

Guide to Contract Alliancing in Construction

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Introduction by Editors

The construction industry has long been known for its adversarial culture. In the UK, the 1994 Report by Sir Michael Latham "Constructing the Team", which still makes for thought-provoking reading, made repeated reference to adversarial attitudes. The Report called for "A set of basic principles ... on which modern contracts can be based" and recommended that "The most effective form of contract in modern conditions should include: A specific duty for all parties to deal fairly with each other, and with their subcontractors, specialists and suppliers, in an atmosphere of mutual cooperation."

25 years later, the guidance to the latest editions of the FIDIC contracts note that: "It is generally accepted that construction projects depend for their success on the avoidance of Disputes between the Employer and the Contractor and, if Disputes do arise, the timely resolution of such Disputes." Many other standard forms of construction contracts contain specific duties on the parties to act collaboratively and co-operate with each other.

These are worthy aims but difficult to achieve in practice, particularly within the constraints of traditional forms of construction contracts.

To address this, and to meet the needs of large-scale and complex infrastructure contracts, the Alliancing form of contracting has been developing. It is now gaining increasing traction in a number of countries around the world and its popularity is growing. It is by no means yet mainstream, but we see a clear direction of travel in favour of this form of contracting which we anticipate will increase over the short to medium term.

We are therefore delighted to present this joint CMS and Arcadis publication: "Guide to Contract Alliancing" to capture the key aspects of this form of contracting and to present the current take-up of Alliancing around the world.



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Origins of Alliancing

Over the last decades, construction projects have continually become much more dynamic in nature, largely due to the increasing complexity and uncertainty of these projects, along with tight budgets and time constraints.

In the face of this challenging environment, there is a continual drive to reduce project costs and design/construction time while still demanding high quality final products.

However, traditional contracts and procurement methods can be inefficient and unsuitable to meet these challenges, especially in two major respects:

1. dynamic projects require contracts which are designed to embrace and manage change; and
2. instead of focusing on maximising project outcomes and creating a good framework for developing a collaborative environment between the parties involved, traditional contracts are generally a series of legal swords and shields, promoting competing positions amongst the parties.

In the early 90's, within the UK's oil & gas sector, there were moves to change by British Petroleum (BP). At this time, known oil reserves in the North Sea had become uneconomical to exploit and competition began appearing from other attractive drilling locations around the world. It became apparent to BP that the only way to profitably tap into the reserves was to reduce the high project development costs. That proved insufficient and so BP decided to explore a departure from its standard business strategies of competitive bidding and traditional risk allocation contracts.

To test this new approach, BP chose a notoriously problematic oil reserve named Andrew Field as its showcase trial project. It developed a new "painshare-gainshare" compensation mechanism and created an environment that necessitated commitment to teamwork, relationship development and trust.

This contracting methodology, ultimately named "Project Alliancing", involved complete open-book accounting, sharing all uninsurable risks between all project members, and setting an initial target cost generated by the whole project team. This target cost would then be compared to the final costs and the under or over-runs would be shared by all project participants. In other words, the team would win or lose financially as a group depending on the overall project performance.

Another critical aspect of BP's new contracting strategy involved team member selection. The seven main contractors that formed the alliance with BP were not selected competitively based on cost, but instead on their approach and attitude since project performance was now the undisputed priority around which everything else centred.

The results of the Andrew Field project illustrated the success of this approach. Estimates for the project had originally stood at GBP 450m. After a rigorous contractor selection process and six months of intense collaboration with partners, the project team agreed to a target cost of GBP 373m. This was later reduced to GBP 320m within three months of the project commencement. Final costs ended up at just under GBP 290m and the project began producing oil six months before originally scheduled.

Alliancing agreements have since been exported to a number of jurisdictions.



There are multiple reasons why organisations pursue alliances, particularly for infrastructure projects. These include:

- development of complex technical challenges requiring innovative solutions outside of the traditional contract structure which can be unsuitable;
- scoping uncertainty due to unpredictable potential challenges;
- requirement for management of complex and competing needs;
- resource scarcity, both in terms of specialist skills and expertise, as well as material resources;
- operational constraints to ensure continuity of service on brownfield projects, requiring flexibility of project scheduling, development and implementation; and
- critical completion deadlines requiring an innovative approach to design, work scheduling and change.

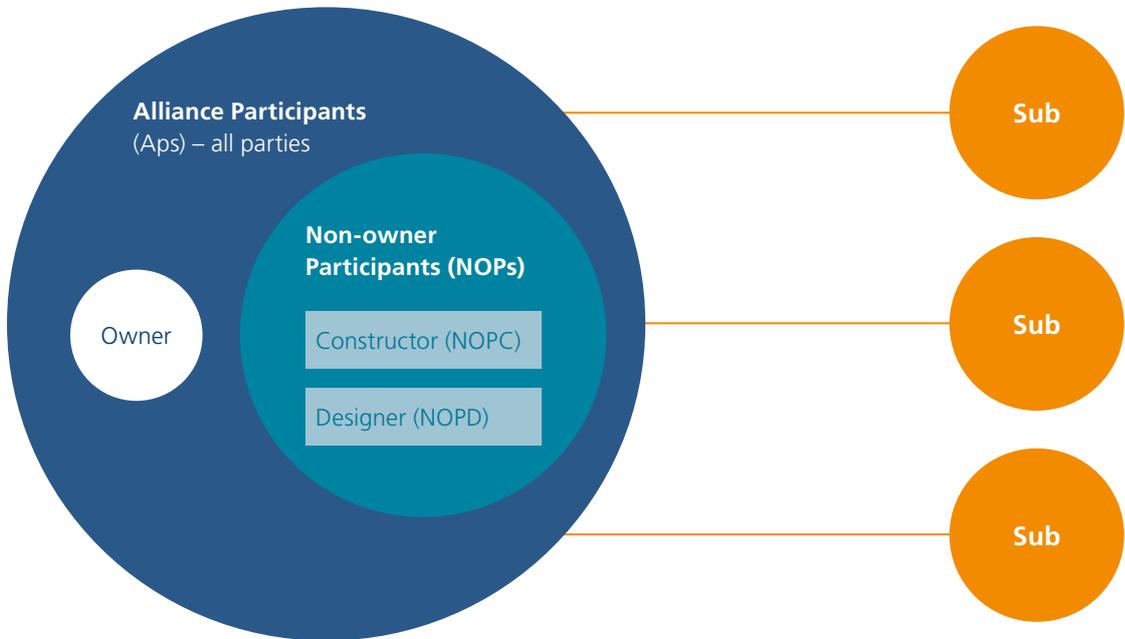
What is Alliancing?

There is no fixed definition of either collaborative contracting or alliancing. Thus, the alliancing “concept” encompasses a range of contract models representing varying levels of collaboration and risk sharing, from basic commitments for the parties to partner through to fully integrated “pure” alliancing models.

In broad terms, and in the context of construction and engineering projects, an alliance is an agreement providing that the parties to it will act in a certain way to achieve a common goal.

Both basic and pure alliancing allow for joint contractor/client works delivery. Basic alliancing will often be in the form of bespoke contracts or heavily amended standard form contracts providing for limited claims between parties and a deadlock breaker may be appointed to swiftly settle some claims.

The pure alliance model tends to be a multi-party arrangement including the key stakeholders - client, contractor and professional team (Architect, Engineer) and potentially also key subcontractors. It will generally take the form of bespoke contracts and there are no claims generally allowed between parties (save for very strictly limited cases, e.g. wilful misconduct or statutory breach).



There can also be strategic alliances, which are based on the same principles as standard alliancing agreements (either “basic” or “pure”, depending on the parties’ commitment). In these, the participants intend to pool abilities, knowledge, know-how, processes, protocols and technologies, thus establishing joint partnerships and closer cooperation. The goal is to either strengthen and develop their position in a specific sector or industry, or realise several similar projects in these sectors or industries on a long-term basis instead of limiting their relationship to the completion of a single one.

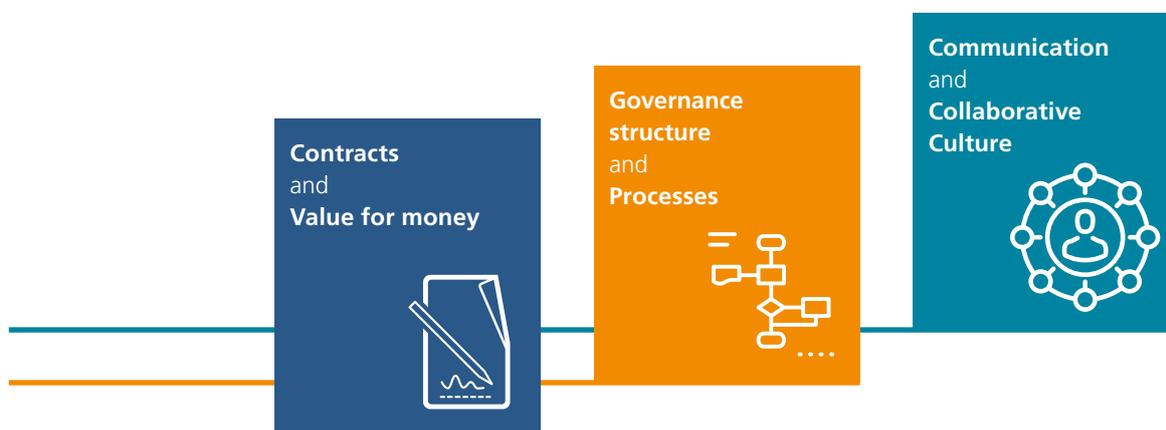
The terms “partnering” and “alliancing” are often used interchangeably although they describe procurement approaches which are quite different, particularly in the manner in which they address the distribution of both risk and reward. Partnering can be defined as a commitment by those involved in a project or outsourced, to work closely and cooperatively, rather than competitively and adversarially. It is a method which allows people to minimize or avoid conflict when they are engaged in a complex project. Partnering arrangements can range from one-off arrangements associated with a single project, to long term commitments (strategic partnering) between two or more organisations for the purpose of achieving specific business objectives by maximising the effectiveness of

each participant’s resources. Partnering involves two or more organisations working together to improve performance through agreeing mutual objectives, devising a way for resolving any disputes and committing themselves to continuous improvement, measuring progress and sharing gains.

