Young Quantity Surveyors Group (YQSG)

of the Pacific Association of Quantity Surveyors (PAQS)

YQSG Newsletter 2013 First Issue

In this Issue.....

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YQSG Program 2012 - Brunei Successfully Completed

Young Quantity Surveyors Group (YQSG) Program for year 2012 was held on 07 July 2012 in Brunei as a part of the 16th Annual Congress of the Pacific Association of Quantity Surveyors (PAQS). This one day event was held at Holiday Lodge Hotel. Young quantity surveyors and students (about 50 numbers of participants) from 11 countries participated in this event.

Main speech of the program was made by Congress Chairman - Yb Haji Zulkipli Haji Abdul Hamad, President of Puja Brunei. As the first program of the event, representatives from each country made their presentations introducing latest developments of the Quantity Surveying profession and construction industry in their countries. There were several games designed to allow the participants to interact together while attending to the games. A group discussion also held to share ideas towards the improvement of YQSG. As a usual event, Gift Exchange session wasalso took place. After the lunch at Holiday Lodge Hotel, participants attended a city tour to visit 'Water Village' and 'Arts School" and a Shopping Center in the city.

This event was completed successfully, allowing the Young Quantity Surveyors to interact each other and share the knowledge, experience in different countries.

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YQSG Program 2012 - Brunei Cont'd















YQSG Program 2012 - Brunei Cont'd
























About PAQS - YQSG

On 15 August 2009, young members from PAQS country members attended the Sustainability Committee Meeting at Kuala Lumpur and formed the first Young Quantity Surveyors Group committee. This committee was subsequently appointed by the PAQS Board under PAQS Constitution article 3.2.

Quantity surveying students and young members under 40 year of age and who are from the country members are encouraged to join YQSG.

YQSG Program has been held in following countries:

- 2010 - Singapore
- 2011 - Sri Lanka
- 2012 - Brunei

It is to be noted that the YQSG should be a good vehicle to promote QS as a career choice for school leavers and university students.

The Pacific Association of Quantity Surveyors (PAQS) is an international association of national organizations representing Quantity Surveyors in the Asia and Western Pacific region.

The Missions of the PAQS are:

- The promotion of the practice of quantity Surveying (QS) in the region.
- The promotion of "best practice" for QS in the region.
- The promotion of dialogue between member organizations.
- Encouragement of regional cooperation in the practice of QS.
- Fostering of research appropriate to the better understanding of building practice in the region.
- Rendering of assistance to members of member organizations working in each other's countries.

The Current Members of PAQS are:

FULL MEMBER

- Australian Institute of Quantity Surveyors (AIQS)
- Building Surveyors Institute of Japan (BSIJ)
- Canadian Institute of Quantity Surveyors (CIQS)
- China Engineering Cost Association (CECA)
- The Hong Kong Institute of Surveyors (HKIS)
- New Zealand Institute of Quantity Surveyors (NZIQS)
- Singapore Institute of Surveyors & Valuers (SISV)
- Institute of Quantity Surveyors Sri Lanka (IQSSL)
- Royal Institution of Surveyors Malaysia (RISM)

ASSOCIATE MEMBER

- Fiji Institute of Quantity Surveyors (FIQS)
- Institution of Surveyors, Engineers and Architects, Brunei (PUJA)
- Philippine Institute of Certified Quantity Surveyors (PICQS)

OBSERVER MEMBER

- Association of South African Quantity Surveyors (ASAQS)

Chairman's message

Sr JOSEPH CHONG
Chairman
Young Quantity Surveyors Group
2009 - 2013, PAQS

BSc(Surv)(HKU), MSc(IDM)(HKU), MHKIS, RPS(QS), MHKICM, MHKIVM, BEAM PRO

In China, we are celebrating Chinese New Year in February, so I would like to take this opportunity to say Happy New Year of the Snake to all of you here. Snake represents flexibility and speed and our profession should also adapt to the changing environment and to compete with time to deliver good service to our clients.

The PAQS Congress 2013 will be held in Xian, a city with long history in China. For the young programme this year, we would continue our tradition in past few years with addition of a new element – a tour to the Terracotta Army. We will have a 2-day young programme this year instead of 1 day. The additional tour is for all the young participants to be more familiar with each other. On the second day, we will have our regular young programme including presentations, discussions and city tour. I would like to appeal for your support in joining our young programme. The 1st day of the young programme is self-financed so participants have to pay for the tour, while the 2nd day will be sponsored by the host of the Congress – CECA.

In this issue of newsletter, we have a few articles contributed by our committee members from different countries, including:

- Partnering - Part 2 by Eugene Seah
- Innovation and Sustainability: Challenges and Opportunities by Max Shea
- Recent Developments in Construction Market in Hong Kong by Alison Lo
- Innovation & Sustainability : Challenges & Opportunities - Part 1 from RISM Junior Organization Members
- Innovation and Sustainability Initiatives in the Philippines by By Jose Fernando Magsi and Neil Bryan de Luna
- Latest Developments in Brunei Darussalam by Alex Ling
- Building Information Bodelling (BIM) by Ramadha de Silva

I hope all of you enjoy this issue of newsletter and continue your support to our PAQS Young QS Group. Should you have any queries, please write to me at josephhku@gmail.com . Thank you.

Partnering - Part 2

By Seah Hsiu Min Eugene
Singapore Institute of Surveyors & Valuers

PARTNERING LEGALITIES

Introduction

In Part 1 of this article, we discussed what is partnering and its advantages with the necessary mindset to see partnering through. This article considers the different ways in which partnering and alliancing arrangements may be implemented and its legal considerations. The question that is asked is: "Is there a special or separate set of legal rules that applies to "partnering" arrangements?"

The quick answer would seem "no", just as there is no special or separate set of legal rules that apply to construction contracts generally. There are of course specific pieces of legislation and a body of case law that are specific to construction-related issues, but there is not a special or separate set of legal rules. As Lord Morris of the English House of Lords said in the Gilbert-Ash[1] case in 1973:

> *"When parties enter into a detailed building contract there are, however, no over-riding rules or principles covering their contractual relationship beyond those which generally apply to the construction of contracts. The particular wording of a particular contract may have to be considered in relation to particular facts. A decision in some one particular case as to the meaning and application of words in a contract will not have governing force as to the meaning of different words in a different contract."*

Partnering and a Contract

In the Report of the Construction Task Force, 'Rethinking Construction', Sir John Egan looked forward to an end to reliance on contracts, because, as he saw it, they 'can add significantly to the cost of a project and often add no value for the client.'

As Egan correctly stated, 'Effective partnering does not rest on contracts' but it is the view of Joint Contracts Tribunal (JCT) that partnering is betterserved by the existence of an underlying contract. If a legal relationship is not intended that is another matter but few people can proceed in such a way, if for no other reasons that that of accountability to shareholders and the fiduciary duty of directors.

Are Contracts Needed At All?

There is a school of thought that contracts are not needed at all where parties are partnering. The Egan Report may be construed as suggesting that contracts can be dispensed with. The report stated:

> *"Effective partnering does not rest on contracts. Contracts can add significantly to the cost of a project and often add no value for the client. If the relationship between a constructor and employer is soundly based and the parties recognise their mutual interdependence, then formal contract documents should gradually become obsolete. The construction industry may find this revolutionary. So did the motor industry, but we have seen non-contractually based relationships between Nissan and its 130 principal suppliers and we know they work."*

An effective contract can play a central role in partnering. It sets out the common and agreed rules; it helps define the goals and how to achieve them; it states the agreed mechanism for managing the risk and the rewards; it lays down the guidelines for resolving disputes. But the central thrust of the new thinking is that a contract should not encourage a self-serving or adversarial stance or a battle with other team members for the benefit of one party.

The JCT practice note on partnering[2] observes:

> *"There is much to suggest that a contract, which defines the apportionment of risk and the operational procedures, is a manifestation of good management practice. Management practice is the very root from which partnering can best flourish and a contract, which after all, is an agreement, can properly underpin partnering."*

It is the aggressive enforcement of unfair contracts, which impose risk where it cannot best be managed and onerous liability and penalties not matched by remuneration that is damaging, not the existence of a contract per se. In any event, the absence of contracts is unlikely to be acceptable.

The risks of partnering in the absence of a contractual relationship were illustrated in the case of Baird Textile Holdings Limited v Marks & Spencer plc.[3] Baird had been a major supplier of garments to Marks & Spencer for 30 years, the arrangements being described as an example of the "special partnership relationship" which Marks & Spencer developed with all of its suppliers of goods and services. The relationship was described by Marks & Spencer's director for Procurement, Technology and Logistics in the following terms:

> *"This was not a partnership in the legal sense, but more in the spirit of co-operation. The people involved in managing Marks & Spencer and the suppliers had known each other for a long time, seeing their companies grow together. As a result, they were able to trust each other, converse freely and work together for mutual benefit. The traditional M & S – supplier relationship was symbiotic – both fed off each other."*

Without warning Marks & Spencer terminated all supply arrangements between itself and Baird with effect from the end of the then current production season. Baird claimed that this cessation of business had caused it loss in the region of 50 million Sterling Pounds. Baird issued proceedings in which it alleged that:

(i) the termination was in breach of a contract to be implied from the relationship between the parties and the basis upon which they had done business together, to the effect that Marks & Spencer was contractually obliged to continue to place orders with Baird in quantities and

Partnering - Part 2 (Cont'd)

at prices which in all the circumstances were reasonable unless and until proper notice of termination, the period of which Baird contended ought to be not less than three years, had expired; and

(ii) Marks & Spencer was subject to an estoppel that prevented it giving less than three years' notice of termination of its business with Baird and required it to continue to place orders in the terms set out above.

