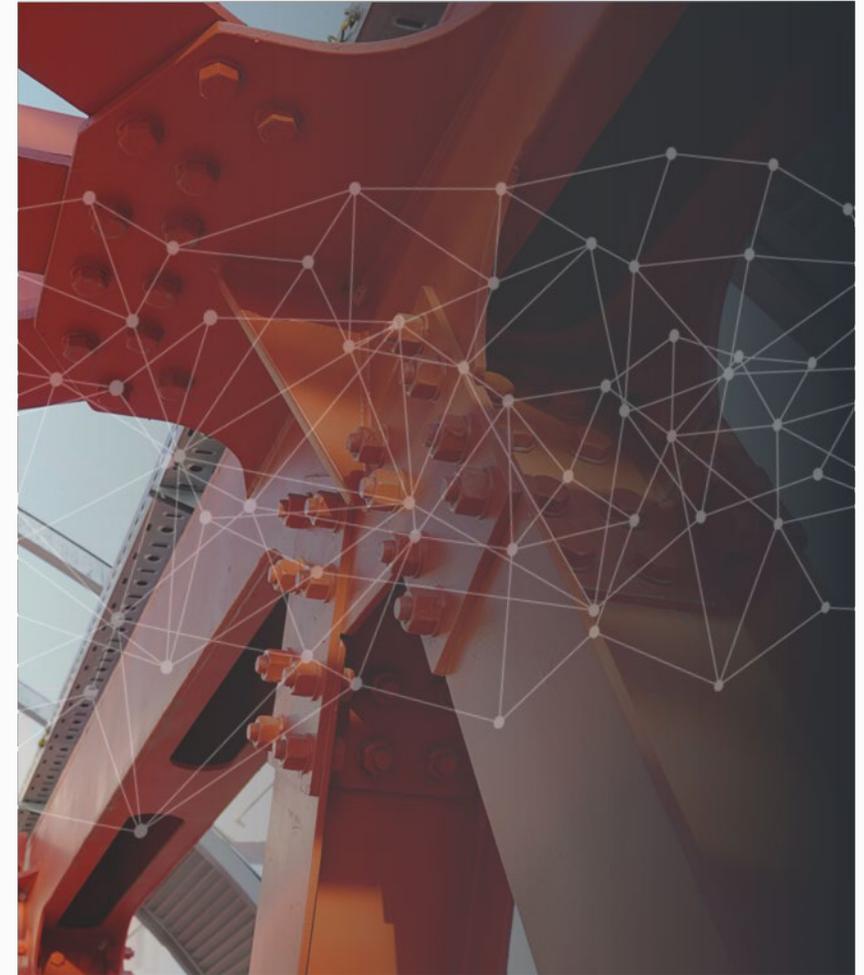
This press kit has been compiled to help answer some of the more common questions we receive about CRUX, as well as provide transparency around our research methodology and causation taxonomies. It also includes links to download high resolution images to accompany your publication.

