### Society of Construction Law (Singapore) (SCL(S)) Conference 2024

02 October 2024

# "SINGAPORE INC – STAYING BEST IN CLASS IN CONSTRUCTION?"

#### **Keynote Address**

# **Evolving Singapore's Construction Practitioners Amidst a World of Artificial Intelligence and Climate Change**

The Honourable Judicial Commissioner Alex Wong

Supreme Court of Singapore

#### I. Introduction

- 1. Good morning Mr Trevor Lam, Chair of SCL (Singapore), and Chair of the Organising Committee for SCL (Singapore) Conference 2024, distinguished guests, ladies and gentlemen. I thank the organisers for extending this invitation to deliver the keynote address at the SCL (Singapore) Conference 2024. I am excited to be back amongst former colleagues and friends at SCL (Singapore) and I look forward to the opportunity to speaking to some of you during the morning break.
- 2. An engaging series of topics has been put together by the organising committee for today and I congratulate them for preparing a fascinating day for the participants. Looking at the agenda and bearing in mind my previous life as an energy and infrastructure practitioner, I have a particular personal interest in the first session which addresses challenges in the energy transition. Of more practical impact for me in my current life would be the discussion which you will be engaging in immediately after lunch with respect to the SCL(S) Protocol for the use of Expert Joint Statements. As many of you may know, where a common expert cannot be agreed upon

between the parties,<sup>1</sup> the Rules of Court 2021 places an emphasis on experts caucusing before trial to narrow areas of difference, so this protocol will be especially insightful in that regard.<sup>2</sup>

- 3. When SCL (Singapore) was founded in 2002, I was a young lawyer who had barely been in practice for three years. Looking back to that time, arbitration and mediation in Singapore were still growing and the majority of matters engaging construction professionals in Singapore were domestic.
- 4. Since then, the wheels of change have turned over many times. The Singapore International Arbitration Centre's (SIAC) Annual Report for 2023 reported 663 new case filings, which was its second highest caseload recorded. Of those 663 cases filed, 93% were international in nature, representing parties from 66 jurisdictions. 8% of cases filed (or 50 cases in total) were construction cases.<sup>3</sup> This year, we celebrate the 10th anniversary of the Singapore International Mediation Centre (SIMC) and the fifth anniversary of the Singapore Convention on Mediation which has 57 signatories as of September 2024.<sup>4</sup> Next year, we will celebrate the 10th anniversary of the Singapore International Commercial Court, which includes a Technology, Infrastructure and Construction (TIC) List to cater for complex multi-party disputes.
- 5. The growth in SCL (Singapore)'s membership is itself a microcosm of the growth of the construction sector in Singapore. Lawyers no longer form the substantial majority of its membership.<sup>5</sup> The swelling ranks of experts and other construction professionals amongst SCL (Singapore)'s membership

<sup>&</sup>lt;sup>1</sup> Rules of Court 2021, O 12 r 3.

<sup>&</sup>lt;sup>2</sup> Rules of Court 2021, O 12 r 6.

<sup>&</sup>lt;sup>3</sup> "SIAC Annual Report 2023", *Singapore International Arbitration Centre*, 1 April 2024, <<u>https://siac.org.sg/wp-content/uploads/2024/04/SIAC\_AR2023.pdf</u>> (accessed 26 September 2024) ("SIAC Annual Report 2023").

<sup>&</sup>lt;sup>4</sup> "Home | Singapore Convention on Mediation.", *Singapore Convention on Mediation*, 2021, <www.singaporeconvention.org> (accessed 26 September 2024).

<sup>&</sup>lt;sup>5</sup> "Directory of Individual Members", *Society of Construction Law, Singapore*, 2024, <a href="https://scl.org.sg/membership/members-listing.html">https://scl.org.sg/membership/members-listing.html</a> (accessed 26 September 2024).

demonstrates the breadth and depth of such growth in Singapore. We are also seeing the growth in the use of Singapore law regionally. The Singapore Academy of Law (SAL) carried out a study pre-COVID in 2019 on Governing Law and Jurisdictional Choices in Cross-Border Transactions. The findings of that study are now slightly outdated but show Singapore law trailing only English law as the governing law of choice amongst practitioners and in-house counsel in Asia. What is more interesting from that 2019 study is that it revealed a trend from a previous study carried out by the SAL in 2015 which showed English law losing popularity and Singapore law gaining popularity amongst users. Many of you here will likely surmise that trend continuing if the same study is conducted today.

