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SCC
智慧城市聯盟
Smart City Consortium

Electronic Identity

Connecting all Global Smart Cities

發展數碼個人身份

貫通各國智慧城市





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About the Smart City Consortium (SCC)

The Smart City Consortium (SCC) comprises a group of professionals from different corporations and organizations with the aim to provide opinions and suggestions to the Government for formulating related policies and standards in the development of Hong Kong as a world-class smart city. We encourage worldwide collaboration with different stakeholders to create the right ecosystem, which fosters innovation and sustainable economic growth for Hong Kong.

關於智慧城市聯盟 (SCC)

智慧城市聯盟 (SCC) 匯聚一群來自不同公司和機構的專業人士，為香港發展成為一個世界級的智慧城市，在政策和標準層面提供專業意見和建議。我們鼓勵與全世界不同的持份者合作以創造合適的生態系統，促進香港創新及經濟的可持續增長。

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S M A R T E R
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H O N G K O N G

The Government started to invite tender for the system of electronic identity (eID) in June this year, marking a milestone for the smart city development in Hong Kong.

eID is a key infrastructure of a smart city. Right now, different public and private institutions have their own digital identity system, which results in a lack of connectivity and fragmentation of data collected. In this respect, the upcoming eID, which serves as a bridge between different online services, can provide a comprehensive solution to the above issue.

The eID provides private entities with the application programming interface (API) and data services. Online service providers can thus develop add-on and other applications to connect all online services based on the eID framework. At the same time, the authority should consider blockchain as an effective tool to protect the personal information and privacy of citizens.

Smart City Consortium (SCC) signed a cooperation agreement with the mainland Third Research Institute of Ministry of Public Security in 2016, aiming to connect the eID across the border. Furthermore, SCC has joined hand with the Hong Kong Association of Online Brokers and the Asia PKI Consortium to develop a framework for cross-border remote identity authentication and investigate the possibility of replicating that to different applications in the long run.

Upon the official launch of eID, we hope that the public and private sectors will take the lead to deploy eID as a single gateway to enter their online services and roll out a variety of life-changing applications to citizens. Once the general public has experienced the benefits and convenience brought by eID, they would then proactively support and engage its development. This is what we call by Public-Private-People Partnership.



Mr. Eric YEUNG
楊全盛先生
President
會長

政府於本年六月就數碼個人身份 (eID) 進行公開招標，為香港智慧城市發展打開新的一頁。

數碼個人身份是智慧城市的核心基建。現時不同的公私營服務都有各自的網上身份，缺乏互通之餘，亦令收集到的數據碎片化。而eID作為貫通不同網上服務的統一身份，正正能解決以上問題。

我認為未來的eID需要為商業機構提供開放應用編程介面 (API) 及數據服務。如此一來，服務供應商就能以此為基礎，研發更多延伸應用，令eID能連接各個範疇的網上服務。此外亦應考慮採用區塊鏈技術，保障市民個人資料及數據安全。

智慧城市聯盟早於兩年前與內地公安部第三所簽署合作協議，為兩地電子身份互聯互通打好根基；亦與香港網上經紀協會及亞洲公匙基建聯盟聯手研究跨境遙距身份認證，發掘更多兩地身份互認的應用場境。

我們希望政府部門及私營機構在eID推出後，會率先採用它作為網上服務的統一接口，為市民提供方便、多元化的生活應用。市民只要感受到eID帶來的便利，自然會樂於參與其中——這不就是聯盟一直提倡的「官、商、民合作」嗎？

eID is considered as a crucial infrastructure for smart cities. It was comprehensively mentioned in both the first *Policy Address* by The Chief Executive Mrs. Carrie Lam and the *Smart City Blueprint for Hong Kong* published in December 2017. However, many people are curious about what eID can do and what is the key technology behind. At the same time, blockchain frequently shows up in the headline. It in fact is closely related to eID. While we are rolling out the initiatives of the *Blueprint*, the successful introduction of eID with blockchain will become the key to the success of smart city.

In May this year, the Finance Committee of Legislative Council approved a funding of 112 million dollars to the Office of Government Chief Information Officer (OGCIO) to establish an online one-stop portal of eID to all Hong Kong residents for free. According to the working paper drafted by the Government, the proposed eID can connect different public services. It is also equipped with a function of legally-binding e-signature for citizens to handle contracts, statutory procedures and commercial transaction.