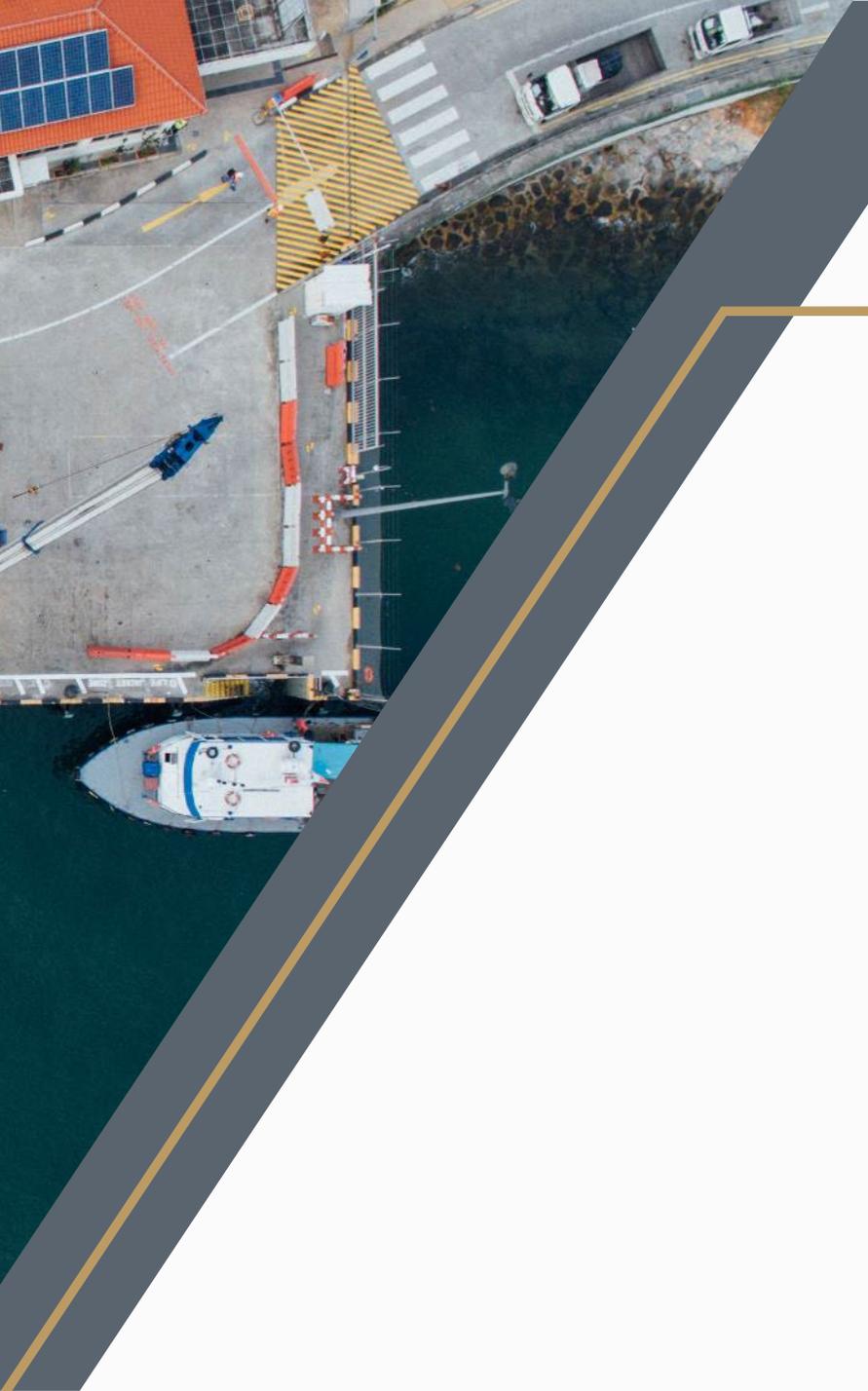
For six years, CRUX has been deepening market insight into the primary and secondary causes of disputes on major capital projects around the world. Thanks to HKA's extensive footprint in dispute service offerings, we have arguably the most comprehensive snapshot of disputes in the world.

This year's report, ***Forewarned is Forearmed***, combines our latest quantitative findings from over 1,800 projects with our expert's insight across six regions and several industry sectors into the causes of claims and disputes. We hope you find its contents valuable to your publication.



Josephine Guckian
Partner, Chief Marketing and
Communications Officer



An aerial photograph of a harbor area. In the top left, there is a building with a red roof and several solar panels. Below it, a paved area contains a blue boat and some equipment. To the right, a road with a white zebra crossing and a white van is visible. The water is dark blue. A large grey diagonal shape with a gold border is overlaid on the left side of the image, pointing towards the text on the right.

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What is CRUX?

CRUX Sixth Annual Edition

CRUX Insight: HKA's integrated research program

CRUX Insight examines causes of claims and disputes on major capital projects around the world.

It provides an unparalleled insight to region and market sectors throughout the world using data collected from HKA's global dispute resolution operations.

The report looks across different sectors, regions and contract types, enabling HKA to provide insight across the whole construction and engineering industry.



Interact with live CRUX data through our interactive dashboard



The CRUX methodology

CRUX Sixth Annual Edition

The CRUX Methodology

How we define the causes of claims and disputes

To define the CRUX causation factors, we compared causation taxonomy across 57 peer-reviewed academic publications, industry reports, and other available sources worldwide. This produced a list of 1,750 causes of construction and engineering claims and disputes.