- 6. I have no doubt that it is on the basis of all this evidence that the proposition of "Singapore Inc" as being the best in class is pronounced.
- 7. Moving to the present, there remains no shortage of building in the region. The Asia-Pacific market for real estate and construction is set to remain robust, accounting for almost 40% of the global industry's output value. An estimated US\$26 trillion is set to be invested across the region between 2017 and 2030 to meet the expansion of infrastructure needs alone. 8
- 8. Our institutions here in Singapore also remain active with SIAC and SIMC signing MOUs with the China International Contractors Association ("CHINCA") on 27 August 2024 to cooperate on the effective resolution of international disputes. Under the SIAC MOU, the SIAC and CHINCA undertake to discuss and explore, amongst other things, training programmes or workshops for CHINCA's members to enhance their

<sup>&</sup>lt;sup>6</sup> "2019 Study on Governing Law and Jurisdictional Choices in Cross-Border Transactions", *Singapore Academy of Law*, 17 April 2019, <a href="https://www.sal.sg/index.php/Newsroom/News-Releases/NewsDetails/id/1102">https://www.sal.sg/index.php/Newsroom/News-Releases/NewsDetails/id/1102</a> (accessed 26 September 2024).

<sup>7 &</sup>quot;Construction and Real Estate in Asia Pacific", *Euromonitor International*, October 2021, <a href="https://www.euromonitor.com/construction-and-real-estate-in-asia-pacific/report">https://www.euromonitor.com/construction-and-real-estate-in-asia-pacific/report</a> (accessed 26 September 2024).

<sup>&</sup>lt;sup>8</sup> Somani, Sharad. "A new approach to infrastructure could transform Asia Pacific", *KPMG*, 10 June 2024, <a href="https://kpmg.com/sg/en/home/insights/2024/06/a-new-approach-to-infrastructure-could-transform-asia-pacific.html">https://kpmg.com/sg/en/home/insights/2024/06/a-new-approach-to-infrastructure-could-transform-asia-pacific.html</a> (accessed 26 September 2024).

knowledge of multi-tiered dispute resolution clauses as well as the rules and practice of the SIAC. Separately, the SIMC MOU is expected to incentivise more Chinese companies to take their disputes with foreign companies to Singapore for mediation. In the first seven months of 2024 alone, CHINCA members received contracts worth US\$134 billion from foreign companies, which is a 25% increase from the same period in 2023. This signals the potentially increasing demand for international dispute resolution options. <sup>10</sup>

9. With that background, I would like to explore three issues in my talk today that will impact Singapore's continued quest for its place as a key hub for construction activities in the region. Firstly, I will consider the impact of artificial intelligence (AI) on our work as construction professionals. Secondly, I will discuss the sector's role in the energy transition and climate change. Lastly, I will touch briefly on some recent discussions on the evolving role of Singapore law and our dispute resolution institutions in fostering Singapore's relevance as a key regional construction hub.

## **II.** The Impact of AI on Construction Professionals

10. Starting with AI, the Honourable Chief Justice Sundaresh Menon in his address at the Opening of the Legal Year 2024 stressed the capabilities of deep learning generative AI that can generate original and seemingly high-quality content at a speed that far outstrips human capability. As this continues to evolve, the Chief Justice noted that it will transform how the legal profession works and the profession needs to embrace this transformative potential. More recently in his Mass Call Address (2024) the Chief Justice explored how law firms need to start harnessing the power of AI to help generate work product for their clients with greater accuracy

<sup>&</sup>lt;sup>9</sup> "SIAC Signs Memorandum of Understanding with China International Contractors Association", *Singapore International Arbitration Centre*, 29 August 2024, <a href="https://siac.org.sg/siac-signs-memorandum-of-understanding-with-china-international-contractors-association">https://siac.org.sg/siac-signs-memorandum-of-understanding-with-china-international-contractors-association</a> (accessed 26 September 2024).

<sup>&</sup>lt;sup>10</sup> Yew Lun Tian, "Singapore to play bigger role in Belt and Road project mediation", Straits Times, 29 August 2024, <a href="https://www.straitstimes.com/singapore/singapore-to-play-bigger-role-in-helping-chinese-firms-partners-mediate-disputes-in-belt-and-road-projects">https://www.straitstimes.com/singapore/singapore-to-play-bigger-role-in-helping-chinese-firms-partners-mediate-disputes-in-belt-and-road-projects</a> (accessed 26 September 2024).