The Court of Appeal rejected both arguments. It was held that the alleged obligation on Marks & Spencer to acquire garments from Baird was insufficiently certain to found any contractual obligation because there were no objective criteria by which the Court could assess what would be reasonable either as to quantity or price. This was a case in which the lack of legal certainty confirmed the absence of any clear evidence of an intention to create legal relations.

The implication of the alleged contract was not necessary to give business reality to the commercial relationship between the defendant and the claimant. The argument based on estoppel similarly failed as; again, Baird would need to establish an obligation for Marks & Spencer to acquire garments in quantities and at prices, which in all the circumstances were reasonable.

There were no objective criteria against which to assess such quantities or prices. Moreover, such an enforceable obligation could not be established by estoppel, since in the circumstances of the case an estoppel could not create a cause of action. Accordingly the claim failed on both accounts and Baird was left with no relief. This case provides a salutary warning to contractors and suppliers who accept partnering arrangements without concluding contractual terms of agreement.

The absence of a contract and certainty of a contract can be detrimental to any business relationship although parties in that relationship have somewhat to agree on a partnering methodology. Although the courts are willing to grant a duty to co-operate, the degree of co-operation would greatly depend on the express terms in the contract; that is to say, a limit to ensure the contract is workable. It is also case law that if agreements to agree are to be enforced, it has to be an essential term in the contract.

The benefits of partnering are bountiful. It would be a brave person indeed who argued against the implementation of a system that delivers such benefits. Nevertheless, the challenges as discussed in this chapter have to be addressed. Partnering will not wall paper over all of the defects of a badly drafted - or a very unfairly drafted - underlying contract. Participants need to make sure that relevant legal principles are addressed properly, so that parties can avoid the unintended (and unwelcome) result of more work being generated for the disputes resolution industry rather than less work.

DISCUSSION, FUTURE CHALLENGES AND STRATEGIES

A Discussion

Although the conditions for partnering may not be very suitable as discussed in chapter two, it would seem that in our most used standard forms, there have been some form of partnering terms included leading to the conclusion that if we are to adopt partnering terms, it would be somewhat seamless as we have been unconsciously using it all these while. The question posed in this paper is, saying that if partnering can to be adopted in Singapore, should the industry adopt a partnering form such as the PPC2000 or have a bolt on option such as the X12 option from the NEC?

When the PPC 2000 was first introduced, Stanton, J., (2002) described the construction industry in the UK moaned its new arrival as there were many forms already floating in the market, forms from the Joint Contracts Tribunal Ltd, NEC, ICE etc. The situation will be very much similar in Singapore as the construction industry of Singapore, has already many forms. For example, there are the Singapore Institute of Architect Form[4], the amended Joint Contracts Tribunal (with contractor's design), the public sector form (with its options for measurement or lump sum) and the Real Estate Developer's Associate form (REDAS D&B).

The option of a bolt-on option (from the NEC) was also explored. If this is adopted in Singapore, the issue arising from Birse may arise as Singapore law seem to follow closely to UK law (in most aspects). So, the question here is why should be go ahead with a bolt-on option to a contract if the judge may not enforce most of the partnering terms (except for duty to corporate and it must be within a defined period).

If any of the two options discussed above is adopted in Singapore, parties in the contract will have to go through the difficult task of aligning goals and objectives (in a partnering workshop) of which in this draconian contractual environment in Singapore, it is near next to impossible for such a epoch to happen. Therefore, it would seem that the most reasonable recommendation to make is to have the basic partnering terms such as duty to corporate and good management procedures such as early warning from both parties, be incorporated as terms and conditions within the contract.

Thorny Legal Issues

This paper has rightfully set out the legal issues to be addressed all of which could raise potential legal difficulties:

- **Legally binding or not?**

- **Certainty.**

Are the partnering arrangements sufficiently certain to be legally enforceable? The law requires a contract to satisfy the legal test of certainty, if it is to be enforceable. This requirement raises some problems for partnering although it would seem that an Australian court recently has felt able to accommodate an express contractual duty to act in good faith[5].

- **Enforcement.**

Proponents of partnering will say that all of the above legal difficulties can be overcome. They probably are correct. However, for this to happen, their needs to be sufficient attention paid to these issues by the participants.

Partnering - Part 2 (Cont'd)

For example It can be difficult, legally speaking, to monitor the compliance or otherwise with concepts such as "act in good faith", "act in collaboration towards a common goal", "mutual co-operation" and so on. First, it can be difficult to judge whether or not there has been compliance. Secondly, even if non-compliance can be demonstrated, how do you quantify your loss as a result of that failure to comply? Has the failure to co-operate or collaborate led to a loss that can be demonstrated? The partnering ethos can be well preserved within the contract thus in order to prevent such ambiguity from occurring, proper legal drafting is this required to circumvent these pitfalls from occurring to devastate the project.

Practical Pitfalls

There also are some practical, non-legal issues that need to be addressed by participants. As discussed in chapter two, the construction industry of Singapore has never recovered from the downturn of the economy since 1997. As such, the bottom line of all projects is important.

This drives client organisation to somewhat drive cost[6] down. Couple with the "shrewd Chinese Businessman" thinkings, it could create some problems for the implementation of partnering. Some issues are discussed here. They include the following:

• **Timing** - It is important that the partnering arrangements are implemented at an early stage of the project so as to ensure the objectives of the partnering methodology are understood by all participating. However, because of the high land cost in Singapore, Developers are constantly pressured into starting the project and completing the project as fast as possible so as to "catch the market". Because of this rush, it puts much pressure to the already complex process of design development during pre contract leaving little or no room for the implementing of partnering.

•**Commitment -** The partnering process has its best chances of success if all of the participants "buy into" the process. If there are significant failures of communication, or if the parties begin to doubt each other and lose the trust and mutual confidence required, then the process is likely to break down.

• **Cost of the process -** If the partnering process is to work, it requires the participants to invest significant time by key staff members. Of course, if the process works, then this will have been a worthwhile investment. However, participants need to trust in the process and not be deterred by the likely costs involved. Generally, the consultant fee levels and return of investments is generally lower than that of UK. Convincing the project team to invest their time in an extremely competitive environment is difficult.

• **Going through the motions -** Just as lack of commitment can lead to problems, so can too much reliance. Partnering requires constant effort by all participants to maintain it at an effective level. If the parties cease to work actively at the process, and begin "going through the motions", in the belief that the process magically will work just because it is being implemented, then problems can arise.

• **Keeping your nerve -** One of the important litmus tests of a partnering arrangement is when a significant problem arises. It is important that participants keep their nerve and trust their partnering arrangements to resolve the problem. Unfortunately, it sometimes happens that the problem is perceived by one or more of the participants to be so large that they need to "revert to the contract" to protect themselves from the unpalatable potential downsides.

Strategies for Partnering

The concept of partnering has been viewed as a procurement issue. Bennet and Jayes (1995) produced some of the seminal work in the UK. They stated:

> *" The UK construction industry needs partnering in order to achieve tough targets set for it in the Latham Report"*

Therefore, the focus is upon meeting the client procurement objectives. However, it is not a simple procurement issue. Bennet and Jayes (1995) see the three key objectives and process of partnering as discussed in Chapter four, that is, mutual objectives and agreement, problem resolutions and continuous improvement. The partnering themes must continue through quality, cost efficiencies, speed and other largely project related issues. This is how the foundation of how partnering is being practiced. Campbell (1995) may provide a solution for the construction industry.

Rather than force the industry to embrace partnering, market forces may render the parties no choice but to embark in partnering. For example, in order to reduce learning time and "switching cost", Developers may wish to adopt partnering and invest time and monies in ensuring that the underlying contract between the parties contain the necessary terms and conditions to ensure a workable contract but with the concepts and thrust of partnering.

Campbell (1995) illustrates the following:

• **Competitive Strategy.** If the client and contractor behave in a competitive way, then both are acting independently and following each other's rights and obligations. This is a traditional position that has dominated contracting.

• **Command Strategy.** This strategy can be adopted where either the supplier or the client has a dominant position in the market. They can employ leverage from their position to drive the terms of procurement in a decisive way. However, this monopolistic position seldom arises. However, the economic cycles, coupled with the fragmentation of the industry of Singapore, intensifies competition so that the client is truly in a command position. This means that for partnering to work, the partnering model in Singapore would seem to be a top down approach with the industry supporting this push.

• **Cooperative Approach.** This strategy is one, which is mutually an advantage. This strategy must exist side-by-side with the above two strategies.

Partnering - Part 2 (Cont'd)

Partnering has the potential to produce significant benefits to all participants in terms of, amongst other things, time, cost, profitability, and satisfaction. However, parties have to be ready to partner. There are various mechanisms that can be imported into a project in order to promote the success of partnering and reap those benefits. However, the strategy to ensure this success technically is for parties to ensure that their rights and obligations have certainty. Having said, the mechanism of how parties want to behave should not be contractual, rather, the contract has to spell out what the parties have to do during the relevant events. Legal and practical problems can derail the coming of partnering, however, market forces may drive parties to partner willingly. Having said, the underlying contractual issues have to be well thought out first.

CONCLUSION

As quoted by John Ruskin in 1860,

> *" It is unwise to pay too much, but it is worse to pay too little. When you pay too much, you lose a little money – that is all. When you pay too little, you sometimes lose everything, because the thing you bought was incapable of doing the thing it was bought to do. The common law of business balance prohibits paying a little and getting a lot - it can't be done. If you deal with the lowest bidder, it is well to add something for the risk you run. And if you do that, you will have enough to pay for something better."*

Because of the very nature of partnering, partnering is intended to lead us out of the maze of detailed and tightly worded contracts, and into the "warm and fuzzy" zone of good faith, co-operation and collaboration. It is a difficult task to draft these warm and fuzzy concepts into wording that is legally certain, but that at the same time still achieves the aim of partnering.