Through detailed analysis and mapping of trends and variations in terminology, we were able to condense these causes into 50 coherent, individual definitions. The list was then analysed by a HKA Expert Review Panel to examine these frequently theoretical factors against practical experience on live projects. Our panel refined the list to give us the most salient causes.

The list was then shared with another group of HKA experts drawn from all our regions to ensure that the causation factors used in our internal questionnaire would be comprehensive and representative of the disputes and projects occurring across the global industry.

These reviews have led to further refinements, including the addition of causes to cover claims and disputes relating to the COVID-19 pandemic. The updated list of factors in the questionnaire comprises 39 causes of claims and disputes.

Criteria for a CRUX project

The CRUX report examines construction and engineering projects on which HKA has provided services where there was a claim and/or a dispute.

Process of producing the report

When an HKA team has been involved with such a project for over 30 hours it becomes eligible for inclusion in the CRUX analysis. They complete a digital questionnaire to provide data and insights for CRUX. This information is analysed to produce our initial CRUX results. We share the findings with HKA staff from around the globe who, in a series of regional panel discussions, appraise and contextualise the results, adding further value.

Data and expert insights are then summarised for the annual CRUX report, which is peer-reviewed before publication. Additional data is included in the [CRUX Interactive Dashboard](#).



Causation taxonomies and definitions

CRUX Sixth Annual Edition

Causation taxonomies and definitions, A - C

Cause of claim/dispute	Definition	Example
Access to site/workface was restricted and/or late	Limited and/or late entry to the whole site or areas of the site/work. This is different from a hold-up with the processing of relevant paperwork (see " approvals were late ").	Late handover of possession, or blocked access routes.
Approvals were late	Documents/work not approved in time. This is different from the late release of design information (see " design information was issued late ") and insufficient responses to information (see " inadequate responses to information requests ").	Delay in issuing notice to allow the works to proceed, late authority approvals and no-objections by Government agencies or utility providers, or late responses to Requests For Information (RFI) and design clarifications that are needed to start/progress the works.
Bias and/or failure to cooperate	Failure to act fairly and impartially, when the role requires, and to work for the better of the project. This is different from a person's character and culture (see " personality and/or cultural differences ").	A contract administrator or employer's agent engaged, and paid by, the employer, who is not operating the terms of the contract independently and may be seeking to protect themselves or stay on the project as long as possible.
Breach of contract	A breach of contract occurs whenever a party who entered a contract fails to perform their promised obligations.	See definition.
Cash flow and payment issues	Expenditure is higher than income, issues with when money is paid and contested rights to payments. This is different from supply chain management (see " poor management of sub-contractor/supplier and/or their interfaces ") and managing the contract (see " contract management and/or administration failure ").	Bankruptcy, an employer withholding the release of retention despite the requirements of the contract having been satisfied to trigger its payment, an employer failing to pay certified sums for interim payment, or if a contract is cancelled a party contesting the right of payments for work performed under the contract up to the date of termination.
Change in Law due to COVID-19	Disruption arose because of local laws being changed temporarily to combat COVID-19. This resulted in various impacts to the project in time, money and other consequences.	Business closures due to lockdown, visa restrictions, or isolation of labour force causing staff shortages etc.
Change in scope	Intentional change to the agreed project deliverables. This is different from bidding mistakes (see " tender errors and/or inaccurate estimates ").	Where the employer makes a fundamental change that could not have been envisaged under the terms of the tender and allowed for by the contractor.
Claims were spurious	Failure to correctly and fully articulate a claim. This is different from managing the contract (see " contract management and/or administration failure ").	A claim was not supported with evidence, or a claim that sought relief for matters at their own contractual risk.
Contract interpretation issues	Contract interpretation issues: Contract documents/ requirements and or clauses have errors which lead to confusion, ambiguity, uncertainty and differences in interpretation. This is different from how the contract was managed (see " contract management and/or administration failure ").	Inconsistent terminology, contradicting clauses, or uncertainty in relation to the extent of each parties' obligations and duties.