<sup>&</sup>lt;sup>11</sup> Chief Justice Sundaresh Menon: Response delivered at the Opening of the Legal Year 2024, 9 January 2024.

and speed and at less cost. <sup>12</sup> Even though the Chief Justice referred specifically to the legal profession and law firms in these speeches, I surmise that the same should apply to other professional services firms in the construction sector involved in document heavy, analytical work.

- 11. Indeed, in a field often plagued by factual and technical complexity as well as large amounts of evidence, AI stands to lend a helpful hand with its ability to handle and process voluminous documents and information in a fraction of the time it would have taken humans. The potential power of AI to assist in managing the complexity and information overload common in construction matters was observed by the Honourable Justice Philip Jeyaretnam in his speech at the 2024 Seah Choo Meng Public Lecture. 13 Justice Jeyaretnam opined that AI tools can be implemented at the start of construction projects to collect and process information simultaneously, to ensure that parties can respond in a timely and effective manner whenever issues arise during the construction process. For instance, autonomous drones can help provide fuller and more complete records of construction projects, which can then be digested by AI tools, such that any problems can be flagged in real time for follow up by human operators. AI can also be utilised in dispute resolution for reviewing and analysing informational materials and organising various disparate claims into intelligible categories.
- 12. Apart from contract management, AI has also seen increasing usage in the field of contract drafting. Natural Language Processing ("NLP") algorithms in AI-powered contract analysis tools have offered unprecedented opportunities in the field of construction by mitigating, and in some instances, eradicating, potential human errors. NLP algorithms have been

<sup>&</sup>lt;sup>12</sup>Chief Justice Sundaresh Menon, "The Legal Profession – A Community of Learned Friends", Speech delivered at Mass Call 2024 (19 August 2024).

<sup>&</sup>lt;sup>13</sup> Justice Philip Jeyaretnam, "Collaborative contracting and dispute resolution for the construction industry in the age of AI", *Seah Choo Meng Public Lecture* 2024 (20 June 2024), at paras 40–46.

used to support contract drafting and reviewing processes by ensuring that clauses are scoped precisely, by detecting and eliminating ambiguous contractual language, as well as in identifying poisonous clauses. Such algorithms have also been used to ensure consistency across multiple contracts and to check them for compliance with regulatory requirements.<sup>14</sup>

- 13.AI can also serve as a helpful legal research assistant to expedite the task of legal research. As many of you may have noticed, a new Large Language Model ("LLM") known as 'GPT-Legal' is now available on LawNet. Co-developed by the Infocomm Media Development Authority and the Singapore Academy of Law, and trained on legal data from LawNet's repository of case law, GPT-Legal generates summaries of over 15,000 unreported judgments. This allows practitioners to easily see the catchwords, facts and holdings for each case to facilitate ease of research. <sup>15</sup>
- 14.AI tools have not only proven useful for legal professionals in the construction sector but also, other professional services, with its integration into existing technological tools. For instance, AI can be integrated with Building Information Modelling ("BIM") to automate and optimise the building process. By processing large volumes of BIM data, AI can achieve more efficient and effective processing of information and conduct real-time analysis of that information to simplify complex workflows, save costs and optimise staffing. One example of such a software is Versatile Nature AI and BIM 260 Project IQ, which is capable of transforming construction sites into smart data collection points. By detecting and identifying workers' actions with deep learning methods, AI algorithms assist firms in reducing

Hassan, Fahad ul, et al., "Addressing Legal and Contractual Matters in Construction Using Natural Language Processing: A Critical Review" (2021), *Journal of Construction Engineering and Management*, vol. 147, no. 9.
 Mathangi Elangovan, "Faster, more efficient legal research from September", *Singapore Academy of Law*, 31 May 2024, <a href="https://www.sal.org.sg/blog/2024-GPT-Legal-ATxSG-IMDA-AISG">https://www.sal.org.sg/blog/2024-GPT-Legal-ATxSG-IMDA-AISG</a> (accessed 26 September 2024).

<sup>&</sup>lt;sup>16</sup> Ali, Kherun Nita, et al. "Collaboration and Risk in Building Information Modelling (BIM): A Systematic Literature Review." (2022), *Buildings*, vol. 12, no. 5, at p 19.

on-site accidents as well as other stumbling blocks, which may impact the project's costs and time.<sup>17</sup>