With lessons learnt from the UK experience and the development of law around the area of partnering, this dissertation, which has taken into consideration the characteristics of the construction industry of Singapore, thus suggest that:

(i) For partnering to work successfully, the partnering terms have to be not only understood as essential terms, but also well defined in the contract. This circumvents ambiguity in the intents of the parties, creating certainty and enforceability.

(ii) Partnering terms can supplement the main contract either as a charter or a supplemental agreement, that is to say, the additional particular conditions to the standard form. However, care must be given to ensure the terms do no conflict the terms and conditions of the standard form. Legal drafting is thus required.

(iii) Objectives of the partnering ethos can be obtained from the partnering workshops. So, to ensure workability for example, the Singapore Institute of Architects Form of Contract 6th Edition can have particular conditions added to it to cater for a partnering methodology. This dissertation has investigated into the terms of the 6th Edition and have discussed that there are partnering approaches existing already in the form and we have been "practicing" unconsciously for some time. Therefore, to adopt partnering legally would not really pose as a problem to Singapore but the understanding of partnering and its concepts will prove the major hurdle.

(iv) Partnering terms cannot be open-ended that leaves parties to define and second-guess the intention of the clause. Once the courts have to be forced to interpret the original intentions of the parties, the ethos of partnering will be lost.

(v) The "soft" issues of partnering such as behaviour and character of the parties should not be drafted as a legal obligation in the contract; this must remain separate as it could collide with certain clauses in the standard form.

(vi) It is better to draft the procedures that arise in connection of this soft issues such as early warning, obligation to value engineer for best value, reimbursement for unforeseen issues and stimulus for the management and the contractor to coordinate cohesively and in unison on projects.

An example of foresight is an early warning procedure and the management of compensation events. The Project Manager and Contractor notifies each other upon becoming aware of any matter which could have an impact on cost, time or quality and the compensation event procedure requires the Contractor to submit a quotation(s) showing the time and cost effect of the event. The Project Manager then has a short period to agree or reject the quotation enabling the matter to be properly resolved close to the time of the event rather than many months or even years later.

It is indeed important for contractual integration of contractual and partnering terms. D'Arcy J (2005) reported that engineering contractors in the UK find partnership hard and one of the examples was the insufficient integration between the partnering terms and contractual arrangements. Following the ethos of partnering may be simple, but ensuring the seamless integration of such terms into the contract may be tricky. However, Singapore should find it relatively easy to adopt partnering as both the framework and legal precedence can be adopted in UK. Having said, careful drafting for integration is never-the-less needed to ensure a workable contract.

However, the construction industry of Singapore is unique as the understanding between the different members of the supply chain or project teams (especially local companies) could be very different due to language and the understanding of partnering and its legal forms. It can be then concluded that multi-parties partnering contracts like the PPC 2000 would be difficult to adopt but integrated partnering terms to standard contracts (main contracts or domestic) with sufficient explanation and awareness could make partnering work in Singapore. Besides, it has been established that two of Singapore's most used standard form of contracts such as the SIA and the PSSCOC do contain some sort of partnering clauses of which we have been using unconsciously thus indicating that the introduction and adherence of partnering terms in the contract would not be difficult.

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[1] 1 BLR 73 at 78

[2] JCT practice note on partnering

[3] [2002] 1 All E.R. (Comm) 737

[4] There are three main forms altogether, one for minor works (lump sum), measurement and lump sum. There is also the subcontract forms for measurement and lump sum as well. The SIA form is the most used form in Singapore

[5] Theiss Contractors Pty Ltd v Placer (Granny Smith) Pty Ltd [2000] W.A.S.C.A. 102

[6] Cost in this case would include Construction Cost, Consultant Fees and peripheral cost that attributes to the total development cost.

Innovation and Sustainability: Challenges and Opportunities

Winning Entry of IWATA Foundation - Travelling Award

By Max Shea,
Austrailan Institute of Quantity Surveyors (AIQS)

Introduction

The future of the quantity surveying profession has been a cause for concern for many years. Some contend that the profession, in its current form is rapidly declining from its glory past. Many risks and challenges are ever present, while some have stem from the recent global financial crisis. With the economy struggling to sustain momentum in its recovery, most sectors continue to languish. The construction sector is no exception as construction activity and demand have contracted significantly over the last 12 months amidst reduced public spending and private funding & investments. This in turn has affected the demand for a professional quantity surveyor's services. Business landscapes are changing and there are calls for the profession to re-examine the traditional quantity surveyor's practices, while the continued globalisation and internationalisation trend has brought with it a serious threat to the global positioning of the quantity surveying profession. In addition, there are also the construction industry specific issues of fragmentation and merging/blurring of the professional services' boundaries that translate into increased competition from other professionals who operate within the same industry. Other issues such as an ageing profession and dwindling numbers of younger quantity surveyors are still evident and need to be urgently addressed. Technology advancement is also a huge threat to the sustainability of the quantity surveying profession - will the rise of the machines put us out of work? Building Information Modelling (BIM) technology is destined to shape the way the industry will work in years to come and has provided further impetus for change and innovation. However all is not doom and lost and it is common wisdom that with great challenges come greater opportunities. In the midst of mounting uncertainties, quantity surveyors must therefore quickly respond and find ways to adapt to these imminent changes, or risk being left behind while others take advantage of the opportunities that lie within.

Diversification of Quantity Surveyor's Services

The bumpy ride continues for global economy with the scope of the European sovereign crisis pushing the Euro zone closer to the edge of a meltdown. The road to recovery remains erratic and patchy with a weak global sentiment augmented by volatile financial markets and fiscal pressures. Business confidences and investors' risk appetites are at a record low, and these changing market conditions have forced companies to re-examine their positioning in the market and the services they offer. As the demand for traditional cost planning services shrinks, quantity surveying firms have recognised the need to offer a broader range of multi-discipline and diversified services. This need is further reinforced by the increased competition in the market. The profession is always challenged by the competition from other professionals within the industry and also from professions not traditionally apparent in the construction industry such as solicitors, auditors, tax practitioners and insurance companies. The merging or blurring of service boundary is muddy water and there is urgent need for the quantity surveyor to look for greener pastures. Key areas which have demonstrated resilience or even growth in the face of market downturn include dispute resolution services, cost management services with emphasis on bottom-line cost, construction business recovery services, financial risk management, etc. Opportunities have also arisen for the profession to explore new areas of knowledge and skills that would be required in the future. One such area is the strong demand for sustainability-related services despite the premium cost associated with these initiatives. Sustainability regulations and legislations are now well in place and the market has shown strong interest in engaging quantity surveyors early on in the project to achieve the coveted green star rating. In Australia the climate change agenda surrounding the carbon tax debacle and proposed Emission Trading Scheme (ETS) have also generated a lot of attention. Other nations are set to follow the footstep of implementing carbon tax hence there are real prospects for quantity surveyors to assist and engage with the relevant authorities in determining the pricing mechanism of the carbon tax and ETS [1].

Sector Specialisations

The energy and mineral resources boom is having a dramatic effect on the Australian two-speed economy. The resources sector is creating an extraordinary demand for infrastructure investment with $130 billion worth of projects currently underway or already committed and another $250 billion worth of projects in the pipeline[2]. With many of Australia's major resource projects

Innovation and Sustainability: Challenges and Opportunities (Cont'd)

developed in the remote north-west region of Western Australia, there is a renewed focus on developing improved housing and social infrastructure in-line with the government initiatives to encourage greater permanent residential settlement. What this mean for the industry is that the demand for skilled professionals including quantity surveyors in these regions is estimated to increase over the next few years as many projects in the pipeline now move into their construction phase. The $40 billion National Broadband Network (NBN) programme rolled out by the Gillard government has also created a surge in demand for civil and infrastructure work. Many of the countries' existing infrastructure networks are reaching the end of their life cycle and require major maintenance and upgrade in order to support the implementation of the NBN. Other sectors and industries such as petrochemical, marine, manufacturing, and transportation also benefits from the resources boom and therefore can also offer vast opportunities for the quantity surveyors to explore and tailor their services to meet the requirements in such industries.

Globalisation and Internationalisation

Economic integration has always been driven largely by companies' dynamic global approach of cross-regional collaboration & multi-diversified employee bases. Mergers & acquisitions, corporate restructuring and consolidation of business networks are not uncommon and an example of this in the quantity surveying profession is the coming together of Rider Hunt, Levett & Bailey and Bucknall Austin. Subsequently rebranded as Rider Levett Bucknall in 2007, the merger brought together almost 2500 staffs globally in more than 100 offices across Asia, Oceania, Europe, Middle East and the Americas. In 2010 AECOM announced the acquisition of project consultant Davis Langdon in a US$324 million deal. The Los Angeles-based firm, whose building consulting arm Maunsell merged with Gulf-based Cansult in 2006, took on board the 2800 employees of the consultant, which operates globally in a number of sectors. The merger will mutually enhance the business opportunities in the Middle East with AECOM getting an entry into Kuwait and the Levant region. In turn, Davis Langdon gets a strong foothold in the expanding Saudi Arabia market. In partnership with AECOM, Davis Langdon will be well-positioned to deliver AECOM's front end cost and project management, and consultancy services as part of a complete end-to-end offer[3]. The global positioning of the profession is at risk and these are strong evidences and examples of successful collaborations that quantity surveying organisations can look up to. In such tight markets and worsening economic condition quantity surveying organisations should consider merging/collaborating with other firms in order to gain a stronger foothold in the market not only locally but also in emerging international centres of economic significance, particularly throughout the Asia region [4].