Causation taxonomies and definitions, C - F

Cause of claim/dispute	Definition	Example
Contract management and/or administration failure	Failure to manage and/or administer the contract in accordance with the agreement made by the parties. This is different from unclear contract requirements (see " contract requirements were poorly drafted ").	Failing to provide notice at all or within contractual timeframes, or a party failing to fully understand the requirements of the contract.
Contract requirements were poorly drafted	Contract documents have errors or lead to confusion, ambiguity, uncertainty and differences in interpretation. This is different from how the contract was managed (see " contract management and/or administration failure ").	Inconsistent terminology, contradicting clauses, or uncertainty in relation to the extent of each parties' obligations and duties.
COVID-19	COVID-19 had an impact on the ability to deliver a given contract. This is different from force majeure events claimed on a contract (see " force majeure due to COVID-19 ").	Extended to delay and disruption, cost overruns, changes in the scope or schedule of the works to preventing performance altogether in more serious circumstances (which may give rise to suspension or termination rights). Where work has continued, working practices on the project had to change to account for social distancing and other restrictions leading to a reduction in productivity. Restricted access to sites or to labour force due to COVID-19 that impacted progress.
Design information was issued late	Late release of design information. This is different from incorrect design (see " design was incorrect ") and incomplete design (see " design was incomplete ").	Late coordination of design, or the late submission of revisions to engineering drawings.
Design was incomplete	The design was not complete for the given work stage. This is different from an incorrect design (see " design was incorrect ") and the late release of design information (see " design information was issued late ").	Design was not fully coordinated, the appropriate level of detail for a given work stage was not included, or a contract was terminated after the contractor issued a Detailed Design package but the drawings were found to be of a lower standard that that stage would require, or were only 50% complete.
Design was incorrect	The design was found to have errors, was non-compliant with the relevant regulation or was incorrect. This is different from incomplete design (see " design was incomplete ") and the late release of design information (see " design information was issued late ").	Design coordination was not correct, or where the design information was incorrect, and its rectification was found causing rework, delays or other consequences.
Force majeure	A force majeure provision is a contractual clause in a construction contract that offers an affected party relief from performing part or all of its contractual obligations if a specified event occurs which is beyond the affected party's control and prevents it from performing some or all the contract.	See definition.
Force majeure due to COVID-19	COVID-19 was deemed to represent an instance of force majeure and the contract contained explicit provision for force majeure. The contract provides relief by recognising pandemics as a force majeure event, entitling the claimant to additional time to complete the works.	See definition.

Causation taxonomies and definitions, F - M

Cause of claim/dispute	Definition	Example
Fraud	Wrongful or criminal deception intended to result in financial or personal gain. This is different from inducing someone into a contract with false statements (see " fraudulent misrepresentation ").	The payment of bribes, or falsifying documents.
Fraudulent misrepresentation	A false representation made knowingly or without belief in its truth, or recklessly as to its truth. This is different from falsifying documents (see " fraud "), over optimism (see " targets and/or expectations were unrealistic ") and poor claims (see " claims were spurious, over-inflated, opportunistic and/or unsubstantiated ").	Falsifying statements to induce someone into entering a contract.
Inadequate responses to information requests	Replies to information requests were inadequate. This is different from the timing of replies (see " approvals were late ") and poor reporting (see " reporting was incomplete and/or incorrect ").	Insufficient detail in response to design clarifications.
Installation failure	Any equipment, systems or structure that failed during operation (post-handover) causing loss, damage or injury. This is different from defects that happen during construction (see " workmanship deficiencies ") and failure to meet operational performance levels (see " operational performance ").	Sprinklers not working when a fire occurred.
Late appointment of sub-contractor/supplier	An organisation was not procured in time. This is different from badly managing suppliers (see " poor management of sub-contractor/supplier and/or their interfaces ") and the late delivery of products or materials (see " materials and/or products were delivered late ").	The late nomination of a subcontractor, or the late call off of a product from a specialist supplier.
Level of skill and/or experience	Workers lack the skills and/or experience needed to properly execute their role. This is different from staff shortages (see " shortage of skilled and non-skilled workers ").	Missing, welding certification, untrained planners, or poor leadership of senior management.
Material and/or equipment deficiencies	Materials/equipment (including parts, raw materials, castings and forgings, and original parts) may not meet the requirement of performance and quality standard specified in the contract. This is different from materials or equipment not reaching a site on time (see " materials and/or products were delivered late ").	Incorrectly consistency of thickness of piping.
Materials and/or products were delivered late	Materials or products were not delivered at the expected time. This is different from material and/or equipment not working as expected (see " materials and/or products were delivered late ").	Factory issues causing a hold up in the delivery of mechanical or electrical components, or a traffic accident that causes concrete trucks to arrive late.

