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SPEECH BY DR LEE BOON YANG, MINISTER FOR MANPOWER

AT THE SOCIETY OF PROJECT MANAGERS' ANNUAL DINNER

ON FRIDAY, 15 OCTOBER 99 AT 7.30 PM AT THE RITZ CARLTON MILLENIA

Mr Khor Poh Hwa,

President of the Society of Project Managers (SPM)

Members of SPM

Ladies and Gentlemen

Introduction

1 The Singapore construction industry faces two main challenges: the first is in resolving the fundamental problems of low productivity and heavy reliance on unskilled foreign workers, and the second is to prepare itself to meet the challenges posed by changing trends in the construction industry. In May 1998, my Ministry launched Construction 21 (C21) Study to address these issues. The C21 Steering Committee has completed its deliberations and has submitted its recommendations. The C21 report will be launched next week. Tonight, I would like to outline 3 proposals put up by C21 which are of special relevance to project managers. I will then elaborate on the role that the Society can play to complement the C21 efforts and lift the industry onto a higher plane.

Major Trends Affecting The Construction Industry

Redefining The Construction Value Chain

2 Currently, the construction value chain is broken up into distinct segments in the upstream and downstream stages, namely design; tender documentation; construction and maintenance. Each of these segments encompasses activities and players that are separated from the others. Major users of construction services, both public and private, often have to deal with various parties, e.g. designers, main contractors, specialist contractors, etc. The coordination work that the client has to perform is costly and highly inefficient. Moreover, the segregation of design and construction activities could result in mistakes in the design stage which require changes and rectification at the construction stage, leading to project delay and cost overrun. The demand for greater responsiveness, guaranteed cost and delivery schedules of projects and the push for greater efficiency requires adoption of a new delivery system in the construction industry.

3 One answer to this demand is the Design and Build (D&B) arrangement. This new arrangement has been proven to increase efficiency and better manage costs. A study conducted by the Construction Industry Institute in the USA found that the median cost growth (that is the difference of the final project cost and the contract award cost) for D&B projects was less than half that of traditional design-bid-build projects. In terms of speed of construction, D&B projects are able to complete 9000 square feet of space per month while design-bid-build projects completed 4,600 square feet of space per month. Locally, a survey conducted in 1998 by the then CIDB revealed that three-quarters of respondents reported total time savings of 5-30% for D&B projects. More than half the respondents reported cost savings of 5-10% and manpower savings of 10%.

4 At present, D&B projects in Singapore are still rare compared to other countries. In Australia, the proportion of projects with D&B arrangements is more than 60%, while the D&B level in Singapore in 1998 was only 14%. In the USA, a study estimated that by 2005, 50% of construction would be carried out via the D&B approach. Currently, major MNCs, such as Coca Cola, are already adopting D&B arrangements to build factories worldwide. The integration of design and construction processes benefits developers and consumers. The reduction in the number of steps and key players in the value chain will result in cost savings.

C21 Response - An Integrated Approach To Construction

5 The C21 Committee supported an integrated approach to construction. The C21

Committee recommended a three-pronged approach to increase the use of D&B arrangements

– through promotion, provision of a conducive environment, and the nurturing of D&B firms.

The 3-pronged approach will help pave the way for greater integration among the players in the

value chain.

6 Project managers will have a key role to play in this new business environment. Hitherto,

project managers in the industry are mainly involved in the task of construction management

and confined to the downstream processes. However, with the redefinition of the construction

value chain, project managers will have to bridge the upstream and downstream activities. You

will have to distinguish yourselves by the ability to integrate activities and coordinate people

and equipment so that projects are designed, built and delivered on time, within budget, and to

specification. There is also much scope for project managers to be involved at the

developmental stages of projects as you have the experience to provide cost effective solutions

to clients and can help to set the framework for buildable designs, and help clients to increase

profit margins and productivity.

7 The move to increase the level of D&B arrangements will require project

managers to be

more than just good engineers and site managers. You need to be business managers who can

understand the whole spectrum of the construction value chain. Project managers must

possess expertise in many areas in order to add value to your clients. These include financial

and accounting knowledge in managing monetary resources, as well as soft-skills such as

leadership and negotiation. A D&B environment will open up more opportunities for project

managers. The Society has an important role to play in aiding project managers to undertake

greater responsibilities in project management. The Society's training and certification

programmes can help members to build up technical expertise to enable you to undertake more

complex assignments. Your efforts in raising the profile and professionalism of project

managers will also help to attract more talents into the profession.