Technological Advancement

Continuing industry changes and technological developments have presented quantity surveyors many challenges and threats as well as opportunities [5]. The adoption of information technology has had a profound impact upon how the construction industry and businesses are run especially in the quantity surveying profession. Among the major change is the paradigm shift from paper-based to computer based (digital). Gone are the days of traditional cut and shuffle practices. Since its implementation, the use of mechanisation and automated quantities software system has greatly aided the productions of estimates, bills of quantities and cost reports. Most programmes have full automatic measurement capabilities and enable powerful scope management during design development stage. These programmes are tied to cost libraries and can provide automatic rates/costs and adjustments as changes are to the design are made [6]. On the other hand, the actual number-crunching work of quantity surveyors perform has declined over the last decade. AutoCAD systems have been doing more and more calculations automatically, and many perceived that the new Building Modelling Information technology have put the final nail into the coffin for the profession. Utilizing BIM will mean that the entire design team is working on the same drawings and plans, thus removing the need to digitise drawings. By using a building information model instead of drawings, the takeoffs, counts, and measurements can be generated directly from the underlying model. Therefore the information is always consistent with the design. And when a change is made in the design – a smaller window size, for example – the change automatically ripples to all related construction documentation and schedules, as well as all the takeoffs, counts, and measurements that are used by the estimator [7]. As the whole supply chain is involved, sub-contractors and suppliers will be able to input their own costs. What BIM will do eventually is move quantity surveying as a profession further away from number crunching, slide rules, measurement and remove the remaining vestiges of traditional quantity surveying functions [8]. However it is hard to argue that the introduction of BIM will be anything other than a good thing for quantity surveyors. There can be co-existence between BIM and QSs. The quantity surveyors should look at BIM as a tool rather as a replacement – a tool that will inevitably cut the amount of time spent on the grunt work and give one the opportunity to direct talents and resources towards more value added services that quantity surveyors can and should offer. The

Innovation and Sustainability: Challenges and Opportunities (Cont'd)

real challenge therefore is not the threat BIM poses to the profession but rather the lack of common standards, guidelines and protocols currently governing the use of BIM. It is imperative to ensure that all BIM data comply with the relevant QS framework, practice and standard method of measurement (SMM) [9]. Existing measurement rules and standards can be modified to suit the modelling so they clearly define the various design stages covering architectural, structural, and services [10]. Quantity surveyors must take up the initiative to actively participate in future forums and platforms to support these discussions and ensure that the quantity surveyor's perspective, understanding and expectation of BIM are clearly relayed to the industry.

Ageing Profession

Quantity surveying is an ageing profession. Across all fields of registration of registered building practitioners in Victoria, Australia that has builders, building surveyors, engineers and quantity surveyors, the average age is 49.5 year. The breakup of all the categories is reasonably even with quantity surveyors being the oldest, with 33% over 55 years of age and another 33% in the 45-55 age bracket. In the UK, the average age of a surveyor is over 55 years. Analysis of the Building Surveying Faculty Membership undertaken by the Royal Institution of Chartered Surveyors in 2007 estimated that out of a core membership of 15,938 members, just 12 per cent were under the age of 35 with the average age at 44 which would present a net shortfall of 6,909 members by 2017 [11]. This means that within the next 15 years many will retire and with a declining numbers in new graduates, there is a strong possibility that the quantity surveyor profession could be pushed into extinction. This is a worrying trend compounded by the fact that the younger generation perceived the quantity surveying profession as boring, dull and lacks the excitement that other careers could potentially provide. The profession in general lacks the attractiveness and many fret at the prospect of quantity surveying as a career compared to other more established and popular career path i.e. architects, engineers, accountants, etc. Hence the number of education institutions offering quantity surveying course and other related courses are dwindling with fewer students enrolled. The challenge therefore is for quantity surveyors and the relevant profession bodies/institutions to emphasize on a co-ordinated marketing to help raise the profile of the profession, and promote quantity surveyors as an ideal career path. Added focus on changing the education curricula must also be placed to ensure that the education institutions provide a degree with a stronger practical component (thus ensuring graduates are equipped with the relevant industry experience and skill) versus a theoretical based learning.

Conclusion

Quantity surveyors have experienced various resultant changes to their profession. It is self evident that changes in the construction industry and the quantity surveyor profession at all levels, whether technological or otherwise, move with ever quickening pace. Some of the challenges raised above have eventuated, while others are going to happen sooner rather than later. In general the profession is well positioned to weather the storm that lies ahead. It is imperative that quantity surveyors continue to drive for innovation and at the same time recognise the need to adapt these changes, embrace them and take advantage of the opportunities that comes with the challenges and threat to remain at the cutting edge of the industry.

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Recent Developments in Construction Market in Hong Kong

By Alison LO,
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10 Major Infrastructure Projects in Hong Kong

In Year 2007-08 Policy Address, our Chief Executive announced 10 large-scale Infrastructure Projects to be developed in the coming 5 years which include:

Transport Infrastructure:
1. South Island Line and West Island Line
2. The Shatin to Central Link
3. The Tuen Mun Western Bypass and Tuen Mun-Chek Lap Kok Link

Cross-Boundary Infrastructure Projects:
1. The Guangzhou-Shenzhen-Hong Kong Express Rail Link
2. Hong Kong-Zhuhai-Macao Bridge
3. HONG KONG-Shenzhen Airport Co-operation
4. Hong Kong-Shenzhen Joint Development of the Lok Ma Chau Loop

New Urban Development Areas:
1. West Kowloon Cultural District
2. Kai Tak Development Plan
3. New Development Areas (NDAs)

The projects are currently being gradually implemented. Also the projects already started have been making a very good progress. We believe infrastructure development can bring us huge economic benefits. Both employment opportunities and wages will increase during the construction stage, and upon completion, the infrastructure projects will boost economic activities and improve us with a quality living environment in a way that:

1. a lot of rooms being expanded for Hong Kong's further development;
2. improved transportation so linking up our socio-cultural and business activities with more efficient transportation systems;
3. more importantly, with closer rail and road transport links between Hong Kong and the neighbouring regions of Shenzhen and the Pearl River Delta (PRS) so we can foster further cross-boundary integration for mutual benefit; and
4. these infrastructure developments will consolidate Hong Kong's status as a global city and lay a new foundation for our sustained development in the future.

In the following paragraphs, 6 of the projects have been selected, 2 from each of the categories for more detailed introduction.

1.1 South Island Line and West Island Line

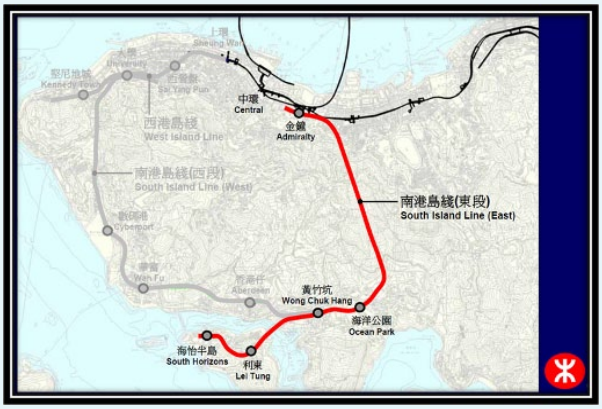
Western District in Hong Kong is actually one of the few remaining urban areas without rail and has long been constrained by the lack of a reliable mass transportation system. The design of West Island Line is specifically tailored to accommodate the needs of the community.

The construction of West Island Line began in July 2009 and will be completed in 2014. The construction cost is about HKD15.4 Billion. And the route length is about 3km with 3 stations to be constructed which include Sai Ying Pun, The University of Hong Kong and Kennedy Town.

The railway will run beneath the densely populated areas of Western District. Over 90% of the area's residents will be able to conveniently access the railway by foot. This line will also provide a fast, reliable and convenient mode of transport between Western District and northern Hong Kong Island and for cross-harbour journeys. So the West Island Line will relieve the traffic congestion problems in the Western District and effectively bring Western to the doorstep of the central business district.

Recent Developments in Construction Market in Hong Kong - (Cont'd)

Furthermore, significant new employment opportunities will be created as new businesses are established to take advantage of the improved transport conditions. And this is expected that the provision of the West Island Line will increase the value of properties along the railway in Western District.



The project of South Island Line (East) will be a medium capacity railway with construction of 7km rail line which was started in May 2011. The construction cost is about HKD12.6 Billion and it is expected to be completed in 2015.

This is an extension of MTR Island Line network at Admiralty to the Southern District of Hong Kong, while the local community has been strongly demanding the extension of the mass transit railway to Southern District. 4 new stations will be constructed which include Ocean Park, Wong Chuk Hang, Lei Tung and South Horizons. Upon completion, it can reduce the traffic congestion at critical bottlenecks like Aberdeen Tunnel and the central business district. A quicker and more convenient alternative to the commuters is expected.

Hence, we conclude the benefits for both West and South Island Line as follows:

Economic Benefits:

1. Time savings for both road and rail users, thus assisting Hong Kong's efficiency and competitiveness;
2. Facilitates tourism developments, e.g. Ocean Park and Aberdeen Harbour;
3. Stimulates urban renewal, e.g. hotel developments at Wong Chuk Hang;
4. And the above development and renewal will create long term employment opportunities so to stimulate the economic development.