Causation taxonomies and definitions, O - S

Cause of claim/dispute	Definition	Example
Operational performance	The operation of the installation does not meet the requirements set out in the employer's requirements, or the design. This is different from failure during operation (see " failure of installation ") and incorrect design (see " design was incorrect ").	Where the energy performance of the school fails to meet the Key Performance Indicators (KPIs) set out in the tender requirements of a Private Finance Initiative (PFI) contract.
Personality and/or cultural differences	Incompatibility in personalities, approaches or lifestyle between individuals or organisations. This is different from cooperation (see " bias and/or failure to cooperate ") and the management of external organisation (see " poor management of sub-contractor/supplier and/or their interfaces ").	Individuals may have adversarial traits, or parties in an international Joint Venture (JV) may have different views on health and safety.
Physical conditions were unforeseen	Encountering unexpected natural or artificial physical conditions that impact the progress of the works. This is different from weather conditions (see " weather conditions were exceptionally adverse ") and force majeure items, such as civil unrest (see " force majeure ").	Ground conditions or unknown utilities were not foreseeable at the time of contract award.
Poor interface management with a third party	Poor coordination with a party where there is no direct contractual relationship. This is different from the poor management of a party where there is a direct contract (see " poor management of sub-contractor/supplier and/or their interfaces ").	Improper coordination with external organisations, such as utility providers.
Poor management of sub-contractor/supplier and/or their interfaces	Failure to manage the delivery of works by an appointed sub-contractor or supplier. This is different from the quality of work (see " workmanship deficiencies ").	Poor management of work package interfaces, not ensuring specialist sub-contractors follow site procedures, or not ensuring that delivered products met specification.
Reporting was incomplete and/or incorrect	Information contained within a report was unintentionally incorrect or incomplete for its intended purpose. This is different from intentionally reporting inaccurate information (see " fraudulent misrepresentation ").	Site investigation reports that provided inaccurate water table levels, or computing errors that gave incorrect totals.
Shortage of skilled and non-skilled workers	Availability of professional, managerial, administrative and manual labour workers to undertake a job. This is different from the level of skill an employed worker possess (see " level of skill and/or experience ").	Shortage of steel fixers, civil engineers, or supervisors.
Socio-political/regulation and/or expropriation	Social regulation describes the regulations that the government establishes to protect the public interest and social cohesion.	Expropriation is where a state or authority taking ownership of an asset or property without adequate compensation.

Causation taxonomies and definitions, T - W

Cause of claim/dispute	Definition	Example
Targets and/or expectations were unrealistic	Improbable that aspirations could be achieved. This is different from unintentional errors (see " tender errors and/or inaccurate estimates "), deception (see " fraud ") and misrepresentation of information (see " fraudulent misrepresentation ").	An employer asking for unrealistic completion dates, or contractors aiming to achieve 100% productivity rates all the time.
Tender errors and/or inaccurate estimates	Undeliberate errors in tender documentation or estimates during tender stage. This is different from over optimism (see " targets and expectations were unrealistic ") and intentional misrepresentation (see " fraudulent misrepresentation ").	An employer failing to include items in a tender, or errors in a contractor pricing the works.
Termination	Contract termination is legally ending the contract before one or more of the parties have met their agreed obligations.	See definition.
Weather conditions were exceptionally adverse	The weather was beyond what was contractually contemplated. This is different from whether the amount of time lost by the adverse weather was exceptional (see " force majeure ").	Unforeseeable high winds, heavy rain, excess wave height, or excessive temperatures.
Workmanship deficiencies	A non-conformity of construction works with contractual, statutory or generally accepted standards. This is different from managing subcontractors (see " poor management of sub-contractor/supplier and/or their interfaces ") and failures after handover (see " installation failure ").	Poor welds, or poor-quality finishes.