Enhancing Buildability

8 The second issue is the need for higher buildability in the construction industry. Higher

buildability can be attained through standardization of components and dimensions, simple

building construction systems and installation details, as well as the use of single integrated

elements or prefabricated components, such as precast staircases and toilets. The experience

of Japan and Australia showed that higher buildability is crucial to raising labour productivity

and efficiency. Locally, the Tanglin View condominium project has illustrated that higher

buildability through the use of prefabricated components allows the contractors to reduce their

reliance on manpower by about 40%. This has translated into cost and time savings as well as

enhanced safety due to a cleaner and more orderly construction site. Buildability is commonly

practised in countries such as Japan, Denmark, UK and the USA. This is largely driven by the

fact that construction companies in these countries do not have access to cheap foreign

workers and hence the industries will have to ensure that buildings are easy to build in order to

reduce their reliance on workers.

C21 Response – Enhancing Buildability Through Legislation

9 Higher buildability starts at the design stage. That is why Government had earlier decided

to introduce a requirement for minimum buildability score for building plan approvals. This

legislation will take effect from 1 Jan 2001. The C21 Committee supported such

requirement

and recommended that the minimum buildability score be raised progressively in order to add

impetus to attaining higher buildability.

10 What this means is that there will be a more industrialized approach to construction, where

components are prefabricated and brought on site for assembly. This is akin to the

Just-In-Time production method found in the manufacturing sector. Project Managers will be a

key link in this drive to improve buildability. You would need to acquire more core

competencies to take on this new challenge. You would need to be familiar with new methods

of construction and be extremely proficient and precise in coordinating construction

processes. For example, you will have to keep to tight time schedules and manage the flow of

components efficiently, otherwise delays in the project may incur substantial costs in renting

storage space for bulky prefabricated components. In short, as we move towards higher

buildability, project managers will have to be at the forefront to achieve smooth delivery.

Increase Use Of Information Technology

11 The third issue is the increasing use of information technology (IT) in the

constructi on

i ndustry, not only at the design stage, but also at downstream construction stages.
For

i nstance, more constructi on companies are using the Internet to procure material and

components, allowing them to have faster response and greater cost savings due to
reduced

i nventory costs. In the USA, some constructi on companies are experimenting the use
of

wi rel ess handhel d technology to enter daily producti on i nformation i n order to
i mprove

communi cati on and reduce paperwork. It is important for our contractors and project

managers to harness i nformati on technology to boost producti vi ty and raise the level
of

professi onal i sm.

12. Currently, the constructi on i ndustry is l agging behind manufacturi ng and
exportable service

sectors i n the use of IT. The constructi on i ndustry therefore has to close the gap
and use IT as

a tool to achi eve producti vi ty breakthroughs. IT can be a key enabler for
i ntegrati on and

i nnovati on i n the constructi on i ndustry. Currently, the i ndustry uses IT for
computer ai ded

design (CAD) of projects as well as procurement. IT usage could be expanded to
other areas

such as project management, where developers, designers, contractors and suppliers are

connected to the same network and they can monitor the progress of a project in real time. IT

can be applied to project simulation so that bottlenecks and problems can be identified early

and addressed even before work on site begins.

C21 Response – Increasing The Use Of Information Technology

13 The C21 Committee strongly supported the use of IT in construction. The Government

had announced last week an investment of \$44 million to set up the Construction and Real

Estate Network (CORENET) to help the construction industry to speed up its IT

development. However, while the Government can encourage the industry to use IT, it is the

industry players who will set the pace for IT application in the industry. Industry players like

you must take the initiative to upgrade to keep up-to-date with changes in technology. I am

happy to note that the Society has been proactive in this area by including modules on IT for

your membership qualification course. The Society can further help to upgrade the

construction industry through spearheading research projects related to construction IT or

through adapting useful construction practices from abroad. It could also provide useful

information on how project management can be improved using IT and share real life success

stories with its members. Only through such innovative and value-adding services can the

Society distinguish itself as a progressive and informed association of knowledge workers.

Conclusion

14 In conclusion, project managers must adopt a new mindset in the way you view

construction and your roles in the industry. You will have to acquire new skills to manage

future projects, and learn new ways of organizing construction in the midst of changing

technology and processes, and greater expectations of clients.

15 The Society of Project Managers can help its members to prepare for the new challenges in

many ways. Given its broad spectrum of members, from developers to IT specialists, the

Society could enhance integration of construction activities through programmes which foster

closer cooperation among industry players. It can also ensure that members keep up with the

latest changes in technology and industry practices and adapt such innovations for our

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industry's use to attain productivity breakthroughs. This could be through sharing of

information on best practices and new technology, and professional development programmes

devised in consultation with tertiary institutes. The Society would be an ideal forum to drive

home the importance of lifelong learning and provide the opportunities for members to do so.

Finally, the Society will be crucial in maintaining and enhancing the professionalism and

standards of project managers so that they become a valued partner with other professionals in

the transformation of the industry.

16 The construction industry of the future will see a larger role for project managers. You will

become one of the key drivers for change. I am confident that the Society will succeed to help

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members meet these challenges and to transform the industry into a world class construction

industry.

17 On that note, I would like to offer my congratulations on the occasion of your 4th

Anniversary and may I wish your Society every success. May you have an enjoyable evening.

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Thank you.

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