Environmental Benefits:

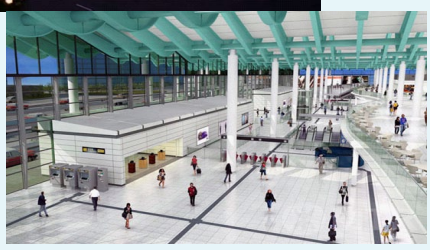
Since MTR trains are powered electrically and emission free, this is an environmentally friendly mode of transportation.

1. Environmental conditions will be improved by reduced air pollution and noise pollution;
2. Preserves our beautiful shoreline;
3. Avoids reclamation;
4. Enhanced road safety due to a reduction of road traffic.

1.2 The Shatin to Central Link

The Shatin to Central Link will connect the Northeast New Territories and Hong Kong Island via East Kowloon. This is a strategic railway line that stretches from Tai Wai to Admiralty, connecting several existing railway lines and passing through multiple districts in Hong Kong.

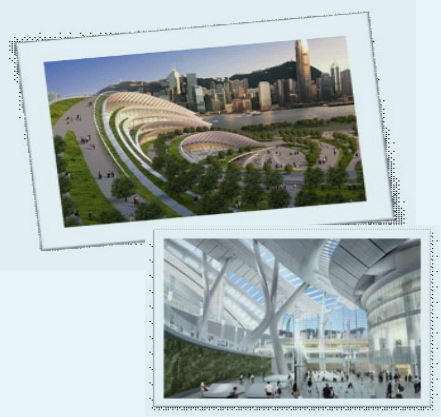
Again, this will serve areas in East Kowloon that currently do not have any MTR service which include Kowloon City, To Kwa Wan, Ma Tau Wai and Ho Man Tin. This will strengthen the linkage between the New Territories and Hong Kong Island.



The construction of this line is expected to start this year. And the completions are divided into 2 parts. One is a 11km long route from Tai Wai to Hung Hom which is expected to be completed in 2018. The other section is 6km long route from Hung Hom to Admiralty which is expected to be completed in 2020.

Recent Developments in Construction Market in Hong Kong - (Cont'd)

The benefits of The Shatin to Central Link are summarised as follows:
1. Providing a fast, comfortable and reliable railway service that saves travelling time;
2. Relieve road traffic congestion and pressure on the Tai Wai to Kowloon Tong section of the East Rail Line, the Shek Kip Mei to Prince Edward section of the Kwun Tong Line and the Nathan Road corridor of the the Tsuen Wan Line;
3. Acting as a catalyst for the redevelopment of old districts that currently rely on road transport, such as Hung Hom, Ho Man Tin, To Kwa Wan and Ma Tau Wai, by providing them with a fast and convenient rail service;
4. Provide convenient access to the multi-purpose stadium and other recreational facilities in the Kai Tak New Development Area, thereby spurring the growth of tourism and commercial activities and creating new employment opportunities;
5. Increasing the value of properties along the railway corridor;
6. Reducing noise and roadside air pollution by reducing road traffic, thereby improving the quality of life, as the trains are electrically powered and emission-free.



1.3 The Guangzhou-Shenzhen-Hong Kong Express Rail Link

China is currently building a high-speed national rail network of some 12,000km to link up major cities, with maximum train speeds of 200 to 300 km per hour. The network will substantially enhance the Mainland's transport capacity. To grab the opportunities, a proposal of building Guangzhou-Shenzhen-Hong Kong Express Rail Link running from West Kowloon to Shibi, Guangzhou was announced.

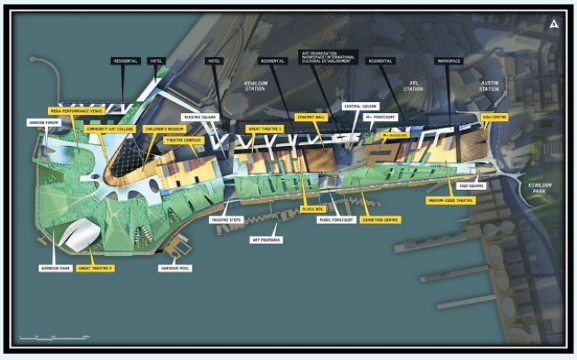
Construction has been commenced in January 2010 and it is expected to be completed in 2015. The project cost is about HKD6.9 Billion. Upon completion, this new high-speed rail corridor will reduce the journey time between Guangzhou and urban areas of Hong Kong from 100 mins to about 50 mins only. And the terminus of West Kowloon will be the world's largest underground high speed rail station.

1.4 Hong Kong-Zhuhai-Macao Bridge

The Hong Kong-Zhuhai Macao Bridge is a major strategic cross-boundary project. The project involves efforts made by three governments. It is unprecedented in terms of scope, scale and complexity. And after the Legislative Council approved funding in November 2011, works within HKSAR commenced at the end of 2011 and aims to commission the main bridge in 2016.

The whole project cost about HKD57.4 Billion while the Hong Kong session cost approximately HKD25 Billion.

1.5 West Kowloon Cultural District



The West Kowloon Cultural District (WKCD) is a major strategic investment by Hong Kong Government in cultural and arts infrastructure. This is a strategic plan to promote long-term development of arts and culture, supporting Hong Kong as a creative economy and Asia's world city. This project is going to be completed in phases, construction is expected to start in around 2014-2015.

Upon the completion, this integrated arts and cultural district will offer a mix of world-class arts and cultural facilities, talented artists, quality programmes and distinctive architecture to attract people in Hong Kong as well as from the Mainland and the rest of the world.

1.6 Kai Tak Development Plan

The Kai Tak Airport was relocated to Chek Lap Kok in July 1998 and this relocation has offered a good opportunity for major development in the Metro Area. Kai Tak Development is an optimised developmentof ex-airport site comprises government, institution and community facilities, residential and commercial areas and an extensive open space network for tourism purposes.

Recent Developments in Construction Market in Hong Kong

Three key milestone implementation years have been set at 2013, 2016 and 2021. The major facilities and development include:
1. Public Rental Housing
2. A new cruise terminal
3. A multi-purpose stadium complex
4. Metropolitan park
5. Shatin to Central Link
6. Hospital

This development is a huge and highly complex development project spanning over 320 hectares with the largest available land fronting Victoria Harbour. It offers opportunities to bring the harbour to the people, provide quality living environment for around 86,000 residents, as well as revitalise all of the surrounding districts such as Kowloon City, Wong Tai Sin and Kwun Tong. This development also seeks to practise sustainable development and cultivate a comprehensive network of parks and gardens for everyone to enjoy.

Tender Price Index

With all the huge development on infrastructure, price index of both labour and major materials is going up from May 2009 to date. Especially reinforcement bar and diesel, prices have increased about 50%; Bitumen has also gone up for 42% and Galvanised mild steel has increased about 28% in price in the past 3 years.

Zero Carbon Building

The construction industry has a significant role to play in Greenhouse Gas (GHG) emissions reductions. To address the challenge of climate change, Hong Kong has actively promoted “zero/low-carbon” developments.

The Zero Carbon Building project values HKD144 Million. Construction Industry Council (CIC) together with the Hong Kong Government has developed the first Zero Carbon Building in Hong Kong which has been newly opened in 27 June 2012 for public visit and tours. This is a signature project to serve as an exhibition/education centre, showcasing low-carbon eco-home and eco-office design and technologies, and displaying state-of-the-art, green and clean technologies indoors and outdoors, associated with a landscape urban forest. It aims to raise community awareness of sustainable living in Hong Kong.

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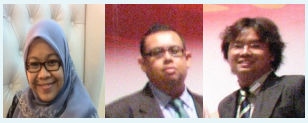
Innovation & Sustainability : Challenges & Opportunities - Part 1



Reported by

Sr Amnah Salleh, Sr Shazali Sulaiman, Sr Yeap Soon Kiat
(Appearing from left to right)

Royal Institution Of Surveyors Malaysia, Quantity Surveying Division's Junior Organization

In Part 1 of this newsletter covers following 2 topics:
- **Construction Innovation**
- **Building Sustainability**

In Part 2 of this newsletter covers following 2 topics:
- **Challenges**
- **Opportunities**

1. Construction Innovation

Construction Innovation
Currently, lacks wide adoption of Industrial Building System (IBS) & Modular Coordination (MC) & IBS components in Malaysia due to high cost & high technology compared to conventional construction methods.

Research & Development (R&D) is needed in the construction industry to maintain competitiveness in:
- New business concept
- New process
- New products

Leverage On Information & Communication Technology (ICT)
ICT is an enabler to cross technical & artificial barrier within the industry. ICT has proven to be able to deliver positive results in terms of higher productivity, greater participation, & empowerment of team members & speed (thanks to GHz multiprocessing capability). There is a great potential for the application of ICT in the construction industry value & supply chain.

However, Malaysian construction industry IT expenditure (RM135M in 2010) is only 4% of national total, compared to banking 27%, manufacturing 13%, oil & gas 10%, government 10%.

'E'pplication Of ICT
New services (E-commerce applications) created by cyber technology:
- E-government i.e. Malaysia E-government (MyEG)
- E-tendering
- E-submission
- E-payment
- E-filling
- E-valuation
- E-certificate
- E-financing
- E-construct (promoted by CIDB Malaysia)
- E-monitoring (with GIS)(used by JUPEM)
- supervision (used by JKR Malaysia)
- E-AI/EI (used by Sunway Bhd)
- E-draughting

E-construction
E-construction is the application of web technology in the field of construction & engineering.