CRUX brand assets

CRUX Sixth Annual Edition

CRUX brand assets



CRUX transparent logo



CRUX transparent logo - inverse

.eps logo available upon request



CRUX Sixth Annual Edition cover image
licensed through Adobe Stock

CRUX infographics

CRUX Sixth Annual Edition

Energy transition

Variables

	Non-renewable	Nuclear	Onshore wind	Offshore wind	Solar
Projects	85	27	20	20	14
Countries	32	8	7	8	8
Average CAPEX (US\$)	1.043 bn	2.036 bn	164.8 m	795.5 m	409.5 m
Total CAPEX (US\$)	78.19 bn	50.90 bn	2.966 bn	13.52 bn	5.324 bn
Average cost claim*	42.1%	58.4%	29.3%	25.5%	19.6%
Average cost claim (US\$)	84.29 m	227.1 m	14.58 m	39.40 m	22.79 m
Total cost claim (US\$)	3.540 bn	2.953 bn	131.2 m	472.8 m	91.15 m
Average EOT claim	59.2%	67.0%	30.6%	51.9%	53.4%
Average EOT claim (months)	16.5	29.0	4.5	8.6	8.5
Total EOT claim (years)	42.6	14.5	3.8	7.1	2.8

Energy transition

Claims and dispute causation

% of projects affected	Non-renewable	Nuclear	Onshore wind	Offshore wind	Solar	All other sectors
Change in scope	28.2%	37.0%	15.0%	45.0%	21.4%	39.8%
Contract interpretation issues	20.0%	29.6%	15.0%	35.0%	14.3%	19.4%
Contract management and/or administration failure	23.5%	25.9%	5.0%	25.0%	14.3%	19.2%
Poor management of sub-contractor/supplier and/or their interfaces	25.9%	22.2%	10.0%	35.0%	N/A	19.0%
Design information was issued late	23.5%	22.2%	5.0%	30.0%	21.4%	22.6%
Level of skill and/or experience	22.4%	18.5%	5.0%	10.0%	7.1%	13.2%
Claims were spurious	25.9%	18.5%	5.0%	10.0%	7.1%	12.8%
Physical conditions were unforeseen	16.5%	14.8%	30.0%	30.0%	28.6%	17.5%
Materials and/or products were delivered late	16.5%	22.2%	25.0%	25.0%	28.6%	9.1%
Access to site/workface was restricted and/or late	21.2%	3.7%	25.0%	20.0%	14.3%	18.0%

Resources

Variables

	Resources*	Mining and metals	Onshore oil and gas	Offshore oil and gas
Projects	273	36	66	69
Countries	50	13	24	25
Average CAPEX (US\$)	5.374 bn	958.8 m	5.487 bn	9.722 bn
Total CAPEX (US\$)	1.225 tn	29.72 bn	274.4 bn	563.9 bn
Average cost claim*	41.0%	29.5%	34.6%	45.3%
Average cost claim (US\$)	194.2 m	118.5 m	120.3 m	208.3 m
Total cost claim (US\$)	28.94 bn	2.132 bn	4.092 bn	8.330 bn
Average EOT claim	61.9%	43.2%	65.5%	75.2%
Average EOT claim (months)	14.6	7.2	15.9	17.4
Total EOT claim (years)	140.3	6.6	39.8	53.8

*Includes mining and metals, onshore/onshore oil and gas, offshore oil and gas, cogeneration and district heating, combined heat and power, liquefied natural gas, petrochemicals, petroleum refining, and pipelines