The important distinction between partnering and alliancing is that where partnering aims and goals are agreed upon and dispute resolution and escalation plans are established, partners still retain their independence and may individually suffer or gain from the relationship. However, in an alliance, the parties form a cohesive entity that jointly shares all risks and rewards based on an agreed formula.

The essence of an alliance contract is more in the process than in the formal contract. An alliance contract does not solely rest on legal clauses. Non-legal considerations such as good faith, trust, openness and a collaborative and constructive mentality also play an important role. The foundation lies in the approach to co-operation between the parties, although a clear and transparent contract can assist to support this. The idea is to align the commercial interest of all the participants. In other words, it is to transform the individual interests of each party into a “one-direction” approach, where interests are aligned towards common goals.

From individual focus with potential conflicts



... to integrated project delivery



In an alliance, each participant will share in the success or failure of the project and in decision making and risk management. This is achieved by the participants structuring their relationship to share the commercial risk and reward so that it is in the interests of all participants to work together co-operatively and openly.

Alliancing is often described as a “risk embrace” culture under which the parties seek to better manage risks by embracing them and working together to manage them within a flexible project delivery environment, rather than trying to transfer them completely. It can create a strong synergy between partners to deliver a complex project more effectively than with traditional procurement and delivery methods.

Traditional Form of Contract

Each party fulfils its own individual obligations



Owners's obligations

Contractor's obligations

Risks allocated to each party with probably some shared risks



Owner's risks

Contractor's obligations

Risk Transfer



Alliancing Approach

Almost all obligations are collective obligations



Owner and contractors collective obligations

Risks (and opportunities) shared between Owner and NOPs

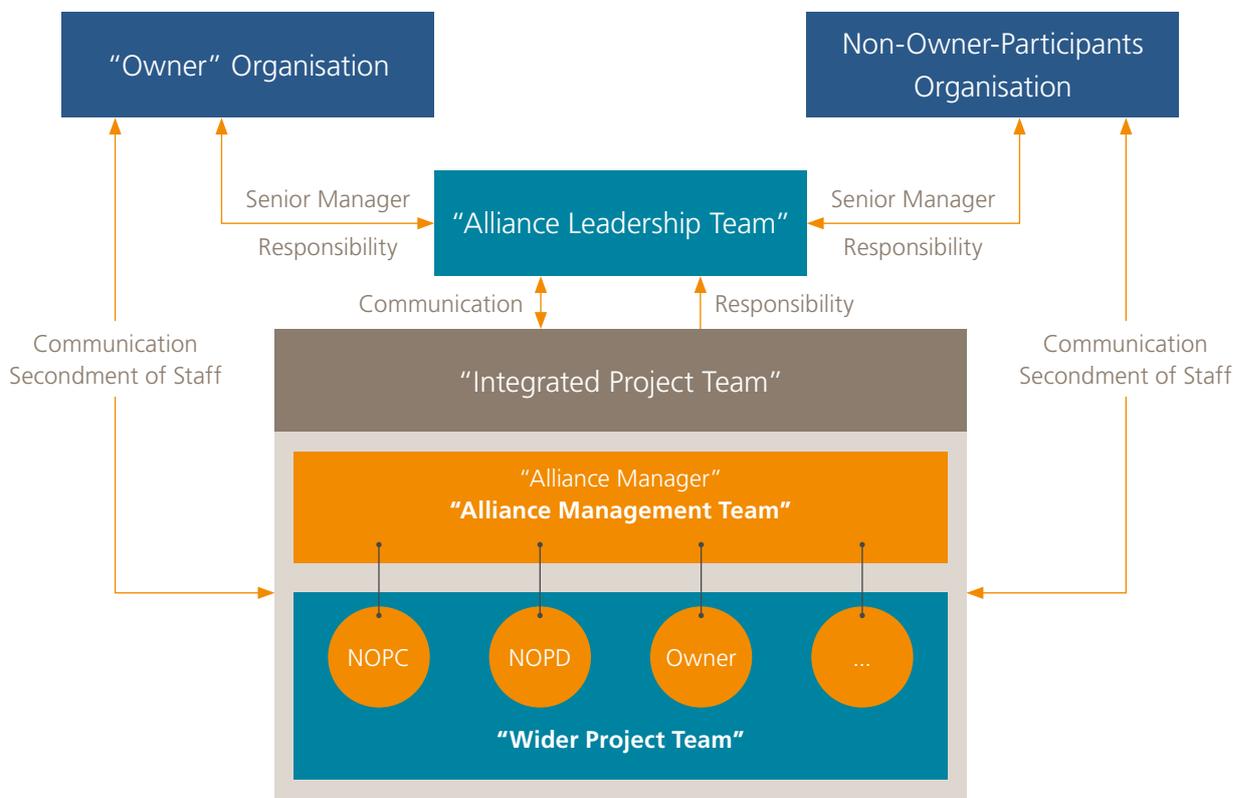


Owner and contractors risk (and opportunities) share

Shared Risks

The contractual basis of alliancing is well suited to achieving a quick start on projects. Alliancing gives the group flexibility to react, change and adapt to difficulties with minimum delay. It also allows capacity for clients to deliver a large and critical body of work in a tight timeframe in resource-constrained markets to enhance community capability and productivity.

The alliance can be structured by either incorporating a Special Purpose Vehicle (SPV) in which all the relevant stakeholders have a shareholding, or by forming a quasi-alliance where the stakeholders adopt the behaviours of an alliance but do not form a formal SPV.



It is widely recognised that, while traditional contracts can work well when a project is straightforward and has few unknowns, they can be cumbersome if attempting to allocate risk and commercial frameworks to highly complex projects. Alliances are well suited to technically complex projects or when it is difficult to accurately define the finished "product". Alliances may also be appropriate when there is likely to be a long-term relationship, allowing parties to develop a relationship and build trust.

By having one alliance contract, all parties are working to the same outcomes and are signed up to the same success measures. There is a strong sense of *"your problem is my problem; your success is my success"*.

Typically, there is a risk share across all parties and any gain or pain is linked with good or poor performance overall and not the performance of individual parties, incentivising parties to work together to achieve common goals.

An alliance contract seeks to move away from the traditional "adversarial" approach in which parties are competitors first. Alliance contracts involve a collaborative process which aims to promote openness, trust, risk and responsibility sharing and the alignment of interest between clients and contractors. The focus is on the best arrangement for project delivery rather than on the self-interest of each individual party, typical of traditional contracts.

What are the key requirements for Alliancing to work well?

Vision and Commitment

Alliancing will work well where there are commonly aligned objectives, with the parties committing to work towards common goals and behave in a cooperative and collaborative manner articulated through setting out, at the beginning of the project, a “statement of intent” as to the aims and objectives of the project delivery and working relationships. An effective way to achieve this can be through setting out a shared vision for the project and agreeing the terms of a Project Charter incorporating these objectives and alliance principles and forming the philosophical basis for the project and expected behaviours. Parties should be aware of the quality of works and services required to meet the objectives of the alliance. Commitment to a “best for project” approach is required, which means that the alliance representatives will need to choose between any competing proposals put forward by several participants of the alliance.

Open Communication

There should be effective teamwork based on the foundations of mutual goals, respect, openness and honesty, with the support and encouragement of senior management teams. Open information sharing between parties is encouraged and a regular forum for effective communication between all the parties (internally within organisations and externally between organisations) to form an effective and efficient partnering team. Information sharing should include open book accounting so that accurate figures for forecasts, costs, expenses and profits are freely available to all parties.

Integration

Integration is a further key requirement. This is particularly the case for the project team where the participants/contractors are jointly and severally liable to the client and all liabilities under the agreement are shared equally, regardless of fault. Another example is where participants and clients deliver the project as one

entity and decisions are taken throughout the supply chain which leads to “joined-up thinking.” This means that a decision is not made to the benefit of one party and to the detriment of another, but instead for the overall benefit of the project.

Integrated decision making can be achieved by a management team or alliance leadership team, sometimes called an Alliance Board (AB) or Project Alliance Board (PAB), which includes all participants plus the client, with all key decisions being made by this team. All decisions must be unanimous and there is very limited recourse if decisions cannot be made. The team makes decisions for the best interests of the project with no outside influence, and decisions can be taken at an appropriate time based on up to date information, not just information available at the time the contract was signed.

Shared Risk

All uninsurable risk in the project is shared between alliance project participants, as opposed to allocating risk to specific participants which is common practice in traditional standard forms of contracts. Fair and equitable sharing of risk between the participants is designed to avoid a “win-lose” outcome.

Gainshare/Painshare

Payment should be on a target cost basis such that the contracting team is entitled to the actual cost it incurs subject to gainshare/painshare if the actual cost is less/more than the target. This is accompanied by a set budget for project opportunities and risks, and this is managed collectively. The client, as a member of the delivery team, also contributes to the actual cost and therefore the gainshare/painshare, which is split equally (or in pre-agreed proportions) between the delivery team members regardless of individual responsibility for cost savings and over-runs. This incentivises parties to be innovative and to consider new ideas which could benefit the project.

No blame/no claim

A no blame/no claim environment is fundamental to the alliance agreement. This includes the exclusion of the right to claim for losses arising from certain events and circumstances including delay, defective work and design, which are usually a significant cause of dispute. Exceptions to the no blame/no claim environment can include: termination, repudiation, wilful default, non-payment, and breach of provisions relating to intellectual property rights.

Alliancing Mindset

A “facilitator” may be used to guide the alliance participants and help create an alliance “environment/spirit/frame of mind”. Participants may require a shift in mindset to embrace the partnering relationship and change old habits which are inconsistent with the partnering ethos. Participants should work to eliminate discipline demarcation so that every member of the alliance team is responsible for the overall performance. There is no “not my job” attitude in an alliance culture.

Mutual Understanding

There should be a development of mutual understanding between the parties (for example, one extra process by one party may allow another party to eliminate a complex stage of the project process). This may prove cost/time-efficient, with the rewards of such cost/time-saving shared by all the parties. In a more traditional/adversarial form of contract, there would be no reward for a party to carry out an additional process: only additional costs and additional recovery sought by them.

Trust

Trust is required to allow parties to share their strengths and disclose perceived weaknesses or threats to the project on the basis that if they can be eliminated or mitigated, the project will benefit. Trust may also

result in improved staff morale and retention, improved stability, a lower emphasis on paperwork and bureaucracy and ultimately fewer disputes.

