

**Remarks by Dr Victor K Fung, Chairman of the Fung Group, at the CAE-HKAES
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**INNOVATING IN THE NEW GLOBAL ECONOMY
– THE HONG KONG-PRD ADVANTAGE.**

**President Tong, Professor Choi, Professor Zhou, Minister Hou, Distinguished
Guests, Ladies and Gentlemen:**

Introduction – *The Hong Kong Advantage*

**It is a great privilege and honour to be here. I am excited to speak on this
important topic. I also wish to congratulate the organisers on the timing of this
this conference. To my mind, it is absolutely perfect.**

**But before I go into the theme of my talk – Innovating in the New Global
Economy - the Hong Kong-PRD Advantage – let me step back and take look from
a broader perspective at some of the trends I see happening in the world.**

Three billion new middle-class consumers

**In my mind's eye, the past 30 years – roughly the period from 1980 to 2010 and
then from 2010 onwards – and the next 30 years can be depicted as two gigantic
waves.**

The first wave has been all about the Globalisation of Production - dispersing the making of consumer products to networks of companies organised into global supply chains across the world. This has been made possible by the entry of 1.5 billion new workers into the global workforce, many, of course, in China.

While key elements of the Globalisation of Production continue – and will continue - the second wave is all about the Globalisation of *Consumption*.

At the Fung Global Institute we estimate that the next 30 years will see the emergence of 3 billion new members of the global middle class as wages rise in the key production countries, many of which are centred in Asia.

The digital revolution

Adding speed and momentum to globalisation's second wave is the digital revolution. It is empowering consumers as never before through technologies embedded in smart phones.

As the world of bricks and mortar gives way to bricks and clicks, or omni-channel (also known on the Chinese Mainland as “O2O, or “online to offline”) mass production is giving way to mass customisation. Markets are fragmenting into a large numbers of smaller and smaller niches.

Consumers are becoming directly involved in what they buy, where it is made and how they buy it. This is fundamentally affecting the way we do logistics and distribution, the way we manufacture and, importantly, even the way we design and innovate. It goes all the way back to the ideas stage.

Iterative innovation

To elaborate, innovation has traditionally been a process of innovators and technicians, often in isolated labs, perfecting a single prototype that can be mass produced later on for consumption. The development of that prototype is typically a major upfront cost. In the era of mass customisation, however, when products and services need to appeal to multiple niche markets, innovation is becoming much more iterative. Hence, each iteration in the process needs to be a lot more affordable.

To use the jargon of Silicon Valley, it is all about “test and trash”. What they are really talking about is the concept of rapid experimentation. You solicit copious consumer feedback from test markets then re-design and test again – to the point, sometimes, of re-starting the entire process, if necessary. All the way from the very beginning is a series of continuous feedback loops.

As MIT and other leading players in the new economy, like Alibaba’s Jack Ma, have declared, we are now in the era of not just B2b, not just B2C but C2B -- consumer to business. Consumers actually indicate and dictate to companies what they need or wish to buy, rather than the other way round (where companies come up with a product they want consumers to like).

This is a very dramatic paradigm shift and one that I believe plays directly to the combined strengths of Hong Kong and the PRD. We are not only where East meets West, but where the two great waves I talked about earlier – the globalisation of production and now the globalisation of consumption – are overlapping and producing models of global supply chains that are far more sophisticated for the omni-channel future.

Innovation in Hong Kong

Hong Kong's forte is, to my mind, not so much creating new technology - which frankly is hard to do without a military-industrial complex or space programme. It is more about innovating with new business models.

When Deng Xiaoping established the Shenzhen Special Economic Zone, in 1980, Hong Kong took our knowledge as a manufacturer and our networks of overseas customers and applied these to the new situation. Working with the PRD and other emerging economic regions, companies based in Hong Kong, like Li & Fung, came up with the idea of dispersed manufacturing and global supply chains. This business model innovation disrupted the vertically-integrated production system that prevailed at the time and, today, governs the making of consumer goods in most of the world.

The trigger 35 years ago was that policy change. But more often the catalyst for business model innovation is, in fact, technology. I can immediately think of two present-day examples applicable directly to Hong Kong.

One is 3D printing. As you know, this technology has been used for decades to create highly-intricate shapes for highly specialised use, making parts for space ships; medical applications etc. The next innovation, in my mind, is to move the 3D printing technology closer to the end consumer - not just by making it more affordable for home use – which is, perhaps, the ultimate end -- but by taking it in the direction of mass customisation.