Resources

Claims and dispute causation

% of projects affected	Resources*	Mining and metals	Onshore oil and gas	Offshore oil and gas	All other sectors
Change in scope	47.6%	38.9%	48.5%	53.6%	37.2%
Contract interpretation issues	22.7%	13.9%	27.3%	20.3%	19.2%
Design information was issued late	26.7%	36.1%	24.2%	29.0%	21.7%
Access to site/workface was restricted and/or late	24.5%	27.8%	24.2%	14.5%	16.7%
Contract management and/or administration failure	19.0%	22.2%	24.2%	15.9%	19.6%
Approvals were late	19.4%	11.1%	16.7%	15.9%	14.6%
Design was incomplete	20.9%	30.6%	15.2%	23.2%	21.8%
Physical conditions were unforeseen	18.3%	13.9%	12.1%	13.0%	17.7%
Materials and/or products were delivered late	16.8%	25.0%	13.6%	13.0%	8.9%
Poor management of sub-contractor/supplier and/or their interfaces	17.2%	25.0%	13.6%	15.9%	19.8%

*Includes mining and metals, onshore/onshore oil and gas, offshore oil and gas, cogeneration and district heating, combined heat and power, liquefied natural gas, petrochemicals, petroleum refining, and pipelines



Transportation infrastructure

Variables

	Transportation infrastructure*	Rail and transit	Roads and highways
Projects	338	119	105
Countries	48	22	18
Average CAPEX (US\$)	1.471 bn	2.578 bn	605.9 m
Total CAPEX (US\$)	466.4 bn	288.7 bn	59.38 bn
Average cost claim*	24.8%	20.1%	27.9%
Average cost claim (US\$)	129.3 m	260.3 m	41.84 m
Total cost claim (US\$)	22.50 bn	13.80 bn	2.51 bn
Average EOT claim	65.9%	76.1%	51.0%
Average EOT claim (months)	18.6	21.9	14.6
Total EOT claim (years)	222.8	100.4	52.2

*Includes airports, bridges, bus, ports and maritime, rail and transit, roads and highways, and tunnels



Transportation infrastructure

Claims and dispute causation

% of projects affected	Transportation infrastructure*	Rail and transit	Roads and highways	All other sectors
Change in scope	44.3%	57.1%	41.3%	37.5%
Access to site/workface was restricted and/or late	28.3%	38.7%	23.1%	15.5%
Design was incomplete	28.0%	40.3%	20.2%	20.2%
Physical conditions were unforeseen	27.4%	26.1%	29.8%	15.5%
Contract interpretation issues	23.8%	27.7%	21.2%	18.8%
Design was incorrect	25.3%	26.1%	26.0%	22.5%
Design information was issued late	24.7%	37.0%	18.3%	22.0%
Approvals were late	22.0%	28.6%	12.5%	13.8%
Contract management and/or administration failure	19.9%	16.8%	18.3%	19.5%
Poor management of sub-contractor/supplier and/or their interfaces	17.3%	19.3%	15.4%	19.9%

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Transportation infrastructure

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Average cost claim (US\$)	129.3 m	260.3 m	41.84 m
Total cost claim (US\$)	22.50 bn	13.80 bn	2.51 bn
Average EOT claim	65.9%	76.1%	51.0%
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Transportation infrastructure

Claims and dispute causation

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Design information was issued late	24.7%	37.0%	18.3%	22.0%
Approvals were late	22.0%	28.6%	12.5%	13.8%
Contract management and/or administration failure	19.9%	16.8%	18.3%	19.5%
Poor management of sub-contractor/supplier and/or their interfaces	17.3%	19.3%	15.4%	19.9%

*Includes airports, bridges, bus, ports and maritime, rail and transit, roads and highways, and tunnels



Africa

Regional summary

Number of projects	Number of countries	Average CAPEX value <small>(US\$)</small>	Average EOT claimed*	Average cost claimed**
46	18	1.95 bn	82.9%	63.0%

Top claims or dispute causes	Africa	Rest of World
Access to site/workface was restricted and/or late	37.0%	17.4%
Change in scope	39.1%	38.8%
Cash flow and payment issues	30.4%	14.5%
Design was incomplete	30.4%	21.4%
Contract interpretation issues	26.1%	19.6%
Claims were spurious	23.9%	13.4%
Contract management and/or administration failure	26.1%	19.4%
Poor management of sub-contractor/supplier and/or their interfaces	23.9%	19.3%
Level of skill and/or experience	23.9%	13.4%
Approvals were late	19.6%	15.2%