Appropriate Dispute Resolution Procedure

An appropriate dispute resolution procedure should be set up to operate as a problem-solving framework rather than an adversarial environment, including early warning meetings to discuss, reduce and/or eliminate risks. A collaborative approach to such meetings should be encouraged with “lessons learned” sessions to identify problems which may have occurred and to identify solutions which can be employed to mitigate/avoid the effect of such problems should they arise in the future. Tiered management can be called upon to consider any residual issues at site level, then middle management, and escalating to senior management if needed. They can then resort to alternative dispute resolution, e.g. mediation. The culture is very much one of dispute avoidance, management and resolution of disputes or conflicts at the level where they occur rather than an adversarial one.

Insurance

Obstacles to a successful alliancing project can generally be overcome with an effective insurance policy. Traditional insurance models, however, can be costly in the context of ‘shared risk’ and ‘trust’. As such, a new generation of insurance has emerged; ‘Integrated Project Insurance’. IPI covers all parties to a construction project under a single insurance policy, as if a ‘virtual company’ was created. The idea behind IPI is to insure risks and outcomes rather than focusing on liabilities and causes. This creates a truly blame-free relationship; a key element of alliancing projects. Furthermore, in terms of commercial viability the IPI approach could result in project savings since Professional Indemnity disclosures are not needed if there is no prospect of litigation, and there are no duplications of cost from each party placing individual insurance policies.

Key Messages Alliance It is DIFFERENT to traditional contracting. Requiring:	 Different leadership skills	 Different style of management
	 Different beliefs and behaviours from people involved at all levels	 Different approach to bidding
	 More involvement from senior managers	 Focus on planning and design as well as execution



What are the blocks to alliancing working well?

Alliancing is not a familiar concept in construction contracts. It is a steep change in terms of behaviour and there is therefore a fear of the unknown. Pilot projects have taken place and it is slowly gaining traction but there is an element of needing to “prove the concept” before it is widely accepted as the norm.

Not all participants can provide the level of time and commitment on which the success of the project depends. Time is needed to build trusting relationships and to procure the necessary investment in developing new processes, training and teambuilding which will maximise prospects of success. Even if such time and commitment is provided at the outset, there is a risk of “cosy relationships” and complacency and/or loss of interest/lack of commitment once initial positivity fades.

Some further challenges are:

- the perceptions that collaboration in the sense of alliancing is a barrier to pure market forces and competition outside of the alliancing arrangements;
- that disputes will arise due to a lack of familiarity with alliancing;
- that the respective participants’ different interests and challenges may make it difficult to agree on shared risks and goals;
- and that a lack of alignment in objectives may ultimately lead to an unfair allocation of risks and a lack of transparent, objective analysis in solving problems.

Additionally, there is a degree of legal uncertainty surrounding new forms of contracting including a potential lack of legal enforceability of the

arrangements. There is no recourse to dispute resolution except in very limited circumstances. There is further uncertainty about budget and delivery dates because time and cost obligations are lacking thereby pushing the emphasis onto the result and the delivery of the project.

The long-term collaboration envisaged in alliancing may struggle to survive a change in senior personnel and there is a risk that projects will return to a confrontational approach. As the term of the alliance progresses, cost reduction measures can lead to pressure to reduce the number of parties involved. This can eliminate smaller, potentially innovative or specialist companies, from participating in future partnerships. This will create barriers to entry for newcomers.

The liabilities of the alliance to the client/third parties are shared equally with other participants, regardless of fault, meaning that if one participant underperforms, the others will suffer as well. Significant professional indemnity insurance issues may arise as insurers would be liable for losses caused by other participant’s default (due to the liability sharing agreements) and there should be no right of subrogated claims (i.e. by insurers) under the agreement. For this reason, Integrated Project Insurance is often discussed in the context of the alliancing model, although it is not always widely available in the market and can be expensive.

Typical Alliancing Clauses

There is no one standard way to contract on an alliancing basis, but the following clauses are typical of the approach which may be taken:

"We will work together in an innovative, cooperative and open manner so as to produce outstanding results in delivering the program and each project included in the program"

"We will share all risks and opportunities associated with the delivery of the program except those which we have specifically agreed will be retained solely by the Owner"

"We will collectively do all things necessary to deliver the Work under the Alliance in accordance with our commitments..."

Case studies and country snapshots

In the countries contributing to this Guide, alliancing is at varying stages of development and adoption. In some countries, alliancing or co-operative contracts of some form are being used and in others, it is not a concept which is well recognised. There is no country where alliancing (as described above) is significantly developed and adopted in the construction industry but there are many examples of individual projects where this is being used or employers who are taking the lead in using this form of contracting. What follows are two specific country case studies where alliancing has been more readily used (Australia and Finland), as well as a snapshot of the experience in a number of other countries.

Case Study: Australia

The collaborative project delivery methodology was introduced in Australia in the mid 1990's after a period of growing dissatisfaction with project outcomes within the construction industry. Delivered performances and productivity were below acceptable and viable levels and industry participants had become increasingly frustrated with the time spent on disputes.

In the late 1990's the Australian Constructors Association (ACA) promoted a new, collaborative way of project execution based on "relationship contracting", defined as a *"process to establish and manage the relationship between the parties that aims to remove barriers, encourage maximum contribution and allow all parties to achieve success."*

Since then, project alliancing has been successfully used and refined as a method of procurement for large-scale projects by the public sector and the construction industry. The first two projects to use project alliancing in Australia were in the oil & gas industry in 1994 (Wandoo Project and East Spar Project). As a result of their success, other Australian clients and contractors in the heavy civil works sector took notice and began learning about and using this new collaborative model. Since then, the Australian public sector has utilised alliance contracting delivery for many complex infrastructure projects in the roads, rail and water sectors with a combined total value of c. AUD 32bn between 2004 and 2009.¹ There is ample evidence that alliancing has offered Australian clients and the construction industry an effective and efficient form of collaboration to deliver highly complex and risky projects, putting the focus on genuine value for money, whilst achieving outstanding performance levels and increased productivity.

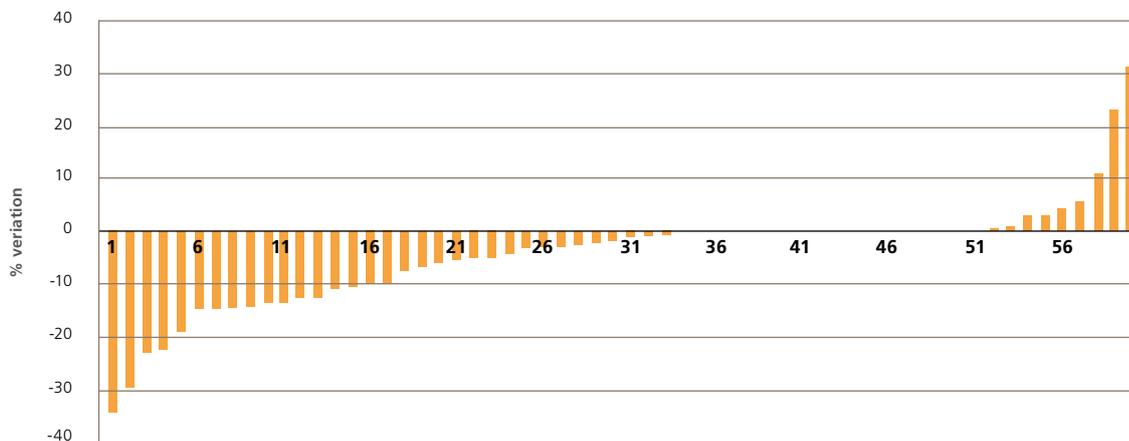
¹ There is very limited statistical information available from Australia after 2010.

Over time, and to suit different circumstances, various types of legal/commercial relationships have been used in Australia that are referred to as “alliances”. These range from traditional “risk-transfer” arrangements undertaken in a collaborative manner, to the more commonly used “pure alliancing” arrangements. The “no fault – no blame” approach underpins the success of Australian pure alliancing.

However, although alliance contracting has been widely used in more than 200 complex infrastructure projects in Australia in an attempt to overcome a range of negative impacts associated with the traditional adversarial approach, there has been an ongoing debate on the question of ‘value for money’ and whether or not alliance contracts deliver better project outcomes compared to projects undertaken in a more price competitive environment.

It is not possible to compare actual versus target outcome and whether alliancing delivers better value for money because targets are established by consensus between project participants. However, studies do show some interesting results: according to a study by RMIT University ², the alliance delivery approach is considered superior to the Design & Build (DB) or traditional Design, Bid, Build (DBB) approaches.

The study carried out research amongst members of the Australian Alliancing Association (AAA) who were asked to volunteer details on project outcomes in terms of tangible and intangible performance indicators. Information from 60 projects was analysed to get an overview on whether alliancing is perceived as successful or not. The below graph shows the delta between the final Target Outturn Cost (TOC) and the Actual Outturn Cost (AOC) of the project.



Whilst the TOC is the basis to compare cost instead of value, this graph shows that more than 50% of the projects were delivered under the final TOC and only c. 15% were over. It should be noted that this assessment might be isolated to some degree since alliancing is more than just delivering project outcome at price. Alliance delivery provides an opportunity for scope change and variations without causing significant delay and contractual negotiations, but also provides opportunities to deliver outstanding performances in other key result areas, e.g. occupational health and safety, community engagement and stakeholder relations, people training and development and so forth.

A DB contract would likely have incurred cost each time the design was changed, whereas the alliance contract delivers continuous improvements by having the project owner, designer and contractor on the same side of the fence, and their (contractual) commitment as delivering “best for project” instead of “best for party”.

Additionally, respondents overwhelmingly considered the alliance delivery to be superior to the DB or DBB approaches:

“The alliance delivery method better addressed the complexities and risks associated with the design and construction. Previous endeavors on similar infrastructure projects had resulted in litigation.”

²The ‘Longitudinal Study of Performance in Large Australasian Public Sector Infrastructure Alliances between 2008-2013’, prepared by the School of Property Construction & Project Management, RMIT University, Melbourne, Victoria.