Again, to elaborate, a 3D printer instantly multiplies the offerings of a traditional retailer. In a very confined space (imagine a convenience store) you

can sell a much larger range of products and make items to order – customise. This automatically changes your whole business model. I speak not from theory but from an actual experiment we ran at the Fung Retailing Group. If you remember the large inflatable duck that was in Hong Kong’s harbour, we customised 3D-printed yellow duck collectibles at Toys “R” Us. They sold out immediately at the consumer level. We plan to continue such experimentation on a larger scale.

Aerial imaging is another example of where technology can be a catalyst for a business model innovation with huge implications in the real world. Why? Because of the technical sophistication and affordability of drones produced by companies such as Shenzhen’s DJI. With small camera crews, it is now possible to film in locations that were once inaccessible, from creative angles that were once impossible, and with smaller budgets that were once unrealistic. The main technology breakthroughs are the advanced sensors and an improved gimbal for stabilising the camera when the drone is flying. However, the business model innovation will be how it will totally disrupt movie-making and potentially allow Hong Kong’s renowned film industry to retake the initiative in the whole region.

Technology is also a catalyst for a rising generation of young entrepreneurs and SMEs in Hong Kong.

According to Invest Hong Kong, there are now more than 1,000 startups in co-work spaces, incubators and accelerator programmes around town. Many offer mentoring, training and access to investors. This cutting edge business ecosystem is attracting international media attention. Indeed, Forbes magazine

has described Hong Kong as a hotbed of startup activity and “a powder keg of a techonomy waiting to explode”.

Innovation in the PRD

Hong Kong is not alone in attracting international attention. Shenzhen has become a “hotspot” in the global phenomenon known as the “maker movement”.

“Makers” are what we once called tinkerers and do-it-yourself technologists (in America they call them Radio Shack hobbyists). Only, today, this class of inventors is more empowered than at any other time. They have access to computing power and data analytics that previously only large companies could dream of. Makers are also empowered by crowdfunding and other alternative financing, by open-source software, plus transformative new materials emerging from material science laboratories. Moreover, they know how to connect with supportive online communities around the world.

In the language of inventors, a maker’s first prototype is the “0-to-1” stage. The next 50 pieces are probably made by hand. But beyond that – to go from 50 to 50,000 pieces – makers need a simulated manufacturing environment and access to consumer feedback. The focus in the past has been on the 0-to-1 stage – the first prototype. Now, because of the fragmentation of markets, you need to get feedback then go back to the design stage and you need the hand-samples (the 1 to 50) to find who would even take your ideas. Then you need to do real test markets from the 50 to 50,000. These pieces must be produced

quickly and cheaply and taken to the market for feedback before the innovation process can continue. Beyond 50,000 you do not have to worry. The Walmarts of this world are already taking the product to the large factories for mass production. So what we are really talking about in the innovation process is that we must go beyond the 0-to1. We must go from the 1-to-50 and the 50-to-50,000, and then to the mass production process. These are new stages in the iteration of the supply chain that need to be looked at seriously.

Shenzhen, with its concentration of electronics manufacturers and its shift to higher-technology, is a paradise for makers. Factories there take orders for small lots that enable makers to test prototypes on an iterative basis in surrounding markets – at costs that are affordable.

At the same time, these factories are reinventing themselves as hardware innovation platforms for “when prototypes are ready to iterate”, in the words of Seeed Technology Limited, a leading such facility in Shenzhen. Moreover, Seeed Technology and others add value with their expertise in hardware engineering and supply chain management, and with their production and distribution networks. They enable makers to transform into start-ups and entrepreneurs. Their products go from conception to market faster, cheaper, and with less risk of expensive mistakes in the form of large quantities of unsellable goods.

This is the future “sweet spot” for PRD factories in the Omni-Channel Age. Indeed, Shenzhen’s “makerspaces” are already commanding the attention of China’s leaders (Premier Li Keqiang’s visit to Chaihuo Maker Space earlier this

year made the news). Expectations are on the rise that makerspaces will be a new growth engine as China's economy moves into higher gear with innovation.

Innovating together

In the early 80s, the Hong Kong-PRD partnership was all about rationalising the manufacturing process. I believe today's paradigm is all about rationalising the innovation process, on a mutually-reinforcing symbiotic basis.

The old model was Hong Kong as the shop front taking orders to mass produce goods according to OEM specifications, using vast assembly lines in the PRD. That was the final stage of a global supply chain where, frankly, the highest value-added was captured somewhere else in the earlier stages by others.

The new model is Hong Kong and the PRD participating and collaborating far higher up the supply chain, at the early stages of innovation where ideas for products or services are conceived, prototyped and iterated. Think of what this means in terms of expanded scope to add value, increase margins and create better, more stimulating jobs on both sides of the boundary.