*% of planned duration **% of CAPEX

Americas

Regional summary

Number of projects	Number of countries	Average CAPEX value <small>(US\$)</small>	Average EOT claimed*	Average cost claimed**
581	19	693 m	58.8%	32.3%

Top claims or dispute causes	Americas	Rest of World
	Change in scope	28.3%
Design was incorrect	20.4%	24.2%
Workmanship deficiencies	20.0%	16.3%
Physical conditions were unforeseen	19.7%	16.8%
Design was incomplete	19.3%	22.8%
Poor management of sub-contractor/supplier and/or their interfaces	18.8%	19.7%
Design information was issued late	18.8%	24.2%
Contract management and/or administration failure	16.1%	21.2%
Contract interpretation issues	14.7%	22.2%
Access to site/workface was restricted and/or late	16.1%	18.8%

*% of planned duration **% of CAPEX

Asia

Regional summary

Number of projects	Number of countries	Average CAPEX value <small>(US\$)</small>	Average EOT claimed*	Average cost claimed**
115	24	5.32 bn	63.6%	27.3%

Top claims or dispute causes	Asia	Rest of World
Change in scope	49.6%	38.1%
Design information was issued late	23.5%	22.4%
Access to site/workface was restricted and/or late	23.5%	17.5%
Poor management of sub-contractor/supplier and/or their interfaces	20.9%	19.3%
Contract management and/or administration failure	21.7%	19.4%
Approvals were late	21.7%	14.9%
Level of skill and/or experience	17.4%	13.4%
Contract interpretation issues	16.5%	20.0%
Design was incomplete	15.7%	22.1%
Cash flow and payment issues	14.8%	14.9%

*% of planned duration **% of CAPEX

Europe

Regional summary

Number of projects	Number of countries	Average CAPEX value <small>(US\$)</small>	Average EOT claimed*	Average cost claimed**
491	29	667 m	60.4%	36.2%

Top claims or dispute causes	Europe	Rest of World
Design was incorrect	32.3%	19.5%
Change in scope	28.4%	42.7%
Workmanship deficiencies	25.4%	14.5%
Contract interpretation issues	18.2%	20.4%
Poor management of sub-contractor/supplier and/or their interfaces	20.4%	19.1%
Contract management and/or administration failure	17.0%	20.5%
Design was incomplete	18.8%	22.7%
Design information was issued late	17.2%	24.5%
Level of skill and/or experience	15.3%	13.1%
Physical conditions were unforeseen	15.3%	18.7%

*% of planned duration **% of CAPEX

Middle East

Regional summary

Number of projects	Number of countries	Average CAPEX value <small>(US\$)</small>	Average EOT claimed*	Average cost claimed**
410	12	1.61 bn	82.0%	35.1%

Top claims or dispute causes	Middle East	Rest of World
Change in scope	57.3%	33.3%
Design information was issued late	34.9%	18.8%
Contract interpretation issues	28.8%	17.1%
Design was incomplete	30.5%	19.0%
Contract management and/or administration failure	25.6%	17.7%
Approvals were late	27.1%	11.8%
Cash flow and payment issues	26.6%	11.5%
Access to site/workface was restricted and/or late	25.4%	15.7%
Poor management of sub-contractor/supplier and/or their interfaces	20.0%	19.3%
Design was incorrect	20.0%	23.9%

*% of planned duration **% of CAPEX

Oceania

Regional summary

Number of projects	Number of countries	Average CAPEX value <small>(US\$)</small>	Average EOT claimed*	Average cost claimed**
158	4	2.94 bn	48.7%	25.6%

Top claims or dispute causes	Oceania	Rest of World
Change in scope	53.5%	37.4%
Access to site/workface was restricted and/or late	25.5%	17.2%
Contract interpretation issues	20.4%	19.7%
Contract management and/or administration failure	21.0%	19.4%
Design information was issued late	21.7%	22.6%
Design was incorrect	20.4%	23.2%
Claims were spurious	17.8%	13.2%
Physical conditions were unforeseen	17.8%	17.8%
Design was incomplete	17.8%	22.0%
Poor management of sub-contractor/supplier and/or their interfaces	14.6%	19.9%

*% of planned duration **% of CAPEX