According to in-depth analysis of a series of alliance projects undertaken between 2004 and 2009 (valued over AUD 100m), a comprehensive benchmark study³ set out the following key findings:

Perceived performance

- 94.5% of project owners (POs) and 97.3% of non-owner participants (NOPs) believed that their alliance met or exceeded the requirements (aggregated); and
- NOPs tended to have a higher perceived degree of success in each performance area and overall than POs.

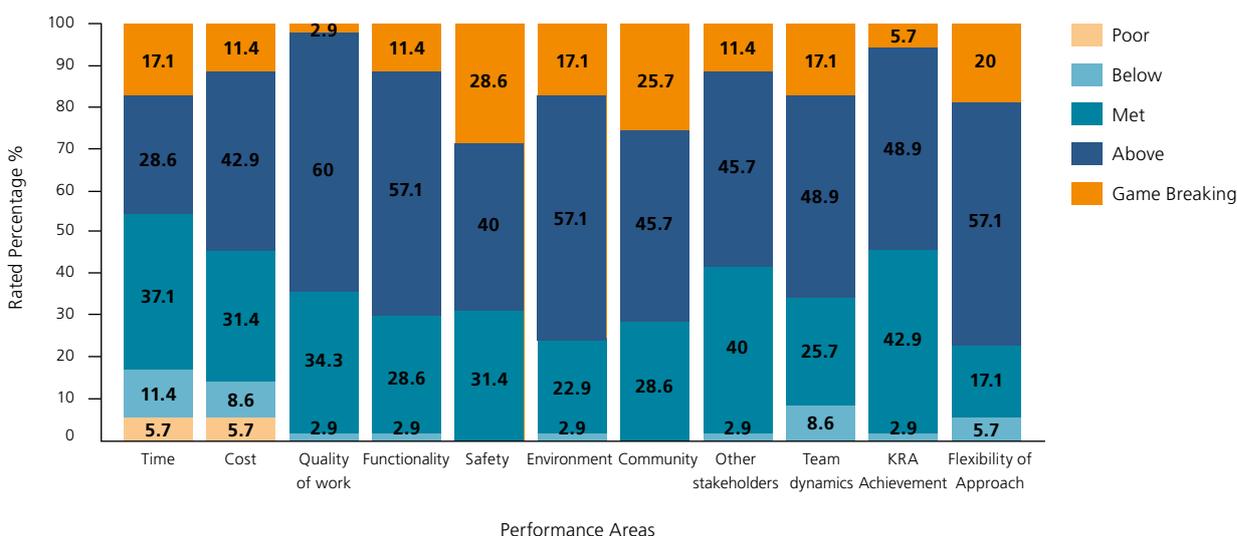
Reported performance

- 80% of alliances used the single TOC approach
 - 54% as a project alliance
 - 26% as a programme alliance;
- 85% of alliances had an AOC that met or came below the TOC;
- 94% of alliances were completed on time or ahead of schedule; and
- there was strong correlation between stakeholder management and community, and good time and cost outcomes.

Selection of an alliance

- team dynamics was viewed as a significant driver for NOPs in the selection of an alliance and had a moderate correlation with good time and cost outcomes;
- POs placed the lowest degree of importance on team dynamics when selecting an alliance;
- 91% of projects included benchmarked NOP profit and overhead fee; and
- there was an even split of projects that used cost criteria in their evaluation process.

The following graph shows an assessment of performance achievements from the POs' perspective:



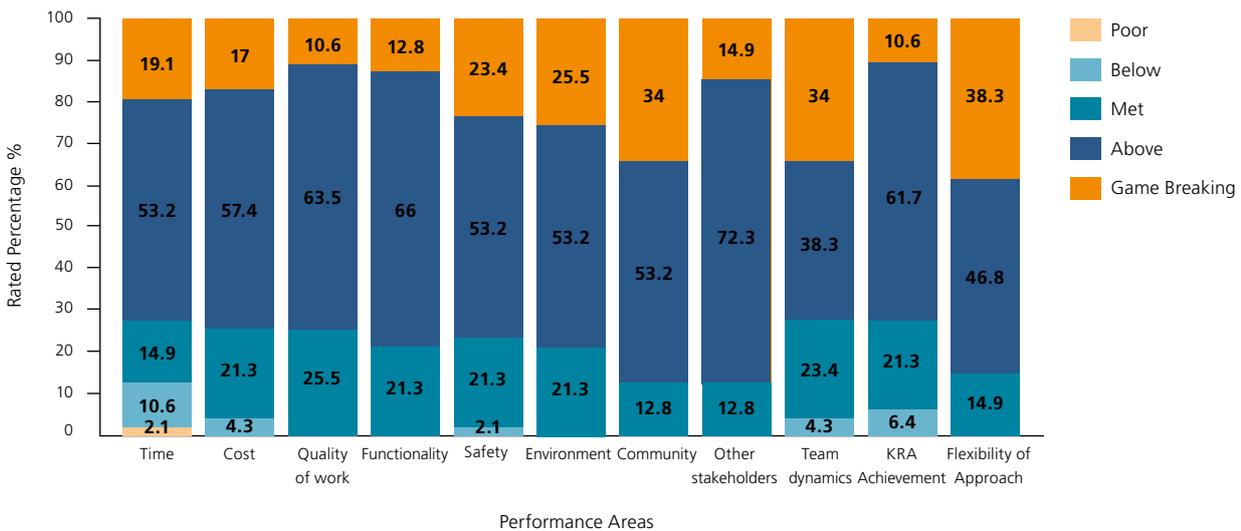
Source: "In Pursuit of Additional Value", Department of Treasury and Finance, Victoria, Australia, October 2009

Appendix 1: This study involved a collaborative effort between Evans & Peck and the Department of Civil & Environmental Engineering at the University of Melbourne.

³The Department of Treasury and Finance in Victoria, Australia prepared a benchmark study on "whether alliancing delivers incremental value for money (VfM) to government against other procurement methods".



The same criteria have been used to assess the performance of alliance projects by NOPs:



Source: "In Pursuit of Additional Value", Department of Treasury and Finance, Victoria, Australia, October 2009

Appendix 1: This study involved a collaborative effort between Evans & Peck and the Department of Civil & Environmental Engineering at the University of Melbourne.

What these demonstrate is that through collaboration, joint problem framing/solving and the "best for project" approach, the tangible outcome of the project is the delivery of the expected benefits. This could be a functioning hospital, transportation infrastructure, water supply or sewerage system. The intangible results are behavioural outcomes in terms of mutual respect, collaborative process and action, trust and commitment.

The Ipswich Motorway Upgrade

One of the most successful alliance projects undertaken in Australia was the AUD 1.95bn "Ipswich Motorway Upgrade: Dinmore to Goodna (D2G) Project." It was one of the most complex road infrastructure projects ever undertaken in South East Queensland. The Ipswich Motorway is located west of Brisbane and is the main arterial link between Brisbane and Ipswich. It also forms part of the National Road Network, providing connection between Brisbane, Sydney, Melbourne and Darwin.

The aim of the D2G Project was to provide an integrated and sustainable transport solution by:

- Increasing the capacity of the Ipswich Motorway;
- Improving road safety, geometry and reliability;
- Improving / increasing local road connectivity and functionality;
- Increasing access to public transport;
- Increasing / improving facilities for pedestrians and cyclists;
- Strengthening road pavements and structures; and
- Installing a state-of-the-art Intelligent Transport System to improve ongoing management of the motorway.

The Alliance (“Origin Alliance”) was formed by six organisations: QLD Department of Transport and Main Road (DTMR); Abigroup Contractors; Seymour Whyte; Fulton Hogan; Parsons Brinckerhoff; and SMEC Australia. One of the biggest challenges was bringing together a large group of people from six partners, all of which were very different organisations in terms of culture, size and experience, into one cohesive team. One of the key steps in achieving a ‘unique project culture’ was ensuring that everyone, from the Alliance Manager through to the youngest apprentice, worked

collaboratively to deliver “best for project” outcomes: everyone had to leave their ‘home organisation’ persona at the site gates and embrace the ‘Origin Alliance Way’.

At project commencement, DTMR and the Alliance ALT-Team agreed specific performance measurement criteria based on a mix of cost and non-cost factors, including a set of Key Results Areas (KRAs) based on the most important non-cost items for the project. The outcomes achieved against planned targets were remarkable:

- **Cost:** Through innovations and careful management, the overall project was delivered approximately 10% under budget.
- **Time:** Despite the devastating impact of the January 2011 floods in Queensland on both the motorway and project site offices, the project was officially opened six months ahead of schedule.
- **Quality:** Through a rigorous quality management system, all of the required quality benchmarks were achieved within the agreed time and cost parameters of the project.

During the three years of construction, a significant number of innovations in engineering, design and construction were developed; knowledge and experience that is now being shared across the Australian infrastructure industry.

Over the life of the project, each KRA was independently measured using a set of detailed key performance indicators. The resulting performance data was then independently verified. As of 15 May 2012, the D2G Project’s KRA scores were:

KRA 1	Traffic Flow Safety	10 out of 10
KRA 2	Traffic Flow Reliability	9.5 out of 10
KRA 3	Community and Stakeholder	8.4 out of 10
KRA 4	Connectivity and Access During Construction	7.8 out of 10
KRA 5	Design Optimisation and Maintenance Minimisation	7.5 out of 10

Source: “2012 Australian Construction Achievement Award (ACAA) Technical Paper”, Origin Alliance Ipswich Motorway Dinmore to Goodna Project

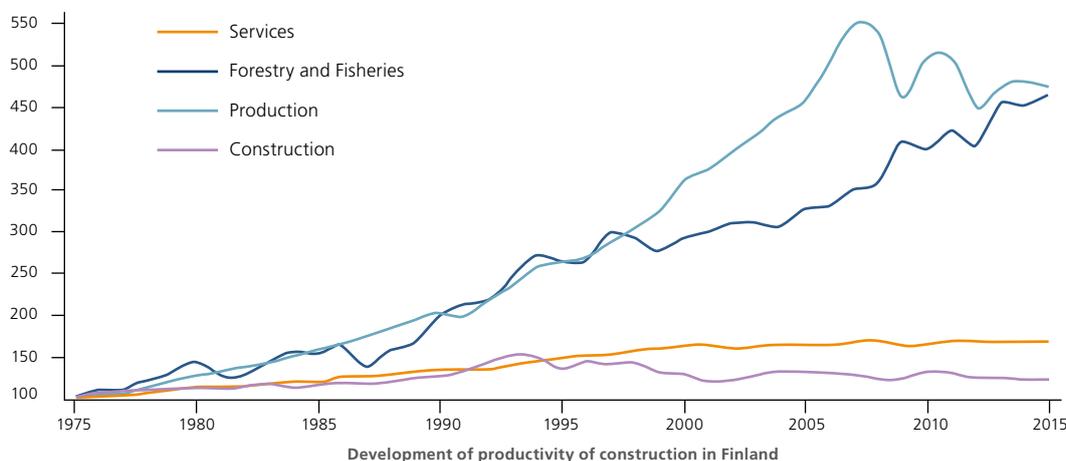
Therefore, the construction industry in Australia has clearly demonstrated that relationship-based procurement, and, in particular, pure project alliancing, can be a successful methodology for large and complex infrastructure projects with respect to delivering value for money and project outcomes.