- 15. Yet, even as AI grows increasingly capable of automating many roles traditionally occupied by humans and enhancing the performance of construction projects, it also carries with it its fair share of challenges and concerns. Although AI can help users tackle the technical and factual complexity symptomatic of many construction projects, there remains constraints on its ability to do so. Owing to the inherently complex and dynamic nature of such projects, AI will likely be unable to address the unique requirements, specifications, risks and nuances that each project might encounter. This limitation might result in inadequately particularised contracts and documentation in most cases, and at worst, plainly inaccurate results, in view of AI's propensity for hallucinations. In a study conducted by Stanford University, researchers demonstrated that legal hallucinations are pervasive even amongst state-of-the-art LLMs, with hallucination rates ranging from 69% to 88% when responding to specific legal queries. More concerning is that these LLMs often overestimated the accuracy of their responses, displaying a lack of self-awareness of these errors and a tendency to reinforce inaccurate legal assumptions and beliefs. 18
- 16. Another aspect of concern with AI is that legal practitioners are often entrusted with highly sensitive information, the unauthorised disclosure of which can have potentially ruinous consequences for their clients. Indeed, ensuring client confidentiality is an essential aspect of a legal practitioner's ethical obligations. Yet many of these AI algorithms and tools are often open-sourced and would require firms to expose potentially confidential and sensitive information to third party technological firms. In his Keynote

<sup>&</sup>lt;sup>17</sup> Regona, Massimo, et al. "Opportunities and Adoption Challenges of AI in the Construction Industry: A PRISMA Review." (2022), *Journal of Open Innovation*, vol. 8, no. 1, at p 16.

<sup>&</sup>lt;sup>18</sup> Dahl, Matthew, et al. "Large Legal Fictions: Profiling Legal Hallucinations in Large Language Models." (2024), *The Journal of Legal Analysis*, vol. 16, no. 1 at pp 3 and 31–33.

<sup>&</sup>lt;sup>19</sup> Rule 6(2) of the Legal Profession (Professional Conduct) Rules 2015.

Address at the 25th Annual International Bar Association Arbitration Day, the Chief Justice observed that parties may be hesitant to consent to having their information uploaded onto third-party AI platforms in the interest of protecting their confidentiality. However, this limits the volume of datasets on which AI tools can be trained on, and in turn impairs the quality of the output generated, rendering AI tools more prone to hallucinations. <sup>20</sup> Balancing between the need to protect clients' confidential and private information and the competing need to train AI tools on large volumes of data to ensure its sophistication, is a conundrum which I foresee many professionals likely facing as use of AI becomes more mainstream.

17. To this end, despite the functionality and convenience promised by AI, it is clear that rather than being replaced by AI, the key challenge which many professionals will face is how to use and train AI responsibly to harness it for the better. Professionals must lead the charge for ethical AI use in light of the ease at which inaccurate hallucinations might arise. Without rigorous oversight and supervision, the creation of falsified plans, budgets, certificates, invoices and other documentations by AI could facilitate the perpetuation of fraud or errors. To prevent and guard against such misuse, firms and professionals must be proactive in implementing extensive technical and ethical precautions. For instance, measures could be implemented to carefully audit training data and models, establish sandboxed development environments, verify outputs, and institute humanin-the-loop checks before deployment. 21 It is only with proper human supervision and control, that AI's potential, as a tool to assist and expand human capabilities, can be actualised and maximised. For instance, Zegal (an AI legal technology platform) enables its users to create a first draft of

<sup>&</sup>lt;sup>20</sup> Chief Justice Sundaresh Menon, "Arbitration and the Transnational System of Commercial Justice: Charting the Path Forward", *Keynote Address at the 25th Annual International Bar Association Arbitration Day* (23 February 2024), at para 20.

<sup>&</sup>lt;sup>21</sup> Taiwo, Ridwan, et al. "Generative AI in the Construction Industry: A State-of-the-Art Analysis." (2024), *arXiv* (*Cornell University*), at pp 48–49.

their contracts, and then redirects users to partner law firms if the users require more complex legal solutions.<sup>22</sup>

18.I conclude this section on AI with some brief observations about the impact of AI on the legal profession and the structure of law practices as a whole. As long as eight-years ago a report by the Boston Consulting Group Report working with the Bucerius Law School<sup>23</sup> observed that AI will force law firms to reconsider their value proposition. The prediction that a shift from the traditional billable-hour model for legal fees, to one based on quantifiable success against clearly defined deliverables (such as fixed fee or fee cap arrangements) is now the usual rather than the exceptional fee arrangement with law firm clients. What has taken longer to evolve is firms' organisational structures. But that is also likely to be refashioned, shifting from the traditional pyramid model (consisting of a few partners at the top and many junior associates at the bottom) to a rocket structure (with less junior associates per partner, and a narrow core of tech-savvy lawyers supported by technology experts who are non-lawyers) instead. Remuneration based on capability rather than seniority of associates may also become the norm. Many law firms may also find themselves creating legal technology and innovation roles. There are already roles in law firms tasked to take on assignments such as: finding organised methods of consolidating legal datasets, such as case law and precedents, into an organised central databank. What will likely evolve are roles requiring the continuous review of legal technology products and AI advances to ensure that they provide the necessary solution to increasing the firm's efficiency and profitability.<sup>24</sup>

