Good afternoon Ladies and Gentlemen.

First, thank you for inviting me to speak at this Summit. It is always a pleasure to meet with market participants and exchange views with colleagues from the industry. A forum such as this allows me an opportunity to communicate our concerns and challenges as regulators, and hopefully also gain a better understanding of your needs and expectations as market participants. My topic today is on the opportunities and challenges for regulators of electronic trading.

**Introduction**

1. Globalisation, deregulation, exchange demutualisation and advances in IT and telecommunications technology have revolutionised financial markets in the last decades or so. As you may be aware, NASDAQ, which was set up in 1971, was the world’s first electronic stock market. It took 35 more years for global exchanges to migrate their trading processes to electronic systems, but it is now clear that the days of exchange floor trading are coming to an end. Over the past years, traditional floor-based futures exchanges in the US such as NYMEX have also offered trading on electronic platforms. As exchanges have implemented electronic trading systems with higher efficiency and greater speed, we have witnessed revolutionary changes in stock market trading. We have observed increasing competition among exchanges through mergers and acquisitions; increasing competition among exchanges, alternative trading systems and brokers; and the emergence of new trading tools.

2. To say it is a challenge for regulators to keep up, is an understatement – more so, perhaps, because we have to simultaneously keep an eye on striking an appropriate balance between facilitating market development and protecting investors.

(1) On the one hand, the drivers of change can bring numerous benefits to markets and market participants – most obviously, they enable higher efficiency, lower costs and greater choice.

(2) On the other hand however, they can also have a broader impact on the market – for example, they may lead to changes in market structure and thus introduce new regulatory issues.
3. As regulators, our job is to find an appropriate balance between the two – not always easy when there are conflicting interests and views, and a constantly evolving financial landscape.

4. What I propose to do today is talk about some of the recent changes and developments that have taken place in the area of electronic trading, and share with you my thoughts on some of the more challenging regulatory issues that these have presented. In the interest of time, I will focus on just two developments – but these are, I think, significant developments. The first is the emergence of alternative trading venues, and second is the increasing use of highly advanced trading tools.

So starting first with alternative trading venues

5. In recent years, there has been a frenzy of M&A activity among exchanges to create larger trading networks, and not even the oldest and biggest of them have been immune to this trend. Take for example the NYSE/Euronext merger, the Nasdaq/OMX merger and the CME/CBOT merger.

6. At the same time, exchanges have also started to branch out into new markets like derivatives and commodities to attract new liquidity pools and to boost their revenues. For example, NYSE Euronext has purchased a 5 percent equity interest in India’s Multi Commodity Exchange, and Eurex has increased its stake in European Energy Exchange to 44%.

7. But the change that has perhaps had a much greater impact on the structure of financial markets, has been the emergence of an increasing number and variety of alternative trading venues. Not surprisingly therefore, this change has also posed some of the greater regulatory challenges.

8. There is an increasing demand from buy-side firms to move their portfolio in blocks, and to do so with minimum market impact and information leakage. Conventional exchanges are unable to meet these firms’ needs as they commonly trade in smaller value, charge high trading tariff, and sometimes even display broker identifiers. Consequently, alternative trading venues have emerged to provide buy-side firms with anonymous block trading at lower transaction costs.

9. These alternative trading venues are often backed by some of the world’s largest investment banks which are also members of the conventional exchanges themselves. These alternative venues compete directly with conventional exchanges, although they may not always provide the full range of services provided by a conventional exchange. They also offer varying degrees of transparency and accessibility – some are fully displayed markets like exchanges, while others are what are now commonly called “dark liquidity pools”. Also, some are accessible to a wider investor base while others are essentially internalised broker crossing engines, available only to the brokers’ own clients.

10. Some of these alternative trading venues have succeeded in taking away a significant portion of business from conventional exchanges. For example, Bats ECN traded more than 1.18 billion shares on 23 January 2008 and claimed an 8 to 10 percent market share in US equities.
11. These alternative trading venues pose some specific regulatory challenges. For example, how do we ensure a level playing field between conventional exchanges and these new trading venues? What level of pre- and post-trade transparency should they provide? And what should be done to ensure that the operation of these alternative trading venues does not lead to liquidity fragmentation to the detriment of the market as a whole? These are some of the more significant issues that the markets – and regulators in particular – have to tackle, and I would like to elaborate a bit more on each.