Despite the obvious successes, however, a trend has emerged where many public clients have more recently

moved away from alliancing. There is an increasing appetite for external forces to financing projects and take the responsibility for the operation and maintenance of the asset. As such, a “Design, Build, Finance, Operate” (DBFO) form of contract has become more popular. Notwithstanding this trend, there are still billions of AUD in public infrastructure investments in the rail sector, particularly in Victoria, where alliancing is still seen as the most appropriate method for delivery.

Case Study: Finland

In the early 2000's the construction industry in Finland suffered similar experiences to other countries. Project outcomes were below expectations and projects were often not delivered on time or budget. Inevitably, POs and NOPs were frustrated about the resource required to deal with dispute resolution. The following diagram shows the development in productivity of different industries in Finland over 30 years, with the construction industry at the lowest level compared to other industries:



Source: Alliancing in Finnish Transport Agency, Finland, Pekka Petäjäniemi, Director FTA, NETLIPSE, Bratislava 09.04.2019

In addition to this, large infrastructure investment programs had to be implemented by Finnish authorities which caused a significant pressure to find suitable and viable options for successful implementation.

This created a situation where the organisation and management of construction activities moved away from individual, partial contributions, towards a different approach where interaction between parties in an open environment allowed for focus on partnership.

To improve the level of productivity in the construction industry in Finland, several studies were undertaken by Finnish authorities. The improvements which were implemented changed the culture into a more open and trusting way of working together, giving better customer satisfaction for end products and better quality at reasonable price levels, as well as allowing innovation and knowledge transfer to cut costs.

The foundation of the Finnish Lean Construction Institute was a key milestone in changing the industry towards achieving better outcomes. Since its

introduction in 2006-2008, and the launch of the first Alliancing pilot projects in 2012 (Liekki Project and Tampere Tunnel), the Finnish construction industry, together with the Finnish Transport Authority (FTA), had undertaken c.50 public infrastructure projects with a total investment of c. EUR 3bn by the end of 2016. The Finnish construction industry has developed the alliance delivery methodology to a very mature level, if not to one of the most advanced industry levels worldwide.

However, things have not always been straightforward. During the early development and implementation phase of Alliancing in Finland, a legal complaint was brought to the European Commission stating that "Project Alliancing" was not in accordance with EU and Finnish procurement laws with regards transparency and fair competition. In 2013, the EU Commission ruled that "Project Alliancing" as undertaken and conducted in Finland was indeed in compliance with EU and Finnish legislation and did not cause unfavourable conditions to participants, either in relation to transparency or to fair market competition.

In order to avoid any further legal action by market players, the FTA has taken a step outside of the basic theory of “pure” alliancing. In “pure” alliancing, the selection process should be based on capacity and capabilities of project partners only e.g. ‘price’ is not part of the selection process. To eliminate potential criticism that without ‘price’, the owner has no definitive way of testing the determined price against the open market (which in fact is not true since the TOC should always be verified by an independent cost consultant prior to acceptance by the owner) and to satisfy common standards of public accountability whilst demonstrating a competitive tendering process, the FTA includes two pricing components within its selection criteria: the bidders are required to submit their corporate overheads and ‘normal’ profit as part of their RFP responses.

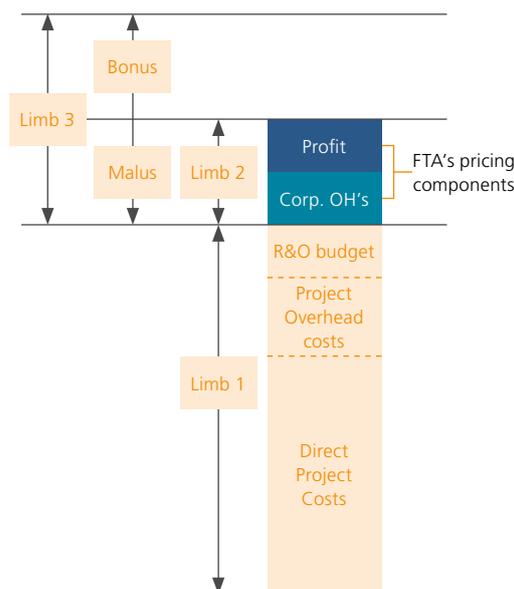
The FTA has a well-developed and structured selection process, divided into two stages, including a set of weighted selection criteria for each stage. At the first stage, the bidders are scored based on their written application, followed by interviews. In this stage, only capability aspects are used to evaluate their suitability:

- Project Implementation and Organisation (weighted 25%);
- Track Record (weighted 35%); and
- Value for money (weighted 40%).

Based on the first stage evaluation, two preferred bidders will be shortlisted and will enter the second stage, where workshops and commercial discussions take place, accompanied by audits of other components, e.g. systems and processes. Whilst the evaluation criteria in the second stage remains as in the first stage, the ‘price’ criteria are added with a weight of 25%. A decision is then made on the preferred bidder, who will be invited to negotiate the legal and commercial framework (Project Development Agreement / Project Alliance Agreement) and subsequently the contract award.

One of the golden rules in setting up an alliance type agreement is to keep things simple. As such, the FTA has a straight-forward process for the commercial framework: its pain/gainshare regime consists of the TOC and performance incentives related to qualitative performance achievements in KRAs. However, whilst this helps to steer the alliance operations to owners’ targets during the development phase, it is important that such a regime is agreed amongst project parties during the selection process.

Commercial Model Pain/Gain-share Regime



Since the FTA has undertaken a wide range of different projects to date and developed very mature market conditions in alliancing, its “lessons learned” are of great value for POs who are less experienced or who are considering alliancing:

- Understand the philosophy of alliancing (both the POs and the project partners);
- Make the most of the selection phase and discussions, and make sure the commercial model is understood by all alliance partners;
- Define KRAs wisely, keeping it simple – “you get what you measure”;
- Clear communication and clear messages;
- Keep things simple and fair, open and honest: a fair pain/gain share;
- Include reasonable incentives for key sub-contractors that are not part of the alliance – “common goals for everyone”;
- Allow key staff to focus on their work as part of the alliance – working in an alliance is very intense; and
- Take the lessons learned with you, whether positive or negative, and use them to get better going forward.

The following two FTA projects demonstrate the value and outcomes that have been achieved by using alliancing as a project delivery method:

Tampere – Kokemäki Rail Renovation Project (2011 – 2015)

This project involved the refurbishment of c. 90 km of railway between the cities of Tampere and Kokemäki, with a capital investment budget of c. EUR 91m. It was delivered by the VR Track Oy Alliance. Whilst this was the first alliance pilot project for the FTA, it was also the first alliance project undertaken by a public agency in Europe.

The FTA's decision to use the alliance type delivery method as opposed to more traditional delivery methods was based on the technical risks and challenges associated with this project, as well as requiring sufficient room to manoeuvre between project risks and opportunities and favourable legal requirements with regard to project approval processes. The agreed KRAs for the Alliance were:

- Trains to run punctually and on time during construction;
- Technical improvements on the existing track in terms of maximum train axle loads and maximum travel speed;
- Project to be delivered on time; and
- Health and safety.

During the design development phase, the TOC had been set at EUR 85.6m, however, due to scope changes the TOC was finally set at EUR 89.9m. After practical completion, the actual cost was at EUR 80.1m (which included some provision for the defects liability period – to be completed by 2020). The underrun of actual costs versus planned costs was achieved through effective project execution, for example, minimising risks estimated during the development phase and the avoidance of material waste during construction due to the optimisation of working methodology and innovative design solutions. Further cost savings were achieved through an efficient change management process, for example, managing change directly and at appropriate levels, instead of escalation and involvement of comprehensive management structures. Another important component in cost savings was the deployment of lean working methods at different project levels, which in turn led to a significant increase in productivity.

The VR Track Oy Alliance was a great success, achieving or exceeding performance benchmarks in all KRAs including delivering the project six months ahead of planned schedule, with a total score of 79 out of 100 points. At that time, such performance had not been achieved before on similar projects in Finland.

Source: VfM Report Lielähti-Kokemäki Alliance project.

Report prepared by: The content of the report is produced by the Lielähti-Kokemäki Alliance project and the report compiled by Jussi Takamaa from VR Track Oy. Report guidance are participating Alliance Steering Group members: Magnus Nygård Liikennevirasto, Pekka Petäjaniemi Liikennevirasto, Jouni Kekäle VR Track Oy, Harri Yli-Villamo VR Track Oy.

The Rantatunneli – City of Tampere (2011 – 2017)

This was a tunnel construction in the city of Tampere. The Rantatunneli Alliance was comprised of five participants: the FTA and the City of Tampere as the POs and A-Insinöörit Suunnittelu Oy, Saanio and Riekkola Oy and Lemminkäinen Infra Oy as NOPs.

This project was complex: the diversion of a stretch of one of the major highways (Highway 12) in this area into two one-way tunnel sections (2.3 km each) including interchanges at each end. Each section comprised 4.2 km highway construction and 4 km adjacent road network including 7 bridges. The entire project area was located in the City of Tampere, in an area governed by a zoning plan and confined by urban infrastructure and roads maintained by the city.

After almost two decades of pre-planning, the Rantatunneli Alliance's project design phase commenced in 2011. The design development was completed in late 2013. The original project budget was c. EUR 185m and the final TOC was agreed at c. EUR 180.3m. After the PO's acceptance of the final TOC, the project went ahead into the construction phase. Practical completion was reached in 2016 (Stage I) and 2017 (Stage II).