<sup>&</sup>lt;sup>22</sup> "About Zegal | Vision and value", *Zegal Singapore*, 19 July 2023, <a href="https://zegal.com/en-sg/about-zegal/#">https://zegal.com/en-sg/about-zegal/#</a> (accessed 26 September 2024).

<sup>&</sup>lt;sup>23</sup> Veith, Christian, et al. "How Legal Technology Will Change the Business of Law." (2016), *Boston Consulting Group and Bucerius Law School*, at pp 7–11.

<sup>&</sup>lt;sup>24</sup> Chew, Amelia, et al. "Analysing the Traditional Roles of Lawyers in Light of Technology in Singapore", *The Law Society of Singapore*, <a href="https://www.lawsociety.org.sg/publication/analysing-the-traditional-roles-of-lawyers-in-light-of-technology-in-singapore/">https://www.lawsociety.org.sg/publication/analysing-the-traditional-roles-of-lawyers-in-light-of-technology-in-singapore/</a> (accessed 26 September 2024).

19. One final aspect of AI which I will mention in the context of the evolution of the business of professional services firms is that of digital twinning. For those unfamiliar with the concept, a digital twin is a digital or virtual model of a real-world physical product or system which can be used for simulation analysis. The concept of a corporate digital twin is to create the twin of an actual business. With historical and current information from that business, a corporate twin is intended to help managers make and implement better plans, learn from their outcomes and optimise itself to achieve better outcomes in the future.<sup>25</sup> The e-commerce giant, Amazon has been one of the first businesses to take this concept forward at a practical level. With over 20-years of e-commerce sales data from its customers, it has built a single model that can forecast demand for 400 million items, two years into the future. This helps Amazon manage decisions from how many of a particular item to keep in stock, to where to build new warehouses.<sup>26</sup> Professional services firms, particularly large ones, can also benefit from twinning technology. This may start small with managing inventory and supplies and eventually evolve to tracking trends in client revenues against economic conditions and informing decisions as to when and what sort of business development opportunities would generate the best value.

## III. Climate Change and the Energy Transition

20. Moving on to climate change and the energy transition, Justice Jeyaretnam in his "Conversations With the Community" speech this year spoke of the role of judges and the courts in adjudicating claims in environmental law and climate change litigation. In particular, Justice Jeyaretnam stressed the importance of applying the rule of law in our response to ecological challenges. He quoted approvingly from a statement by the Ministry of Foreign Affairs addressing the ongoing case at the International Court of

<sup>&</sup>lt;sup>25</sup> Daniel Liévano, "Digital twins are making companies more efficient", *The Economist*, 28 August 2024, <a href="https://www.economist.com/science-and-technology/2024/08/28/digital-twins-are-making-companies-more-efficient">https://www.economist.com/science-and-technology/2024/08/28/digital-twins-are-making-companies-more-efficient</a> (accessed 26 September 2024).

<sup>26</sup> *Ibid*.

Justice on the Obligations of States in respect of Climate Change, where the Ministry noted Singapore's commitment to participating in rules-based efforts to find solutions to address climate change based on international law.<sup>27</sup>

- 21.I note with interest that the first session of the conference today seeks to address, amongst other things, policies and regulations on energy transition, opportunities, challenges and key considerations for construction in renewables projects, as well as how contracts can be structured to encourage sustainable practices.
- 22. Singapore is playing its part in the climate change challenge. We only have to look out across rooftops in Singapore today and we will see a littering of solar panels. Soon we will be importing renewable energy from various sources around the region (including Indonesia and Vietnam) with an import goal of 4GW to 6GW by 2035. Other import options such as Cambodia, Laos and Sarawak, Malaysia are also being explored. The upshot of this initiative is that gas-fired power generation as part of Singapore's fuel mix will be reduced from over 90% today to over 50% by 2035. Protective measures against climate change will also play a major part in our infrastructure construction in the coming years, including the development of polders off our coast to protect low lying areas against rising sea levels. <sup>29</sup>
- 23. Unfortunately, there is a limit to how much we can learn from climate change initiatives in our local ecosystem. Singapore is simply too small to take advantage of all the possibilities available in this vast area of change.