Especially with the rise of the maker movement in Shenzhen, Hong Kong and the PRD have fresh opportunities to build up each other's strengths.

Incubators and labs are a key area for closer collaboration. People may argue that Hong Kong already has science and technology parks, testing laboratories and related facilities. This is, of course, very true. However, even if we make the 0-to-1 prototype in a lab here, we still need to think about the next 1-50 pieces

and the 50-50,000 that I talked about, and beyond. For this, we need to tie up with makerspaces, science parks, technology institutes, labs and high-tech zones in the PRD. This is how we will establish what I consider the High-Tech Global Supply Chains for the 21st century. Officials, academia and business on both sides of the boundary should intensify efforts to connect Hong Kong startups with these PRD facilities, to mutual benefit. Officials should also make it easier for inventors to cross back and forth over the boundary with prototypes at various stages of development.

Innovators in Hong Kong should waste no time to take advantage of the proximity of the PRD as a very valuable test market nearby. Shenzhen alone has a population of more than 10.5 million, with per capita GDP close to US\$22,000. Its tech-savvy lifestyle and consumer culture reflects the city's long exposure to Hong Kong and international business. Moreover, the Greater PRD area is now a conurbation of 11 cities with a combined population of 65 million in a three-hour "living circle" tightly integrated by road, inter-city rail and bridges.

In the other direction, looking at the issue from the Mainland's perspective, innovators, inventors and makerspaces in the PRD need access to effective IPR protection as production moves closer to market. That is where Hong Kong can help. We can also connect them to customers globally through our trading networks and international trade fairs.

Our knowledge of global bricks-and-mortar distribution and retail networks will absolutely be key. Because if you look at the bigger picture, the whole world is going to be changing from the bricks-and-mortar world. Yes, there is going to be a new economy. But that also has its limits. The future is going to be about

the combination of the two into an omni-channel world, which is the bricks-and-clicks model I mentioned earlier. Hong Kong's knowledge of the bricks-and-mortar world and how that will be changing, when combined with the technology and other innovations available from the Mainland, becomes a very powerful combination for the future. So, everything is in place, in my mind, for Hong Kong and the PRD to create the new global omni-channel partnership.

Hong Kong can also play a bigger role in cross-boundary startup finance. But first we need to accelerate innovation in our own financial sector. It means going one level down from venture capital, to early stage angel investing in startups. Hong Kong was the first in Asia 30 years ago to adopt the venture capital model, which fuelled a boom in entrepreneurial business across the region. Hong Kong today is still the centre for venture capital and private equity investing. However, now Asia's entrepreneurs really need a new service which is to go one layer deeper and one layer earlier in the innovation process through angel investing. This is where we can partner young people with ideas and drive with established people who have knowledge of business and the world; providing seed capital at a much earlier stage. My vision and hope is that Hong Kong will become the centre in Asia for angel investing, like we did 30 years ago for venture capital, i.e. going one level down in terms of our own innovation.

It is equally important for entrepreneurs in Hong Kong's more traditional sectors to shift from the old ways of doing business and running organisations to new ways of driving their operations and growth, through innovation. Given the speed at which the global economy is evolving, it is becoming urgent for small and medium-sized enterprises (SMEs), the backbone of Hong Kong's

economy, to power up their business models by embracing the digital era in multiple dimensions. Organisations, facilities, training programmes and consulting services exist in both the public and private sectors to assist and accelerate this essential upgrading effort. There are also Government funding schemes. Local industry associations have a key role to play by raising awareness among their members and galvanising SMEs into action.

The future: “demo and deploy”

Ladies and gentlemen, the motto of MIT’s Media Lab – one of the world’s great laboratories for technological innovation – used to be “demo or die” (get into the prototype stage and do a demo). In recent times this has changed to “deploy or die”, which mirrors the shift I have tried to describe.

Hong Kong and the PRD, combined, live up to both mottos. We demonstrate the commercial viability of new products and services. And we deploy technology in innovative ways that create new business models. This gives us a huge competitive advantage.

I strongly believe that the future will be defined by the 3 billion digitally-empowered members of the new middle-class, of which I spoke earlier. Success will hinge on developing products and services that appeal to them on a more customised basis – the smaller and smaller niche markets and the fragmentation of the market, and the move towards mass customisation.

As innovators in this more complex global economy, Hong Kong and the PRD need to leverage each other’s strengths even more than we did 30-some years

ago. Back then, we effectively changed the world's production system with our global supply chains. I have no doubt that, together, we will play a leading role in the next iteration of the global business model.