Starting first with ensuring a level playing field

12. It is important that the regulatory framework caters for alternative trading systems in such a way that it takes into account their similarities and differences vis-à-vis conventional exchanges. This is crucial to facilitating a level playing field. All things being equal, regulation should aim to facilitate fair competition among different market players and business models, and not give an unfair competitive edge to any one over another. Regulators in many jurisdictions have thus worked hard to incorporate provisions that endeavour to achieve a level playing field. In the US and Europe, in particular, specific rules and regulations have been put in place to address concerns about level playing field.

13. In Hong Kong, the legislation is not quite so specific. The SFO does however establish a fairly flexible framework for the regulation of automated trading systems. This flexibility allows for the level of regulation to be commensurate with the size, nature, operation and potential impact of the ATS in question and thereby achieve a more level playing field.

14. The lack of specificity in our legislation is however not surprising. Alternative trading systems have been around a lot longer in the US and Europe, where they have developed rapidly. Asia is however starting to see the emergence of such platforms as many of the more established ones from the US and Europe increasingly look to explore business opportunities in this region. Given the experiences in the US and Europe, there is no doubt that regulators in Asia will also have to start reviewing their regulatory frameworks to see what enhancements are needed.

15. For example, in Australia, alternative trading systems are also looking to make an appearance. I believe there are currently three applications pending. The applications have raised some interesting issues about the ASX’s role as market operator and supervisor, and thrown into question the current co-regulatory model between ASIC and ASX. Part of the problem seems to be the extent to which the ASX is embedded into Australian system. For example, there is much reference to the “ASX” specifically in the Australian Corporations Act, as opposed to just “an exchange”.

16. In Hong Kong, as I mentioned already, our legislative framework allows for a fairly flexible approach to regulating alternative trading systems. It also allows for different regulatory approaches depending on whether or not an alternative trading system provider also performs traditional dealer functions. If it does, it is typically regulated under Part V of the SFO and required to obtain a Type 1 and Type 7 licence. If it does not perform traditional dealer functions, it is typically regulated under Part III of the SFO and required to obtain authorization under that Part. However, the business model of each alternative trading system can be quite different and in some cases, also quite complex. As a result, it may not always be so straightforward to decide if a proposed system is better suited to Part III or Part V. It is
therefore always helpful for market participants to discuss their proposals with us at an earlier stage.

17. Nevertheless, I would say that our regulatory regime seems to have worked quite well so far – we have had successful applications under both Part III and Part V. However, as with all aspects of our legislation and regulations, we do keep our framework under review in light of advances in technology and developments in the marketplace.

Let me now turn to pre- and post-trade transparency and liquidity fragmentation.

18. A key concern about alternative trading systems is the accompanying fragmentation of previously centralised trading. This can undermine liquidity and transparency in existing exchanges, and consequently, the quality of price-formation for the market as a whole.

19. Liquidity fragmentation can take different forms, but the two more common forms are perhaps –

(1) internalisation – which is where brokers fill client orders internally or arrange trades among their clients, and

(2) preferencing – which is where brokers route client orders to other brokers or to ATSs

20. These types of trades contribute to reducing liquidity in the reference market, simply by virtue of the fact that fewer orders get posted there. This in turn raises difficult questions about the extent to which the broker’s client is really achieving best execution.

21. Regulators in both the US and Europe have put in place regulation requiring best execution, particularly in the context of internalisation and preferencing of trades.

22. Regulation NMS in the US aims to enhance competition among markets, and opportunities for interaction of investor orders. Among other things, the rules facilitate access to quotations in different trading centres, and therefore also best execution. They also establish uniform quoting increment, thereby promoting greater price transparency and consistency.

23. In Europe, MiFID requires firms to take all reasonable steps to obtain best execution for clients, taking into account relevant factors such as price, costs, speed, size, likelihood of execution and settlement, etc.

24. In Hong Kong, we do not have similar regulations and requirements, but then again we do not have alternative trading venues here where investors can trade Hong Kong securities – and the situation is likely to stay unchanged in the foreseeable future given the SEHK’s monopoly which is enshrined in the SFO. However, given the trends in the market place and the advances in technology, the SFC and other regulators in the region do need to keep an eye on the international development of this issue.