The final scope of the alliance contract was decided during the design development phase. The most notable risk identified during the design phase (and the development of the TOC price) was the potential presence of contaminated soil in the project area and its disposal. It was decided that the City of Tampere would take part of this risk on its own (outside the Alliance) with regards to transportation of the contaminated soil to the disposal site (including associated costs). Due to the uncertainty on this issue, including the associated water permit application, and in order to move ahead with the project, the TOC could only include a provision for contaminated soil, irrespective of the extent of contamination. Consequently, the share of the financial risks was altered so that the split between the Alliance and the POs was: 25%/75% for slightly contaminated soil; and 10%/90% for heavily contaminated soil.

The Alliance put great emphasis on developing innovations to reduce costs and to lower the TOC: staff were encouraged to come up with ideas, evaluated in accordance with a structured process, and efforts were made to improve the process by identifying and mitigating obstacles to innovation. Such innovations resulted in a total cost saving of c. EUR 20m during the design development phase.

The POs decided to introduce just over 20 changes (EUR 14.06m) to the scope during the construction phase. The City of Tampere and the FTA consequently raised the total cost provision to EUR 200m.

The POs had targets relating to both land and transport, which were also used to formulate key targets for the Alliance. A pain/gainshare regime was used to steer the project towards the POs' targets by rewarding outstanding performance with a bonus. These targets

were either met or outperformed. The Alliance was able to implement the project in a manner appreciated by the POs by making use of techniques such as collaborative platforms, the Big Room concept and lean construction. The final TOC was calculated by adding the changes to the scope of the project (+ EUR 14.06m) and their impact on the construction partner's fixed fee (+ EUR 2.38m) to the original TOC (EUR 180.3m) and deducting the effect of the index (- EUR 0.79m). The final TOC was c. EUR 195.9m, estimated to be undercut by EUR 3.76m (the defects liability period has not yet ended). Taking into account 50% of the undercut and performance bonuses, the service providers will be paid a bonus of EUR 4.68m in total.

Source: VfM Report Rantatunneli, 2018, Finnish Transport Agency / Projects. Helsinki, 2018. 60 pages. ISBN 978-952-317-535-8.

Country Snapshots

Austria

Although the practical experience in Austria with multi-party risk-sharing construction contracts is still limited, the discussion in the construction industry, among major public employers and legal practitioners is rapidly gaining momentum. A lot of experience with risk sharing models and early contractor involvement exists in public private partnerships, but in these projects there is still a clear distinction between a main (PPP) contract and (interlinked) subcontracts covering and transferring certain risks and tasks to the subcontractors and risks which are not managed jointly.

There is at least one recent major construction project which could be considered an alliancing model: a hydro power plant named "Gemeinschaftskraftwerk Inn GKI" at the Austrian-Swiss border. Due to unsatisfying progress of the construction works since 2014, the traditional unit price contract was terminated and re-tendered. In 2017, the project was continued with an alliancing (service) contract with the goal to harmonize the interests of all contracting parties (under a "best for project" principle). One of the main obstacles to alliancing contracts seems to be the organisational structure. In the GKI project two organisational levels were established, an "alliance executive committee" responsible for supervision, guidance and tax of the alliance and the "alliance management" for the operational work. However, this contract was only concluded between a consortium consisting of three construction companies and the contracting authority,

but without planners. First results are positive (cost savings of 6 – 9 %). At the end of the project, no open claims offering room for dispute are allowed. Critics say that the contract's bonus/malus-system for external factors (for example ground risk) needs improvement. However, this project is currently demonstrating that, by adhering to core principles, project outcomes are satisfying for all parties involved. Those core principles are:

- Clear definition of project goals including roles and responsibilities
- Open and honest communication
- Trust and mutual respect
- 'Best for project' tailored teams

When it comes to public employers, several points of uncertainty in relation to public procurement law exist. For example, public contracts must be awarded to the economically most advantageous bid, which must be selected in direct competition. Thus, the pre-contract or conceptual phase with just one preferred bidder, which is typical for alliancing models must be reduced and more of the conceptual works needs to be done prior to the procurement procedure or during negotiations with all bidders. Obviously, it is critical to appropriately define selection and award criteria to make sure that key result areas and key performance areas in alliancing contracts are correctly measured.

In alliancing contracts, the contractor is paid according to actual costs (with a risk sharing mechanism) and so it is very hard to correctly estimate the contract value as procurement law would require. Moreover, procurement law and contract law require an agreement of the task/ obligations of each contractual party and the respective remuneration, at least to such an extent that bidders in a procurement procedure can unambiguously calculate their contract price. Once the contract is concluded, the parties must be able to go to court if one party does not correctly perform its obligations, not necessarily because of project risks materialising but for other reasons such as defective performance. Finally, contract amendments which would require a re-tendering, must be avoided.

In 2018 the Austrian Association for construction technology (ÖBV) published guidelines for cooperative project implementation. Moreover, the Austrian standard construction contract for large scale infrastructure contracts (ÖNORM B2118) is currently under revision and will include elements of collaborative projects. Technical norms (RVB) and ÖNORM B2118 already refer to "Value Engineering" and are being used in practice. Growing interest among lawyers and civil engineers leads to a lively discussion with more and more publications. Comparable developments are taking place in real estate projects.

Much more practical experience will soon be available in Austria. The two most important public employers in Austria, the federal highway agency and the federal railways have commenced an initiative to try out alliancing/risk sharing contracts. Their focus is on large size refurbishing works for critical parts of the infrastructure which must be performed quickly, and while this infrastructure remains in operation. Another hydro power plant in the form of an alliancing contract will soon be tendered. An airport extension project in a comparable form is being procured.

A number of open questions remain. Some elements which characterise alliancing contracts in Austria, like waivers of claims and shared responsibility for project risks, appear to be problematic in public contracts under Austrian law. Rules of professional conduct for civil engineers do not allow them to form consortia with construction companies and thus are an obstacle to multi-party agreements. Some risks in a complex infrastructure project can hardly be assumed jointly by all parties because there is always one party which can handle and influence these risk much better than the others, for example the risk of environmental impact assessments and comparable permits, defects in the design etc. Tax issues for the joint implementation bodies arise too. For these aspects, no field-tested solutions yet exist.

Brazil

Whilst alliancing agreements have been discussed at various times, in practice they are not widely used in the construction industry. There is evidence of their use in petrochemicals developments.

France

Alliancing contracts are not widely used within the construction industry in France. The reason behind this is not apparent. Strategic alliances are well known in other industries such as air transport and software engineering. These alliances can pool abilities, knowledge, know-how, processes, protocols and technologies, thus establishing joint partnerships and closer cooperation to strengthen and develop their position. Examples include Air France and Tunis Air for the increased development of French-Tunisian air routes (1999); CSC France and Sophis to reinforce their offering in software packages for financial institutions (2002); Total and Petrobras to reinforce their cooperation in the Brazilian upstream and downstream sectors (2016); and BNP Paris Real Estate and m3 Real Estate in Switzerland (2018).

There is an increasing development of complex construction and infrastructure projects in France. For instance, the still-developing offshore wind power sector is highly dynamic and its projects are characterised by uncertainty and complexity. Implementing the alliancing approach to that type of project could be beneficial. It would also be a good fit for other complex projects in the engineering and construction industry. France may be currently witnessing, although timidly, the early stages of an adoption of this method of contracting by the construction industry.

Germany

Multi-party agreements are a new tool for the German construction and plant engineering industry. However, important discussions about alliancing contracts and other means of working towards a more integrated DB collaboration are currently taking place. Early model contracts are in the making and pilot projects have been set up since 2018. Given that many market players (employers, contractors, as well as investors and project managers) are very interested in developing more cooperative ways for the realisation of projects and widely participate in initiatives, it is expected that multi party agreements (or at least key components) will play a much more important role in Germany than before. So far, it can be said that the ongoing discussion and implementation of these contract forms are part of a notable cultural change in the German construction industry towards a more integrated approach.



Some elements of alliancing have, however, already been in use in contracts for many years such as the principle of good faith, rules of cooperation and partnering, all-risk insurances and, in a few areas, risk contingencies.

Guaranteed Maximum Price (GMP) contracts as well as pain/gain share mechanisms are currently facing a renaissance in some sectors. There are models of high integration on the contractor side, e.g. mutual coordination and alliancing rules integrated into the contracts between the contractor and its subcontractors. There are many initiatives towards multi-party agreements trying to elaborate and use contract models, particularly in combination with the application of building information modelling (BIM). Moreover, the first pilot projects are underway, testing elements of alliancing and multi-party components. Multi-party agreements are soon expected to become part of the commonly used contract suite in the German construction market, though it is still unclear to what extent those models will prevail. Meanwhile, even those awarding state contracts are interested in trying out multi party agreements, especially testing models of early contractor involvement. However, a current hot topic is whether, and under which conditions, multi-party agreements and early contractor involvement are compliant with statutory procurement law.

One of the most important initiatives in this context is the "Integrierte Projekt Abwicklung" (IPA, Integrated Project Implementation), which is involved in a few prominent pilot projects and in which representatives of Arcadis and CMS take an active part. One of the primary goals of IPA is to develop a form of an alliancing model which best fits with the requirements and demands of the German construction market.

The Netherlands

True collaborative contracting (e.g. "alliance contracting" and "partnering") is not very prevalent in the Netherlands, although it is gaining interest.

The reason for this may be because the contract sum is not fixed which, as yet, is considered to be too big a risk by most Dutch Employers. Although parties would agree to strict initial target outturn costs (TOC), the contractor would still be compensated for all project costs plus a lump sum fee and share in the final TOC underrun.

In the Netherlands, the most common contract structures are integrated design and construct contracts, which place both design and construction obligations upon contractors, and traditional construction contracts, which only place the construction obligations upon contractors in accordance with the contract documents and (design) drawings prepared on account of, and prescribed by, the employer.

In the event of ancillary activities to be performed by contractors assigned directly by the Employer, contractors are usually bound by a multilateral coordination agreement, to be coordinated by the main contractor. Risks are usually allocated, not shared.

The Dutch Civil Code ("DCC") is divided into books, with a special chapter for construction contracts (Title 12 Book 7 clauses 7:750 DCC and further) and a special chapter for services, including design work (Title 7.7. Book 7 clauses 7:400 and further).