E-construction is not limited to:
- Web-based project management
- Enterprise resource planning
- Site work automation
- Automated data collection & processing
- Project integration & collaboration

Innovation & Sustainability : Challenges & Opportunities - Part 1 (Cont'd)

Barriers to using E-construction:

- Lack of ICT champions & visionaries, who are willing to invest time, money & resources
- Mindset or perception of builders that ICT has nothing to do with transforming resources & materials into physical built environment
- Companies not willing to share information & experience because industry entrenched in competition
- Low computer literacy among contractors & builders
- Remote project site & poor IT infrastructure

2. Building Sustainability

Climate Change

Serious damage to future economic growth if nothing is done to curb climate change now. The Stern Review (2006) emphasized that "what we do now can have only a limited effect on the climate over the next 40 or 50 years. On the other hand what we do in the next 10 or 20 years can have a profound effect on the climate in the second half of this century and in the next"

Sustainable Building

Open Prototype Initiative by Massachusetts Institute of Technology (MIT) & Bensonwood Homes is a research to make excellent residential architecture widely available in the construction industry that far lags in innovation. It encourages collaboration among professionals & practitioners, using high quality building techniques, adopts energy efficient designs and flexible designs that adapts to users needs.

Green Building / Sustainable Cities is a concept involving planning and design of healthy and sustainable living environment where the cities development needs are met without imposing unsustainable demands on local & global resources & environment and it is not limited to the use of the following:

- Energy efficient walls
- Natural air ventilation by having more window & roof openings
- Energy monitoring & audit system
- Smart lighting
- Wireless surveillance
- Integrated building monitoring system for ACMW & CWSP
- Non-toxic (low VOC) paint & finishes
- Wheatboard cabinetry
- Low flow showerheads
- Low water usage WC
- Plantation grown wood flooring

Smarter Building Performance

Ways to improve building performance

- Control security, energy, entertainment, communications through one integrated system (Smart Building System)
- Efficient energy management system that costs less and contributes to 'green' effort
- Balance Office Building (BOB) concept that sense the environmental & occupancy changes and response by managing energy usage
- Adoption of solar panels as backup / passive energy source by taking advantage of abundance of solar energy in the tropics

Sustainability Benchmark

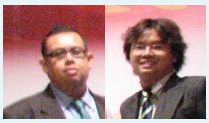
Ska Rating is an environmental assessment method to benchmark the environmental credentials of a building and to obtain sustainability label. It help designers choose building products and finishes that have good environmental performance.

Ska Rating is suitable for projects both new construction and refurbishment project to help owner improve the sustainability of building. The rating is flexible based on the scope of the work as it is scalable whether it is 1 floor or the entire building.

Innovation & Sustainability : Challenges & Opportunities - Part 2

In Part 2 of this newsletter we will be covering the following 2 topics:

- Challenges
- Opportunity



Reported by

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(Appearing from left to right)

Royal Institution Of Surveyors Malaysia, Quantity Surveying Division's Junior Organization

1. Challenges

US & EU Housing Market Crash

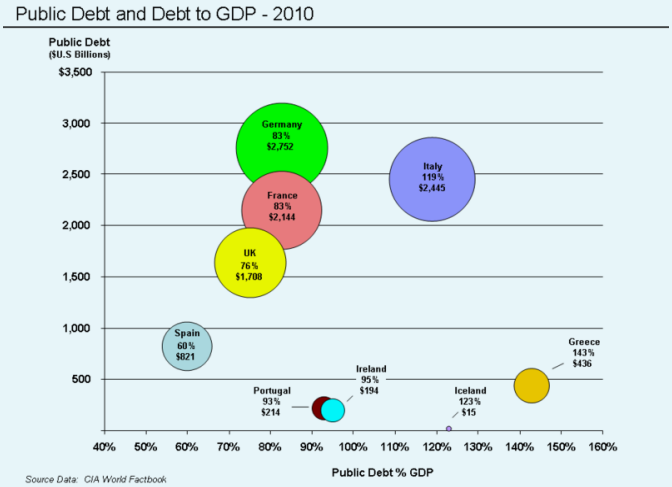
Geographically linked like a horseshoe starting in Western Europe (Ireland, UK, France), passes south through Catalan States (Spain, Portugal), turning east through Mediterranean (Greece, Italy) and and moving north into central and eastern Europe (Hungary, Slovakia, Slovenia), finally ending in Baltic States (Latvia, Estonia, Lithuania). Since 2007, no European housing markets are exhibiting signs of recovery and many are still in the deep.

EU Football Nations Dept Crisis

The European sovereign debt crisis resulted from a combination of complex factors:

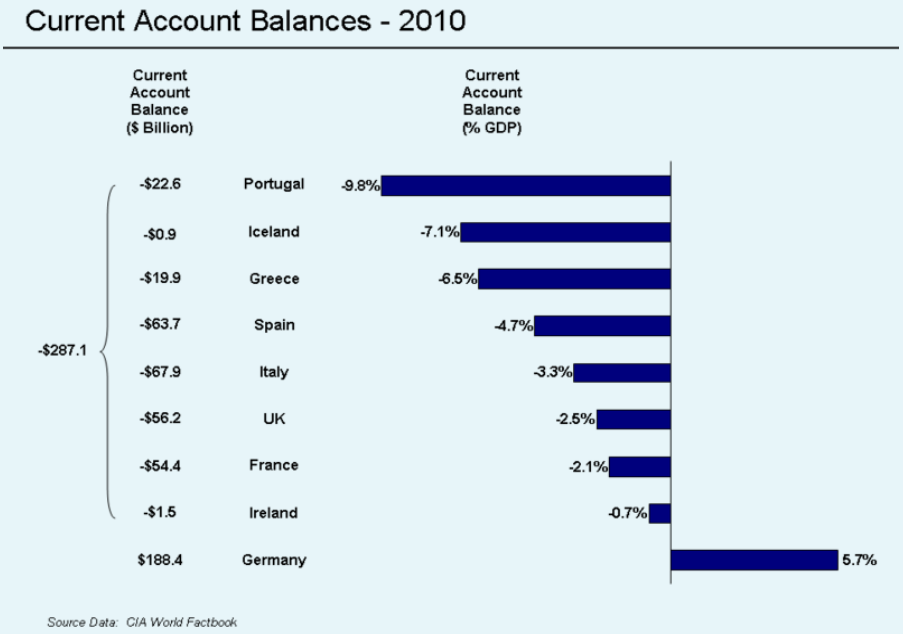
- Globalization of finance
- Easy credit conditions during the 2002–2008 period that encouraged high-risk lending and borrowing practices
- 2007–2012 global financial crisis; international trade imbalances
- Real-estate bubbles that have since burst
- 2008–2012 global recession; fiscal policy choices related to government revenues and expenses
- Approaches used by nations to bail out troubled banking industries and private bondholders

Rising EU Government Debts



Innovation & Sustainability : Challenges & Opportunities - Part 2 (Cont'd)

EU Trade Imbalances



Malaysia's Issues & Challenges

- Energy saving & thermal comfort through energy saving methods
- Sustainable construction through environmental-friendly construction technologies & materials
- Industrialization of the construction industry by embracing Industrial Building System (IBS)
- Depleting river sand & clean water source that is endangering the environment
- Build-Then-Sell Mechanism in 2015 may cause supply of homes to drop by 80% & price of homes to increase
- Government contracts awarded shrunk by 1900% from RM4,880M in 2011 to RM253M in Mar 2012
- Malaysia GDP grew at 4.7% in Q1 2012 compared to 5.1% in Q1 2011
- Bank Negara anticipate 4%-5% for 2012. March 2013 reported 5%-6%
- Tender price index is expected to increase by 2.7% in Q2 2012 against Q2 2011 and 0.067% against beginning of 2012

Malaysia's Price Escalation

- Concrete (6% increase)
  - 60% - 80% of material used in a building comprises of cement & cement related materials
  - 6 cement producers Lafarge Bhd, YTL Cement Bhd, Tasek Corp Bhd, Cement Industries of Malaysia Bhd, CMS Cement Sdn Bhd, Holcim (M) Sdn Bhd
  - Q3 2012 = RM17.50/50kg bag
  - Q1 2012 = RM16.50/50kg bag

- Sand (7.5% increase)
  - Q3 2012 = RM40 – 43/cu yard
  - Q1 2012 = RM38 - 40/cu yard

- Aggregate (5% increase)
  - Q3 2012 = RM21/tonne
  - Q1 2012 = RM20/tonne

- Steel (6% muted increase)
  - Q3 2012 = RM2,500/tonne
  - Q1 2012 = RM2,350/tonne
  - World Steel Association showed that global steel consumption dropped sharply at end 2011 and grew at a slower 6.8% for 2011 compared to 15.1% in 2010.
  - Due to the slower global growth in 2012, global steel industry is likely to remain in overcapacity situation of 72% at the end of 2011 against 83% in June 2011

Innovation & Sustainability : Challenges & Opportunities - Part 2 (Cont'd)

- Clay Brick (5% decrease)
  - Q3 2012 = RM0.40/pc
  - Q1 2012 = RM0.38/pc

- Cement Sand Brick (40% increase)
  - Q3 2012 = RM0.28/pc
  - Q1 2012 = RM0.20/pc

- Labour (29% increase)
  - Labour shortage due to indonesian workforce returning to booming home land
  - Q3 2012 = RM45/day
  - Q3 2011 = RM35/day

- Transport (29% increase)
  - Q3 2012 = RM450/truck
  - Q3 2011 = RM400/truck

2. Opportunities

Property & Facilities Management

Despite the crash in commercial properties worldwide in 2009. Property Management (PM) & Facilities Management (FM) firms revenue increase from 14% in 2006 to 38% of USD4.4b in 2009.