So that covers what I wanted to say about new trading venues. Let me now talk about the increasing use of highly advanced trading tools.
25. Along with the emergence of alternative trading venues, we have also seen the emergence of a vast array of highly advanced trading tools – tools that allow institutional investors to trade faster and to better control order execution. Speed and timing are of the essence in electronic trading today. Even a second is now intolerably long for sophisticated traders who measure the time it takes to transmit an order in milliseconds.

26. The more common trading tools today are algorithmic trading or direct market access in general (or DMA for short). Most of you here will of course be far more familiar with these than me, so I will not go into a detailed description of them. Instead, let me go straight to discussing the regulatory challenges that they present.

27. And the first point to make is that with many of these advanced trading tools, the regulatory concerns are not so much about the provision of the trading tool, but rather on the control and risk management side. This is because the increased trading speed can amplify any unintentional errors in the execution process like fat fingers and over-trading, which can then have a systemic impact on the market or raise regulatory concern. It is important therefore that brokers who provide these trading tools ensure that there is sufficient pre-trade monitoring and control of orders entered into their trading infrastructure using such trading tools.

28. Secondly, with the growing use of DMA, regulators and exchanges also have a more important role to play in market surveillance, but of course brokers are still the first line of defence against improper trading behaviours. As you know, institutions are increasingly using multiple DMA services. In other words, they access the exchange market through more than one firm. In such cases, it is very difficult (if not impossible) for a single firm to monitor the clients’ overall trading activities and identify potential market abuses. Regulators and exchanges therefore need to work closely with the industry to protect the integrity of our market.

29. Another concern that these new trading tools raise is systems concerns. The tools help increase trading speed, or facilitate the automatic generation of time-sensitive orders based on the changing market data that it receives. They can therefore have a tremendous impact on market activity. Where the technology facilitates the placing of a large numbers of orders, there may be concerns about system capacity at exchanges. In extreme cases, the failure could raise concerns about system stability for the entire market. There would therefore seem to be an obvious need to have some regulatory oversight over the use of these tools.

30. In addition, brokers may from time to time offer new algo trading strategies or customise some algo trading strategies to suit the needs of their clients. Such new or customised strategies may not always have been fully tested under different market conditions. There is a risk therefore that these new trading tools may behave unexpectedly under unforeseen or extreme market conditions, and thereby cause some unintended impact on market activities and the market. It is therefore important to ensure that the new trading tools are sufficiently tested by brokers before they are offered to be used, and that there are proper and adequate control procedures for stopping their use when they are found to be behaving unexpectedly.

31. IOSCO is currently looking into issues relating to the use of some of these advanced trading tools. For example, it is currently conducting a survey of its member jurisdictions on
the regulation of DMA. It has also begun a study on the risk management of DMA at the intermediaries’ level.

32. Although the IOSCO survey is not yet complete, the preliminary observation is that most exchanges in major jurisdictions including the NYSE, LSE, ASX, etc have established specific requirements for members providing DMA service. Their members are permitted to provide DMA services only if they have received confirmation or certification from the exchange regarding their systems. It seems therefore that the exchanges themselves are also concerned about the potential negative impact that DMA services may have on their own trading systems, particularly in extreme market situations.

33. In Asia, electronic trading is still developing and evolving and so we do not yet have specific regulations on the use of DMA or other advanced trading tools. It is however an area that we are looking into, and we will no doubt also make reference to IOSCO’s work in this area when the results of their study are released.

Concluding remark

34. So that covers what I wanted to say. Just one last point I would like to emphasise. Financial markets today are evolving at a faster pace than probably ever before. It is in the interest of investors, market participants and the market as a whole to encourage this development. As regulators, we recognize this and therefore welcome the changes that advances in technology bring. However, we must at the same time be alert to the risks that new technologies and developments can pose for the market as a whole, and endeavour to address these pragmatically. We therefore encourage market participants, such as yourselves, to explore new ideas and strategies, but would also request that you seek as early a dialogue with us as possible so that issues and concerns can be thrashed out with minimum disruption to time-tables. Ultimately, it is in everyone’s interest to implement new proposals that not only make business sense, but regulatory sense as well.

Thank you.