<sup>&</sup>lt;sup>27</sup> Justice Philip Jeyaretnam, "Advancing the Environmental Rule of Law – Roles and Responsibilities of the Community", *Conversations with the Community* (26 July 2024).

<sup>&</sup>lt;sup>28</sup> Cheryl Tan, "ST Explains: What does Singapore's more ambitious clean import targets mean for energy transition", *Straits Times*, 17 September 2024, <a href="https://www.straitstimes.com/singapore/st-explains-s-pore-announced-more-ambitious-clean-import-targets-what-would-this-mean-for-our-energy-transition">https://www.straitstimes.com/singapore/st-explains-s-pore-announced-more-ambitious-clean-import-targets-what-would-this-mean-for-our-energy-transition</a> (accessed 26 September 2024).

<sup>&</sup>lt;sup>29</sup> Koh Wan Ting "IN FOCUS: With no place to retreat to, Singapore advances to protect its coastlines", *Channel News Asia*, 2 December 2023, <a href="https://www.channelnewsasia.com/singapore/rising-sea-levels-low-lying-vulnerable-coastal-protection-long-island-3955651">https://www.channelnewsasia.com/singapore/rising-sea-levels-low-lying-vulnerable-coastal-protection-long-island-3955651</a> (accessed 26 September 2024).

We need to be prepared to spread our wings, leave our comfort zone and venture into the unknown.

- 24.Offshore wind is a good example of a technological area in the energy transition which was unknown to many of us here just five years ago. Singapore is unlikely to have the opportunity to develop our own offshore wind projects at any workable scale. The space constraints in our neighbouring waters and the inadequate wind speeds off our shores prevents that. However, the strength of our collective ecosystem of construction law and its accompanying professionals has allowed us to play an outsized role in the development of offshore wind projects within Asia. For example, many offshore wind projects in Taiwan use Singapore law as the governing law for project construction, supply and operations contracts. Consequently, international arbitration seated in Singapore has also become the choice for dispute resolution for those projects. The knowledge that many professional services organisations here in Singapore have gained from the Taiwan experience puts us in good stead as offshore wind gains traction in other regional jurisdictions like Vietnam and Indonesia.
- 25.I will briefly consider two other areas where our professionals can help grow our ecosystem.
- 26. The first is in the area of carbon capture and storage (CCS). Earlier this year, the government, through the Economic Development Board (EDB) appointed a consortium comprising of Shell and ExxonMobil to study the viability of developing a cross-border CCS project from Singapore. The study includes assessing the viability of aggregating carbon emissions from industrial plants in Singapore. This will then be liquefied for storage and

<sup>&</sup>lt;sup>30</sup> "Singapore's Approach to Alternative Energy", *National Climate Change Secretariat*, 2021, <a href="https://www.nccs.gov.sg/singapores-climate-action/singapore-approach-to-alternative-energy/">https://www.nccs.gov.sg/singapores-climate-action/singapore-approach-to-alternative-energy/</a> (accessed 26 September 2024).

<sup>&</sup>lt;sup>31</sup> "Appointment of S hub to develop cross-border CCS Project", *Economic Development Board, Singapore*, 1 March 2024, <a href="https://www.edb.gov.sg/en/about-edb/media-releases-publications/appointment-of-s-hub-to-develop-cross-border-carbon-capture-and-storage.html">https://www.edb.gov.sg/en/about-edb/media-releases-publications/appointment-of-s-hub-to-develop-cross-border-carbon-capture-and-storage.html</a> (accessed 26 September 2024).

transport. The final step would be for the liquefied carbon dioxide to be transported to a suitable destination for underground storage. Like offshore wind, CCS is an expensive undertaking. Other than the expense in developing and constructing an aggregation facility in Singapore, there is also substantial complexity arising from the need to customise each site for storage, not to mention transportation costs. But this also means that there is significant value in the engagement of knowledgeable professionals in this area and significant scope in the upscaling of that knowledge, bearing in mind the over 300 of these projects that are under development regionally and around the world.<sup>32</sup>

- 27. The second area is nuclear energy. Nuclear energy is an extremely specialised area in terms of law, regulation and technology. In the limited time available, I will not go into substantial detail of this specialisation. Suffice to note that regulation in the nuclear energy sector is heavily influenced by safety issues in construction, operations, handling of radioactive materials, waste disposal and ultimately, decommissioning. The export of nuclear equipment from nuclear-capable countries such as the United States is equally heavily regulated. With such heavy regulation in mind, agreements governing the development, construction and operation of nuclear power plants tend to be extremely bespoke, commercially, legally and technically, leaving much room for the involvement of knowledgeable professionals.
- 28. Whilst Singapore has not made a decision on the deployment of nuclear energy, efforts are underway to better understand the technology and its implications.<sup>33</sup> To that end, Singapore and the United States has just this year signed the "123 Agreement on Nuclear Cooperation", allowing