Most construction and/or services contracts, however, are based on standard-form contracts and conditions, which have been construed by all major stakeholders and branch organisations and are considered to be well balanced and just. As a general principle, contracting authorities are obliged to apply these conditions without amendments if the Dutch Public Procurement Act 2012 ("*Aanbestedingswet 2012*") applies.

There are a number of standard-form construction contracts used. The most commonly used forms are the Uniform Administrative Conditions 2012 ("UAC") for construction only, the New Rules 2011 for design and/or project management services only, and the Uniform Administrative Conditions for integrated contracts ("UAC-IC") for design and construct contracts.

International forms such as JCT and NEC are hardly ever used, although the use of FIDIC forms may sometimes be preferred by international Employers.

A "building team" contract, is popular and often based on the Model Building-team Contract 1992. In this, the contractor will provide its expertise on construction costs during the design phase in return for which the contractor will be entitled to be the first to submit an offer. All parties to a building team are, and remain, liable for those team decisions that lay within their specific field of expertise, provided the team decision has expressly or tacitly been accepted by the relevant expert. That means that if, for instance, the contractor suggests the use of materials or a construction method for cost-reduction purposes, the responsibility for this still remains with the engineer.

Insofar as alliance contracting and partnering contracts are being concluded, these are tailor-made contracts and not based on a standard form contract. There have been infrastructure "alliancing" contracts where the fee was not really a fixed lump sum but where the profit and overhead rates could be adjusted downwards in case of a budget overrun. However, these resulted in traditional behaviour and, since the cost of subcontractors was reimbursable, it incentivised main contractors to agree to considerable costs and rates stipulated by subcontractors leading to more expense.

These experiences have unjustly sold the principles and advantages of alliancing contracts short as they were not true alliancing contracts to begin with. For an alliancing agreement to succeed, it is necessary for parties to establish an acceptable and realistic TOC, to avoid “paper profit” or cost force up behaviour.

It is to be expected that alliancing will become more frequently used if and when Dutch Employers acknowledge its added value, and gain more (and better) experience with alliancing projects.

New Zealand

The New Zealand government has embraced contract alliancing, particularly in relation to its highway contracts, including a NZD 700m project for the improvement of Auckland’s northern highway corridor and the Auckland Motorway Alliance to carry out maintenance. These involve multi-party agreements between the participants.

Poland

In Poland, multi-party agreements have not yet been introduced in construction projects and there are no pending discussions in this respect. However, more and more investments are implemented with the use of BIM, especially in the public sector. In 2018, the Polish Road and Highway Agency organised the first public tender which aims to introduce the BIM methodology in the design and build contract with regard to road investment. For the first time the public authority decided to carry out a technical dialogue with potential contractors to precisely define the BIM objectives in relation to the contractors’ capabilities and competencies. The same procedure was applied in respect of the tender aiming to appoint the contract engineer to make sure that the chosen management company will be capable of observing the set BIM requirements.

It is worth noting that according to Polish law, co-operation of the parties to the agreement is one of the key principles in the fulfilment of contractual obligations. Therefore, if, for example, an employer does not co-operate with the contractor during the construction works, it may be liable towards the contractor for damages suffered by the contractor due to lack of co-operation.

Russia

Contract alliancing is not widely used or known in the construction industry in Russia. The Russian regulatory framework is designed for the standard construction relationship between employer and contractor. There have been some attempts to use schemes similar to alliancing in commercial real estate renovation or construction projects. Most civil law rules on contracts as well as related accounting, permitting, real property and other construction-related issues are aimed at traditional contracting. It is considered that it would be difficult for parties to accommodate contract alliancing within the existing legal framework in Russia.

The closest model would be a simple partnership agreement or a mix of an EPC contract with a sale purchase agreement. In this, owners of property – land and/or buildings which require renovation – often require external financing to develop their existing real estate assets, but may not be in a position to go to a bank. Bank financing may be too expensive at greenfield or brownfield stage, or simply too burdensome to raise. Thus, owners may want to involve contractors as de facto co-investors, who will invest their works in return for a share in the future property, e.g. part of the building to be constructed or renovated. The owner contributes existing property and funds to the partnership. The contractors contribute works and sometimes funds and they all share profits.

At the same time, the owner may enter into a purchase agreement with contractors regarding their future shares in the property, where the owners will pay the contractors with proceeds stemming from use of the property or with borrowed funds. At later stages of the project implementation, borrowed funds become cheaper/more accessible since the owner can use newly created property as collateral. The parties which are not intended to be the ultimate owners of the created asset would exit the project on completion by selling their shares to the remaining parties.

This model has been popular as a result of the construction market shrinking in Russia for the past few years. Contractors have therefore been motivated to participate in such projects to facilitate developments. Also, some contractors have free funds available, which they would like to invest, or they have relationships with one or several banks that usually finance their working capital, making it easier for contractors to raise some part of the financing on their own.

For such projects to succeed, it is fundamental to properly align all legal aspects and overall payment structure, so that both the owner and the contractor(s) are motivated to hold their end of the bargain and are reasonably protected from risks, in case the project fails to reach completion. This requires a solid exit strategy.

Looking to the future, the alliancing model or any substitutes to it which are more common in Russia would work well if there is a pre-established relationship and trust between parties. Contract alliancing has potential in Russia due to the high demand for infrastructure and management tools for complex projects. It also sits well culturally given the preference in Russian business to settle disputes or issues via informal negotiations to the extent possible. Thus, there is a room for collaborative contracts and behaviour.

The main obstacle for alliancing in Russia is the regulatory framework. There are regulatory patterns embedded in rules on contracts, procedures to obtain permits and rules on land use and the like that are meant to govern traditional contracting. To significantly advance contract alliancing in Russia, legislative change is required. Without this, third parties, courts and authorities would be inclined to apply ordinary contracting rules to contract alliancing, simply because they are unfamiliar with the alliancing concept. As a result, the lack of adequate legal rules will make contract alliancing impractical to use, regardless of its benefits.

Serbia

Contract alliancing (or any other type of partnering collaboration) is not present in Serbia.

The majority of local projects in Serbia are still based on a traditional form of contract governed by the Law on Contract and Torts and Specific Customs on Construction. FIDIC contracts are not widely accepted and are most commonly used in projects funded by international banks and public infrastructure projects (that are as a rule financed by international financial institutions). Hence, the current setting in Serbia is in favour of traditional contracting forms.

There are no statutory limitations for private investors, contractors, designers and other involved parties to create an alliance; if they are willing to alliance and to share all risks and benefits that such alliance implies, they are free to do so. In order to regulate their relationship, contracting parties would be required to set their own rules and those rules would, in a way, become the law for the parties.

As for the public sector and projects financed by it, the current legal and regulatory environment does not allow for such contractual creativity – contractors are selected and contracts concluded based on strict rules set out by laws regulating public procurement and public private partnership, which do not allow for the flexibility required under contract alliancing.

Additionally, it seems that the awareness of alliancing is limited. There are no articles/literature or public discussions regarding this concept and its potential application in Serbia.

If it was to be adopted, it is thought that its application would be most useful in complex, risky, projects with numerous uncertainties and limited budget and time, as well as in the area of public procurement / public private partnership.

Due to lack of any practice in contract alliancing, at this point it is difficult to estimate whether typical alliancing provisions could contravene mandatory provisions Serbian law. Additionally, as Serbian courts generally tend to take a conservative approach, enforcement of a contemporary concept such as contract alliancing could raise certain difficulties and uncertainties.

Most importantly, however, application of the contract alliancing principle would require a change in culture and attitude within the Serbian construction industry, which, like in any other country, will take time.

Successful outcomes of contract alliancing in other countries should be a green light for the Serbian construction industry to, at least, consider testing this concept. Given the traditional rigidity of the Serbian public sector, the initiative will have to come from the private sector i.e. primarily from international investors and financiers. The first step in introducing contract alliancing in Serbia would be raising awareness in order for the relevant players to become familiar with positive experiences and advantages of contract alliancing.

Singapore

Alliancing is not currently widely used in the construction industry in Singapore, but it is gaining interest. There are plans for the Singapore Building and Construction Association (“BCA”) to pilot a contract alliance model for future public projects. This is due to come into force by early 2020. The BCA has also initiated the Construction Industry Transformation Map which has, as a component, a push toward a collaborative approach to increase productivity in the construction industry.

A Working Committee on Collaborative Contracting (“WCCC”) comprising government agencies and industry associations/practitioners was set up in September 2017 to study the collaborative contracting forms used overseas for adoption in Singapore. As initiatives such as these progress, the use of contract alliancing in Singapore is expected to increase significantly.

The focus in Singapore is to introduce contract alliancing into public development projects. The Singapore Government has identified that alliance contracting is useful in allowing involvement from engineers and contractors early in the project, providing feedback on areas which require refinement to design before construction work begins, facilitating integration of the design and construction process and reducing unnecessary delays and costs. A collaborative approach is already encouraged through the use of Early Contractor Involvement (“**ECI**”).

ECI allows contractors to provide input into the design stage, promoting greater coordination and collaboration between stakeholders. All public agencies in Singapore are required to consider ECI upfront if possible.

The Singapore Government has stated that the building time for public sector projects such as transport infrastructure could be shortened by reducing inefficiency and waste which can be caused when parties to a construction project work in “silos”.

In order to boost construction productivity, the Singapore Government has been looking at the adoption of collaborative contracting models used in the United States and in Hong Kong, where the New Engineering Contract (“**NEC**”) form is used for all government projects tendered from 2015.

The BCA believes that the use of collaborative contracting will encourage the project parties to work together in a spirit of mutual trust toward a common goal, and encourage better cost and risk management, with disputes avoided or resolved at an early stage.

The BCA has noted that there must exist a fair system of allowing contractors to participate at the design stage and that there still exist co-ordination and operational issues in handovers from architects to engineers downstream.

In relation to public sector development, this will require specific digital software to facilitate collaboration. The government is in the process of developing this software.

The Singapore Government will implement the pilot alliancing model in public sector projects by 2019 with the hope that this will motivate the private sector to follow suit.

Slovenia

Contracting alliancing is not present within Slovenia’s construction industry and the main approach to construction contracts in Slovenia appears to be contrary to the core themes of contract alliancing.