Increasing wealth in emerging market mean that its people will be acquiring assets overseas. PM & FM will continue to strive through the EU financial crisis as it is vital to overall management of corporate real estate portfolios.

FM in Malaysia is functioning at work force & middle management (operational) level but lacking at top management (strategic) level. Need to integrate FM into whole life cycle cost of construction projects to promote better management & working integration. FM needs to strategically integrate with IT and client's business processes.

Unemployment Rate In Malaysia

Innovation & Sustainability : Challenges & Opportunities - Part 2 (Cont'd)

Consumer Confidence In Malaysia

Consumer Confidence In Malaysia

CIDB says RM120b worth of projects in 2012 mainly in oil & gas (O&G) & transportation sectors:

- Petronas Refinery and Petrochemical Integrated Development (RAPID) in Pengerang, Johor = RM60b (50% of market share)
- Mass Rapid Transit (MRT) / Aliran Transit Massa in Kuala Lumpur = RM40b (33% of market share)
- All other ongoing projects = RM20b (17% of market share)

Innovation & Sustainability : Challenges & Opportunities - Part 2 (Cont'd)

RAPID In Pengerang, Johor

Rapid is slated for full operations in 2016, and is expected to be bigger than the combined areas of the other Petronas hubs in Kerteh, Malacca and Gebeng in Pahang.

Petronas' ambitious expansion in its downstream production capacity in Asia's dynamic chemicals segment.

Innovation & Sustainability : Challenges & Opportunities - Part 2 (Cont'd)

The complex will cover an area of 2,000 hectares and includes a 300,000 barrels per day (bpd) crude oil refinery. It will produce 9 million tonnes of petroleum products and 4.5 million tonnes of petrochemicals per year.

The complex includes a naphtha cracker which will produce 3 million tonnes of ethylene, propylene, C4 and C5 olefins annually. It also includes a petrochemical and polymer complex which will produce C4 and C5 derivates. Other infrastructure includes pipelines, storage tanks and warehousing facilities and a liquefied natural gas (LNG) terminal and a co-generation power plant to support the RAPID project.

Petronas is seeking 10-12 partners to implement the project. It is planning to finalise the partners before taking the final investment decision. Petronas has already signed agreements with three partners.

An agreement was signed with Itochu and PTT Global Chemical Public Company in May 2012. The two companies will partner to develop a few downstream units of the complex. In June 2012, Petronas and BASF signed an agreement to develop two projects including the RAPID project. 40,000 workers are expected to be required during construction of the project. The project will generate 4,000 new jobs after completion.

Greater KL MRT, Kuala Lumpur

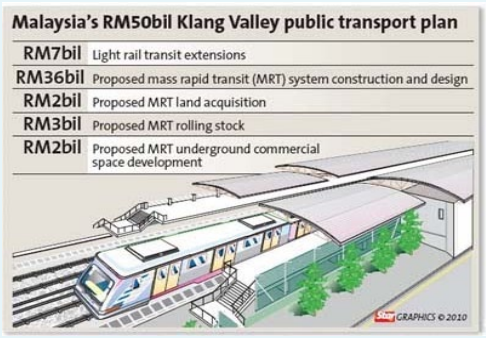
Also know as Projek Transit Aliran Massa or Transit Aliran Pantas is Malaysia's largest megaproject and first Mass Rapit Transit (MRT) project & is one of the key initiative identified under the government's Economic Transformation Programme (ETP). 3 MRT lines are being planned, with a total length of 150km.

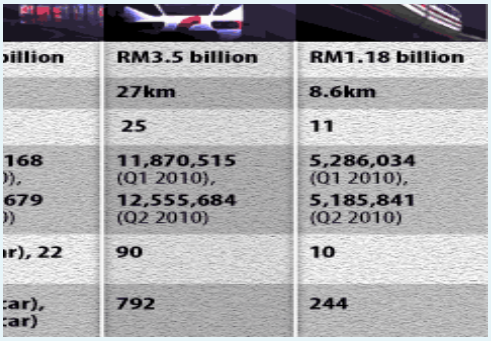
The Sg Buloh-Kajang MRT Line is the first of at least 3 MRT lines and estimated to be between 60km to 65km in length & a ride from the first to the last station will take approximately 90 minutes with 35 stations, with 11 of them incorporating park-and-ride facilities & population catchment of 1.2 million, with estimated daily ridership of 442,000.

Project Delivery Partner (project manager) awarded to MMC-Gamuda Joint Venture Sdn Bhd and Project owner is Syarikat Prasarana Negara Bhd & Project regulator and licensing authority is Land Public Transport Commission (SPAD).

The first phase of ground breaking was July 2011 and fully operational by 2016. By 2020, the MRT is expected to carry 2 million riders, serving over 11% of total travel across Klang Valley and 64% of travel in and out of KL City Centre.

The whole MRT project is expected to create 130,000 jobs & the implementation is expected to generate Gross National Income of between RM3 billion and RM4 billion beginning 2011 until 2020.





Innovation and Sustainability Initiatives in the Philippines

In the global scenario, the building industry is responsible for a significant share in global energy use (approx. 40%), resource consumption (more than 30%) and waste generation (30% of solid waste). Yet the building industry is also a vital engine to economic development, particularly to developing countries, so much so that the immediate gains would seem to render sustainable development a lower priority.

The Philippines however is taking heed of the series of cautions that call for a change in the way economic development is pursued. Both government and non-government organizations have started to cooperate so that more sustainable practices are encouraged. For example, the Philippine government has incentivised environmentally-sustainable construction methods in the social housing sector, particularly the development of green products like modified-concrete hollow blocks, coco air nets for soil erosion, the promotion of green masonry, and the provision of technical green skills training through the TESDA (Technical Education and Skills Development Authority).

The government's message is clear: everyone is encouraged to take part of sustainability initiatives for the benefit of the entire nation. The Philippine Council for Sustainable Development (PCSD) is the country's lead-body and was created through Executive Order No. 15 (01 September 1992) to provide the national mechanism towards the implementation of Agenda 21 of the Rio Earth Summit.

Also, similar to the LEED (Leadership in Energy and Environment Design) program in the US, the Philippine Green Building Council (PHILGBC) created the Building for Ecologically Responsive Design Excellence (BERDE) Program in response to the local industry's need to measure environmental performance of buildings, and to proactively address the negative impacts of climate change in the property sector.

There are already several certified-green projects in the Philippines and 19 are currently LEED registered projects. One of which is The Zuellig Building in Makati City. It is the first Gold level LEED core-&-shell pre-certified structure in the Philippines which was achieved with a five percent cost premium against the standard cost plan and further expected to move up to seven percent for a Platinum certification.

In the 2011 Climate Change Vulnerability Index (CCVI) by British risk analysis firm Maplecroft, the Philippines was cited as one of the six fastest-growing cities in the world that is at "extreme risk" to the impact of climate change. The disasters brought about by typhoons along with news of the natural calamities elsewhere have heightened local awareness on climate change and is pushing local construction professionals to participate.

Quantity surveyors in the country have now incorporated aspects of Sustainable Construction in their services, and it is fast becoming a key feature of many projects. With focus on reduction of energy-use and the cost of occupation, whole-life cost studies and assessments on long-term impact are now a part of investment decisions along with examining options using pay-back and rates-of-return on capital.

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LATEST DEVELOPMENTS IN BRUNEI DARUSSALAM

By Ling Kie Kuck, Alex
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Brunei Darussalam has a small economy, which is growing at a slow and steady rate. It has remained stable with an average inflation rate of 1.5% over the past twenty years. Brunei's economy has generally been dominated by the oil and gas industry for the past 80 years with hydrocarbon resources accounting for 90% of its export and more than 50% of its Gross Domestic Product. Today, Brunei is the fourth largest oil producer in South East Asia and the ninth largest exporter of liquefied natural gas in the world.

Due to rising awareness in the country of depleting natural resources and the subsequent need to diversify the economy away from its over-reliance on oil and gas, there has been a steady shift in economic trends and policies, with an aim to widen Brunei's economic base beyond oil and gas. This has resulted in an upswing in the construction industry in recent times.

BANDAR SERI BEGAWAN DEVELOPMENT MASTER PLAN

In its effort to stimulate economic growth, the Brunei Government is actively promoting the development of various target sectors through its five-year National Development Plans. The current National Development Plan marks a strategic shift in the planning and implementation of development projects, as it is the first national development plan to have been formulated in line with the objectives of Brunei Darussalam's recently launched long-term development plan, better known as "Wawasan Brunei 2035" or "Vision Brunei 2035".

The Bandar Seri Begawan Development Master Plan is a comprehensive plan for the capital of Brunei Darussalam, providing clear development strategies to guide future development. The objectives of the Master Plan, are to maintain the status of Bandar Seri Begawan as one of the top ten most livable cities in Asia; to ensure orderly development so as to make Bandar Seri Begawan a safe, livable and friendly place; and to craft immediate, medium and long-term development policies and strategies for Bandar Seri Begawan until the year 2035 and beyond.

Some of the current major developments undertaken as part of the National Development Plan are as follow:

1.0 BRUNEI AIRPORT REDEVELOPMENT

In order to facilitate an increase in economic activity for Brunei, the BEDB, in collaboration with the Department of Civil Aviation and a Singapore consortium, Changi Airport Consultants Pte Ltd/AECOM Asia Co Ltd, is currently undertaking a modernization project for the Brunei International Airport Terminal. Aimed at improving the existing environment and appearance, this project is expected to enhance convenience to passengers and the public through the expansion of floor areas, the development of iconic structures and green features, as well as the installation of a much improved security system. The construction works commenced in the fourth quarter of 2011 and will take approximately 36 months to complete. The modernization program has been designed to ensure the smooth operations of the airport and the minimizing of any potential disruptions throughout the entire construction period. The cost of the airport redevelopment is approximately 111 million dollars and is part of Brunei's plans to flag itself as an aviation hub on Borneo.