<sup>&</sup>lt;sup>32</sup> "Carbon capture can help reduce Singapore's emissions, but huge challenges remain", *Recessary*, 23 April 2024, <a href="https://www.reccessary.com/en/news/sg-market/carbon-capture-can-help-reduce-singapore-emissions-but-huge-challenges-remain">https://www.reccessary.com/en/news/sg-market/carbon-capture-can-help-reduce-singapore-emissions-but-huge-challenges-remain</a> (accessed 26 September 2024).

<sup>&</sup>lt;sup>33</sup> Emil Chan, "Singapore deepening understanding of nuclear energy, but no decision made on deployment", *Channel News Asia*, 21 March 2024, <a href="https://www.channelnewsasia.com/singapore/no-decision-yet-nuclear-energy-deployment-singapore-nea-ema-4212151">https://www.channelnewsasia.com/singapore/no-decision-yet-nuclear-energy-deployment-singapore-nea-ema-4212151</a>) (accessed 26 September 2024).

Singapore to learn more about the latest nuclear technologies and scientific research from American organisations. Potentially, this could allow Singapore to learn more about the newer nuclear technologies used in small modular reactors and in nuclear fusion. <sup>34</sup> Nuclear power facilities emit almost no greenhouse gases and in the last 50 years, worldwide, these plants have helped avoid around 70 gigatonnes of carbon dioxide emissions. <sup>35</sup> In the region, both the Philippines and Vietnam have signed their own "123 Agreements" with the United States, so nuclear power ambitions are not unique to Singapore. <sup>36</sup> Again, this is an area ripe for further development amongst our community of construction professionals.

### IV. Singapore Law and our Institutions

29. Finally, I want to touch briefly on some recent discussions on the evolution of Singapore law and our dispute resolution institutions relevant to this community and I discuss this in the context of the recent Singapore Mediation Lecture held on 29 August 2024. In short, I will cover two points. Firstly, whether the evolving concept of relational contracts should find a place in Singapore law with reference to collaborative contracts in construction and, secondly, Singapore Mediation Centre's (SMC) new Integrated Appropriate Dispute Resolution Framework (INTEGRAF). The most recent Singapore Mediation Lecture was delivered by The Right Honourable Lord Justice Fraser, Chair, Law Commission of England and Wales. I had the privilege of sharing the stage in a panel discussion with Lord Fraser after his lecture which covered these subjects in part.

<sup>&</sup>lt;sup>34</sup> Cheryl Tan and Shabana Begum, "Singapore signs agreement with US to deepen understanding of nuclear reactors, safety", *Straits Times*, 1 August 2024, <a href="https://www.straitstimes.com/singapore/singapore-signs-agreement-with-us-to-deepen-understanding-of-nuclear-reactors-safety">https://www.straitstimes.com/singapore/singapore-signs-agreement-with-us-to-deepen-understanding-of-nuclear-reactors-safety</a> (accessed 26 September 2024).

Mohammed Saqib, "15 Biggest Nuclear Energy and Reactor Companies in the World", *Yahoo Finance*, 5 January 2023, <a href="https://finance.yahoo.com/news/15-biggest-nuclear-energy-reactor-155522187.html">https://finance.yahoo.com/news/15-biggest-nuclear-energy-reactor-155522187.html</a> (accessed 26 September 2024).

<sup>&</sup>lt;sup>36</sup> Trajano, Julius Cesar, et al. "Is Southeast Asia's Nuclear Ambition within reach?" (16 August 2024), S. Rajaratnam School of International Studies, no. 117.