Survey findings show that clients prefer to cooperate with one main contractor rather than several contractors at the same time. This approach is in line with the Slovenian Obligations Code and considered good practice in Slovenia. However, for delivering large-scale projects, such as highways or railroad infrastructure, Slovenian construction companies tend to form joint ventures.

Otherwise, construction agreements are designed as traditional agreements whereby the client is in a contractual relationship only with the main contractor. All rights and obligations are defined within this agreement. Even if the main contractor later concludes agreements with subcontractors, all risks against the client are assumed by the main contractor.

Spain

In Spain, alliancing is not a widely used form of contracting but, depending on the project or the agreement reached between the intervening parties, a project may be developed through the implementation of a joint venture agreement (equity or contractual). This can be used in certain development projects where the parties intend to optimise the resources available. It allows the contracting parties to act in a certain way in order to achieve a common goal without establishing an independent, new legal entity. The key drivers to using a joint venture agreement are seen as being the allocation of costs, the optimisation of resources and the internationalisation of the project. The key characteristics of a joint venture agreement include:

- active participation of each of the members to the joint venture (proportional to each share);
- the right of the participants to jointly control the common business;
- and the joint operation of the business.

Joint venturing is commonly used in international transactions or projects that involve multiple jurisdictions in which can incur extra costs. The key requirements in this type of agreement will be to determine the participation and method of control of the entity by each of its members together with the allocation of costs, liabilities and rights.

The arrangements are usually formalised through a joint venture agreement between the parties. There are no initial blocks to these types of structures under the applicable laws.

The parties should select the law of the agreement. Regarding dispute resolution, the most efficient way tends to be to apply deadlock clauses which would entitle any of the parties to assume the entire project in the case of breach by the other party, or submit the dispute to an arbitration court.

It is thought that in future, these arrangements will become more common due to the increased specialisation of construction companies, meaning that several different contractors are required to cover one project.

Switzerland

In Switzerland, multi-party agreements are not yet used in construction and plant engineering projects. However, the increasing importance of BIM has now been recognized and the BIM method is already used (to a certain degree) in some construction projects. The Swiss Society of Engineers and Architects has recently published guidelines and an amendment to the model planning agreement for projects using the BIM method. However, the model planning agreement is still based upon to the traditional system of principal-agent and it is merely complemented with certain BIM specific services to be rendered by the planners, and clauses regarding data inspection and data exchange.

The following collaborative elements are sometimes found in traditional planning and construction contracts: bonus-malus systems linked to certain contractual objectives (e.g. lettable area, target return, construction costs etc.), escalation mechanisms in case of disputes, mediation and arbitration clauses.

Turkey

Turkish law does not contain the term “contract alliancing”. There is currently no serious discussion as to the need for introducing contract alliancing into the market as an alternative to common and well-known types of contracts under Turkish law. However, there are different types of agreements that serve similar purposes to alliancing agreements, such as Joint Venture Agreements.

Joint venture agreements under Turkish law are the most common way to deliver construction projects. They are widely used, especially in major construction projects i.e. the construction of the Third Bosphorus Bridge and other PPP projects.

These are, to some extent, comparable to contract alliancing in that contracting parties must act in a certain way in order to achieve a common goal without establishing an independent new legal entity.

This form of contracting is becoming more popular as it is more flexible than creating a new organisational form such as a company. Joint venture agreements can be adopted for a one-off project or can be a long-term relationship over a number of projects (such as a framework agreement).

This is being used widely for construction projects due to the requirement for know-how and specialisation in different areas. This contracting mechanism allows a great number of legal entities to handle complex projects together to achieve one common goal. This can lead to better results since many companies combine their know-how, technical and administrative resources and work together, sharing information instead of competing with each other.

These types of agreement are more efficient than executing agreements with all the undertakers and contractors separately. In addition, the specialisation of the companies in different areas, needs of technical support and sharing of risks and/or resources as well as an ambition to enter a new market are key drivers to the success of the alliancing.

Large-scale construction projects, especially those where technical know-how and patented technology are key requirements, cannot be undertaken without the cooperation of many different and/or multinational companies. In Turkey, these projects are usually monitored by the government due to the fact that they concern public interests.

Key factors present in these forms of agreement include that they are multi-party, allow joint control and the right to supervision of every company. There are joint ownership rights with parties having a share of loss and profit, and a share of project risks, and there is equality and equivalence of each alliancing/contracting partner.

To make the concept of contract alliancing successful in Turkey, it is thought that this would need serious cooperation of all stakeholders involved in construction projects on both sides (the private sector and the public sector) and further creation of an awareness of this concept from a legal perspective (legislation, jurisprudence and legal scholars). It is thought that alliancing could be beneficial for PPP and large-scale infrastructure projects with the involvement of the public sector as a party to the alliance. However, the perception is that these could lead to excessive costs due to complex and extensive agreements, and that this could prevent successful alliancing.

United Arab Emirates

Contract alliancing has yet to feature in the construction industry in the United Arab Emirates, with more traditional forms of construction contracts remaining in use.



Ukraine

The concept of alliancing agreements is generally unknown under Ukrainian law. Currently, there are no legislative or business initiatives to introduce alliancing contracting in Ukraine.

The collaborative approach in contracts in Ukraine is usually achieved through Joint Activity Agreements (JAA). JAAs have similar features to alliancing agreements in that no separate legal entity is established, there is an obligation to act jointly, there is a defined purpose of activity, there is the possibility to join the capital/other property and there is risk and profit sharing.

Unlike alliancing agreements, JAAs in Ukraine do not provide for a multi-party approach as JAA is a form of integration on employers'/investors' side and not an integration between employers and contractors. They also do not contain no-blame/no-claim clauses and do not provide for creation of an integrated management team.

In construction, JAAs in Ukraine are mostly used by state enterprises or municipalities, when they ally with private investors. Usually the former contributes land and the latter contributes cash. Antimonopoly Committee approval is required if the terms of the JAA contemplate concerted actions of the parties and where the transaction exceeds certain financial thresholds. For tax purposes, the JAA requires separate tax reporting and separate VAT-payer registration of the entity performing tax reporting on behalf of the JAA. Payments for the purposes of the JAA can be made through a separate bank account opened for the activity under the JAA.

United Kingdom

There has been a trend for more collaborative provisions in contracts in the UK and an increase in multi-party standard form contracts incorporating alliancing principles for example. PPC2000, JCT Constructing Excellence and NEC4.

The alliancing trend only emerged in the UK after the 1980s, when much of the UK's economic infrastructure was transferred to the private sector and competitive tendering was the main method for appointing a contractor. This meant that the contractor offering the lowest price and the highest transfer of risk was generally awarded the project. As a result, projects were often delivered late and over budget and a "claims culture" was prevalent. In response, the 1990s saw a re-evaluation of the procurement process.

Sir Michael Latham (Constructing the Team, 1994) and Sir John Egan (Rethinking Construction, 1998) famously published reports which recommended a more cooperative approach to infrastructure projects.

An early example of this partnership model described by Latham and Egan was seen in the construction of a Honda Car Plant in Swindon, which reached completion in 2001. Throughout the procurement and construction process, the Honda team adopted a 'one team, one goal' approach to the development, which ultimately won the team an award for the project and a 40% improvement in cost, compared to the previous plant built nine years earlier.

Similarly, VOSA's Estate Modernisation Programme won the Integration and Collaboration Award at the Constructing Excellence Awards 2015 for a collaborative and communicative approach to their GBP 5.8m development. The VOSA project, which involved a four-year framework of new builds and refurbishments, was the first project in the UK to use the JCT Constructing Excellence Contract. This resulted in the project finishing on time, within budget and with a cost reduction of 80%.

The Honda and VOSA projects, although successful, were still relatively small. Arguably the first major infrastructure project to employ a partnership strategy in the UK was the complex Heathrow Airport Terminal 5 expansion. The expansion, funded by the British Airport Authority with Sir John Egan as CEO, reached practical completion in 2008. This GBP 4.3bn project was a rarity for its time, finishing on time and within budget. Although opinion is split regarding the overall success of the project, as there were several teething problems after the building opened, the project was a pioneer for large scale developments. Since the Heathrow Expansion the UK Government has shown a positive reaction to alliancing in the UK, and a principle objective of the Government Construction Plan 2016-2020 is to "*deploy collaborative procurement techniques*" and "*drive whole-life approaches*" to construction projects.

More recently, the alliancing model has matured in the UK with the introduction of the industry-wide 'Project 13'. In May 2018 the Infrastructure Client Group (ICG), together with the Institute of Civil Engineers (ICE), introduced Project 13 because they felt that "*the transactional model for delivering major infrastructure projects and programmes is broken [and it] prevents efficient delivery, prohibits innovation and therefore fails to provide the high-performing infrastructure networks that businesses and the public require.*"



Project 13 is made up of a Blueprint, which offers an enterprise model for infrastructure delivery, and a Handbook, which sets out the core principles which should be followed to allow this model to succeed. The Project 13 enterprise model looks to jointly mitigate risk rather than transfer it, and rewards parties based on the overall outcome of the project. The Blueprint sets out five core roles: owners, investors, integrators, advisors and suppliers; and looks to promote a long-term, cooperative relationship between these.

Since the establishment of Project 13, several infrastructure projects have followed the alliancing Blueprint, for example: Anglian Water (Capital Delivery Alliances); the Environment Agency (Next Generation Supplier Arrangements); National Grid (London Power Tunnels project, which looks to rewire London at the cost of GBP 750m); Network Rail (North, Central and South Alliances, which are considered some of the most sophisticated forms of alliancing in the UK currently); and more recently Sellafeld Ltd. The Australian Sydney Water Partnering for Success (P4S) program is the first alliance to take on Project 13 internationally.

To enable successful alliancing, developments following this model are often backed by costly insurance policies. The UK has recently trialed Integrated Project Insurance as part of the Cabinet Office's Trial Projects Programme, following the Government Construction Strategy 2011. The first project to use IPI under the Programme was the Dudley College Advance II development, which completed in September 2017. In reference to the Dudley project, Innovate UK stated that this form of insurance-backed alliancing has the "*potential to transform the construction industry*". Although the Dudley project was relatively small, costing just under GBP 12m, the project was considered such a success that the same IPI backed alliancing model is to be used on a further project at Dudley College, with a budget of GBP 26m.

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