2.0 SUNGAI AKAR INTEGRATED WASTE MANAGEMENT FACILITY

In an effort to make Brunei a cleaner and greener destination, an integrated waste management system is being established. This includes the rehabilitation of the Sungai Akar rubbish dumpsite, and the construction of both a transfer station in Sungai Akar and a new engineered landfill in Sungai Paku in Tutong. The rehabilitation of Site A of Sungai Akar rubbish dumpsite, carried out by a Brunei consortium led by Jurusy Perunding, was completed in 2009 while Site B is still temporarily accepting waste until the engineered landfill commences operations. Meanwhile, the construction of the engineered landfill and transfer station is being carried out by a Singapore-Brunei consortium, ST Marine-QAF, and has been partially operational since September 2011.

LATEST DEVELOPMENT IN BRUNEI DARUSSALAM (CONT'D)

2.0 NATIONAL HOUSING SCHEMES

In response to the rapidly growing number of citizens applying for houses under the National Housing Scheme, the BEDB is currently undertaking three pilot projects for the construction of a total number of 7500 low-cost houses under the Scheme within a period of 48 months. They are:

3.1 2000 Houses in Kg Panaga, Kuala Belait, within 24 months

Built on a 180- hectare site by BinaPuri Holdings Bhd of Malaysia, the construction of the 2000 houses in Kg Panaga was completed in 2011. The construction includes 800 semi-detached and 1200 terrace units with supporting infrastructure.

3.2 4000 Houses in Kg Mengkubau, Brunei-Muara District, within 48 months

The construction of 4000 houses in Kg Mengkubau commenced in February 2010 and is expected to be completed by the first quarter of 2014. Built on a 309 hectare site, the construction is carried out by UEM Builder Bhd of Malaysia and includes 1600 semi-detached and 2400 terrace units with supporting infrastructure.

3.3 1500 Houses in Kg Bukit Beruang, Tutong, within 18 months

The pilot scheme to build 1500 houses on a 127 hectare site in Kg Bukit Beruang is expected to be completed within 18 months. Work commenced in January 2011. The construction includes 500 semi-detached and 1000 terrace units with supporting infrastructure and is carried out by TEE International Limited of Singapore.

4.0 TELISAI – LUMUT HIGHWAY

The construction of a major 18.6km dual carriageway from Telisai to Lumut is expected to be completed by the third quarter of 2013 with the objective of easing the traffic flows between Bandar Seri Begawan and Kuala Belait as well as in the Sungai Liang area where SPARK is located. The construction is jointly carried out by Surati Construction Sdn Bhd of Brunei and Third Harbor Engineering Co. Ltd of China.

5.0 PULAU MUARA BESAR

Pulau Muara Besar is a 955-hectare island situated in Brunei Bay, next to Muara municipality. Strategically located at the east-west maritime trade route. It is an ideal location for a deep sea container port. PMB is ideally positioned for export-oriented activities related to oil and gas industry such as an integrated petrochemical refinery as well as a marine supply base. Appropriate infrastructure will also be developed to support and facilitate the establishment of such industries at PMB.

A bridge will eventually be built to link the island to the mainland and the port will be developed will be in phases, with the first phase creating a straight line quay of 660m for container ships berths. It will include equipping the port with the following facilities:

- New post-panamax cranes
- Container yard with 156 reefer points (42,681 m2)
- Total area of 34.3 hectares including container yard
- Warehousing and free zone option

Building Information Modelling (BIM)

By Ramadha De Silva
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Building Information Modelling (BIM) is a revolutionary concept of using computer simulation in the construction industry. In BIM, the construction project is simulated in a virtual environment. Since the simulation can be done in be done in a computer with the usage of software, the virtual building make it possible to practice construction, to experiment, and to make adjustments in the project before its actual construction. As the mistakes in the design and construction can be identified and can be addressed in the virtual environment itself, this results reduction of mistakes in the actual construction in the site.

A BIM model represents the actual parts and pieces used to construct a project along with geometry, spiral relationships, geographic information, quantities and properties of building components such as manufacturer's details. BMI can be used to demonstrate the entire building lifecycle from construction through to facility operation.

BIM should not be confused with the number of dimensions used to represent the building. BIM provides a common environment for all information defining a building, facility or asset, together with its common parts and activities. This includes building shape, design and construction time, costs, physical performance, logistics and more.

BIM changes the traditional process by making the model the primary tool for the whole project team. This ensures that all the designers, contractors and sub contractors maintain their common basis for design, and that the detailed relationships between systems can be explored and fully detailed.

Application

When the applicability of BIM in the construction industry is considered, it is clear that it has the potential impact of every aspect of Surveying Profession, such as for those involved with Property, FM, Building Surveying, Civil as well as traditional building construction.

Barriers

Since BIM is a new trend in the construction industry, the main barrier identified is the lack of awareness of this technique. Most of the time, the clients are unaware of the advantages of this simulation method and that they can have a major influence on the deliverables of the project.

Advantages

BMI has many advantages where as competitive ones it confers are: increase speed of delivery, better coordination, decrease costs, greater productivity, higher-quality work etc.

The following table shows its strengths in differences phases in a construction project.

Building Information Modelling (BIM) (Cont'd)

In the Design Phase

- As this approach makes all the critical information immediately available, project-related decisions can be made more quickly and effectively.
- Allows the project team to make changes to the project at any time during the design or documentation process without difficulty, low-value re-coordination and manual checking work.
- All of the building design and documentation work can be done concurrently.
- Supports a distributed team so that people, tools, and tasks can effectively share this information throughout the building lifecycle, thus eliminating data redundancy, data re-entry, data loss, miscommunication, and translation errors.
- Whenever a change is made, all the consequences of that change can be automatically coordinated throughout the project.
- Eliminates coordination mistakes and improves the overall quality of the work.

In the Construction Phase

- The builder can accelerate the quantification of the building for estimating, value-engineering purposes and for construction planning.
- Builder can quickly prepare plans showing site use or renovation phasing for the owner.
- Consequences of proposed or procured products can be studied and understood easily.
- Less time and money are spent on process and administration issues in construction.

In the Management Phase

- Makes available concurrent information on the use or performance of the building; its occupants and contents; the life of the building over time; and the financial aspects of the building.
- Accelerates the adaptation of standard building prototypes to site conditions.

When adopted well, BIM facilitates amore integrated design and construction process results in better quality buildings at lower cost and reduction of project duration.

YQSG Program 2013 - Xian, China

1st Day Session - 17 May 2013 (Friday)
活动第一日　2013年5月17日（周五）

One day Tour to Terracotta Warrior, Shan Xi Museum & the Geese Tower
Fee: RMB 500/ person including lunch, dinner, coach, sight tickets and insurance with English speak tour guide
(Quota: 20 overseas + 10 China)
一日游：兵马俑，陕西博物馆，大雁塔
第一日活动自费，人民币500元。含午餐、晚餐、巴士，景点门票，英语导游，保险。
（人数：国际代表20人，国内代表10人）

2nd Day Session – 18th May 2013 (Saturday)
活动第二日　2013年5月18日（周六）

Free of Charge (Quota: 30 for overseas delegates)
第二日活动免费（国际代表30人）

AGENDA 日程安排

Morning Session 上午节目	
8.00am	Assemble at Congress Hotel Lobby (Sofitel Xian on Renmin Square. Xi'an China) 中国西安索菲特酒店大堂集合
9:00am	**YQSG Committee Internal Meeting** 青年组委员会内部会议
10:00am	**Welcome Speeches (CECA Representative and Chairman of YQSG)** 致欢迎词（中价协代表，青年组主席）
10:15am	**Ice-breaking Game** 破冰游戏
10.30am	**Presentations and Introduction (by Local & Foreign Delegates)** 主题演讲（国际及国内代表） Theme: Latest Project Development and Construction Cost Trend 主题：项目开发与造价趋势
12:30pm	**Lunch**午餐
1:15pm	**Panel Discussion (Moderated by YQSG Chairman and Reps from Each Country on Stage)** 小组讨论
1:45pm	**Gift Exchange and group photos** 交换礼物及集体合照
Afternoon Session 下午节目	
2:00pm	**Site Visits** 项目考察
Evening Session 晚间节目	
7.00pm	**Specialty Dinner (YQSG & PAQS Main Congress)** 与YQSG会员们共进晚餐

Registration
Please register before 15 March 2013 via your respective local institute. Each country will be allowed 3 places and applicants will be on waiting list until spare places are available.
For 1stday tour, please pay to nominated meeting agency at front desk on registration day (16 May 2013).
Place: Congress Hotel Lobby (Sofitel Xian on Renmin Square. Xi'an China)
Time: 9:00 a.m. – 21:00 p.m.
For enquiries, please contact Miss Annabella Wu (CECA)
(E-mail: wyq_anna@yahoo.com.cn / **Tel** :86 13817654523 / 86 21 63459170)

申请参加
请于 2013年 3月 15日前通过成员国或地区申请参加。每个成员国有 3个席位，其余申请人将列入候补席， 如有多余席位将另行告知。
第一日活动费用，请于报到当日在签到台支付。
如有任何问题，请电邮联系 中国建设工程造价管理协会 吴小姐 **wyq_anna@yahoo.com.cn.**

Stay connected.

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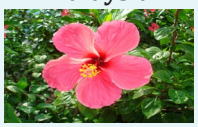

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