- 30. Starting with relational contracts, in his speech, Lord Fraser spoke on the evolution of the concept of relational contracts in English law. For those of you unfamiliar with relational contracts, Lord Fraser described them in his speech as contracts underpinned by a long-term relationship between the parties and marked by their ongoing, dynamic nature and the mutual trust and cooperation between the parties that evolves over time. He added that contracts often lack complete specificity in terms of obligations and expectations at the outset, and instead rely on the inherent trust between parties to navigate uncertainties or changes that arise over the course of the contract. Some of the examples given by Lord Fraser of what may be termed as relational contracts include long-term supply agreements and other contracts where it is difficult to predict with certainty all that will or may occur during the life of the contract.
- 31.Relational contracts were first explored by Leggatt J as he then was now Lord Leggatt JSC in the *Yam Seng* case <sup>37</sup> which importantly first considered an implied duty of good faith as part of any such relational contracts given their nature. Lord Fraser himself considered how to identify a relational contract when he set out non-exhaustive criteria for such identification in one of his judgments concerning the Post Office litigation in the United Kingdom.<sup>38</sup>
- 32. The relevance of this to us here today is that, in Singapore, we have not accepted relational contracts as a category of contracts capable of definition (like employment contracts or construction contracts). As we are aware, the Building and Construction Authority (BCA) has acknowledged the piloting of collaborative contracts (including specifically the NEC4 Form of Contract) for some public sector construction contracts <sup>39</sup> and it is certainly

<sup>&</sup>lt;sup>37</sup> Yam Seng Pte Ltd v International Trade Corporation Ltd [2013] EWHC 111.

<sup>&</sup>lt;sup>38</sup> Bates and others v Post Office [2019] EWHC 606 (QB) at [725].

<sup>&</sup>lt;sup>39</sup> "Launch of NEC4 Contract for Construction and Engineering Projects in Singapore", *Building and Construction Authority, Singapore*, 29 April 2024, <a href="https://www1.bca.gov.sg/about-us/news-and-publications/media-releases/2024/04/29/launch-of-nec4-contract-for-construction-and-engineering-projects-in-singapore">https://www1.bca.gov.sg/about-us/news-and-publications/media-releases/2024/04/29/launch-of-nec4-contract-for-construction-and-engineering-projects-in-singapore</a> (accessed 26 September 2024).

arguable that such contracts satisfy the description of relational contracts as detailed by Lord Fraser. We have also not taken the further step of stating that the implied duty of good faith should be implied at law to any contracts falling into the category of a relational contract. In the context of collaborative contracts for construction (which could arguably fall within the definition of a relational contract under English law), a Singapore law draftsman would still be required to ensure that any requirement of good faith between the parties is expressly provided for in the contract. In this context, I look forward to discussions today on collaborative contracts and the extent to which Singapore law may soon have to grapple with the reality of relational contracts in practice and not just in theory.

33. Continuing with INTEGRAF and for those of you unfamiliar with INTEGRAF, it is an approach put forward by the SMC for managing complex commercial disputes through, amongst other things, unbundling and downsizing conflicts between parties. 40 In SCL's context, INTEGRAF is particularly relevant for large long term construction projects as it allows a sitting Conflict Avoidance Board (with knowledge of the project) to manage disputes in real time including through various alternative dispute resolution (ADR) methods such as mediation. Parties can also opt for Ad Hoc Conflict Management which does not involve a sitting board but, as its name suggests, involves an ad hoc Conflict Management Consultant to help navigate disputes which arise between the parties. INTEGRAF has some elements similar to the Disputes Avoidance Board or DAB in the FIDIC suite of contracts but, in my view, presents a more holistic approach to resolving disputes using the full ambit of ADR options. In the context of relational contracts and, particularly, collaborative contracting construction projects, it may present an approach to conflict avoidance and resolution that is suited to contracting structures which stress the

<sup>&</sup>lt;sup>40</sup> "Welcome to INTEGRAF: Your Solution to Resolving Complex Conflicts", *Singapore Mediation Centre*, 20 August 2024, <<u>https://mediation.com.sg/service/integrated-appropriate-dispute-resolution-framework/</u>> (accessed 26 September 2024).

importance of positive long-term relationships in achieving a contract's purpose.

#### **V.Conclusion**

- 34.In conclusion, I have spoken at some length today on the ecosystem necessary for Singapore to continue to thrive as a strong regional hub for construction practice. This ecosystem arose from the hard work of those who have come before us and it is our task today, both in the public and private sector, to pick up and advance that baton. This is an industry wide effort. Whilst the public sector must play its role in creating a conducive environment for the construction industry to thrive, the private sector and construction professionals like those in this room must play their part in fostering productivity, competition and innovation. Singapore is a place that bridges cultures between Asia and the rest of the world. The many professionals in the room today in our various roles are the pillars that support that bridge and I look forward to your continued participation in our common endeayour.
- 35.I close by saying that, as someone who has worn the same hats as Trevor both as SCL (Singapore) chair and leading the organising committee for the conference, I know how much hard work goes into the preparation of the conference. I wish for a successful day ahead for SCL (Singapore) and all participants.

36. Thank you.