Before we go into the details of the wide functionality of eID, we should first go back to the basic and discuss what eID is.

Facebook account issued and certified by governments

“Before talking about eID, we first have to understand the definition of digital identity which is used on the Internet, such as Facebook and Gmail accounts,” explained Mr. Leo Chiu, consultant of Global Smart City Consortium and an experienced venture capitalist. According to Leo, eID is just a kind of digital identities. What makes it different from other digital identities is that it can be authenticated.

Facebook and Gmail account do not bind with any physical entity in the real world. We can never tell who the people behind

數碼個人身份（eID）被視為智慧城市其中一項最重要的基礎建設，不論是行政長官林鄭月娥的首份《施政報告》，還是政府於2017年12月公布的《香港智慧城市藍圖》中，都對數碼個人身份着墨甚多。但到底eID有甚麼功用？當中又牽涉甚麼技術細節？近年備受注目的區塊鏈，原來與eID關係甚廣。隨着《藍圖》的倡議逐一落實，如何善用上述的技術和應用，將成為智慧城市發展成功的關鍵。

今年5月，立法會財務委員會通過政府資訊科技總監辦公室一筆總額1.12億的撥款申請，用以建立一站式網上系統，為所有本地居民免費提供eID。政府提交的文件指出，計劃推出的eID能夠連接不同公共服務，更配備具法律效力的數碼簽署功能，方便市民處理合約、法定程序及商業交易等。eID功能甚廣，但讓我們還原基本步，先探討何謂數碼個人身份。

政府發行、認證的「Facebook帳戶」

「要討論數碼個人身份，就先要理解何謂『網上身份』（digital identity）。網上身份，顧名思義就是在網絡世界沿用的身份，Facebook及Gmail帳戶等都是其中之一。」於創投基金工作多年、全球智慧城市聯盟顧問趙敬賢先生解釋，數碼個人身份也是網上身份的一種，兩者分別在於其識別性。

Facebook及Gmail帳戶沒有與現實世界的實體掛勾，換句話說，我們無從得知及肯定一個Facebook帳戶是由誰人擁有。再者，一個人可同時擁有多個帳戶，亦能以他人名義





are owning the accounts. Furthermore, one single entity can simultaneously own multiple accounts, resulting in their low credibility and reliability. eID is featured with a direct linkage to physical entities such as a person or an incorporation, thus can be verified and trusted. Certifying authorities can base on the eID to trace from virtual to reality. Simply put, it is an online ID card.

Leo supplemented that, in a narrow sense, we also had to identify whether the owner of the eID is alive or dead. "In the past, some people stole the identity of dead persons for criminal activities. In order to further ensure the integrity and credibility of eID, we can use artificial intelligence and biometric authentication," said Leo.

As stated in Cap. 553 *Electronic Transactions Ordinance*, eID enjoys the same legal status as written signature. The Government paper showed that the e-signature of the upcoming eID will be protected by the Public Key Infrastructure which complies with international standards. In fact, many years ago, the Government issued the Smart Identity Card capable of embedding e-cert, which used Public Key technology for encryption.

開設帳戶，導致這些網上身份的可信性大大降低。數碼個人身份的特點，在於其識別性及可信性，因其與現實世界的個體掛勾，相關機構便能利用這個身份，從網上追溯到現實社會。簡單而言，它等同網絡上的個人身份證。

趙敬賢補充，狹義上數碼個人身份更要分辨eID的擁有人是否生。「過去曾出現有人盜用死者的個人身份從事不法活動，因此較高層次的數碼個人身份技術，會加入人工智能及生物識別認證。這既能保障身份可信性，亦減低被盜用的風險。」

按政府文件引述，eID將採用符合國際認可安全標準的公開密碼匙基礎建設 (Public Key Infrastructure) 作數碼簽署，根據《電子交易條例》第553條，這個電子簽名將與手寫簽名具同等法律效力。事實上，政府早於十多年前已推出可植入智能身份證的電子證書，當中正正用了Public Key的加密技術。

公開密碼匙加密

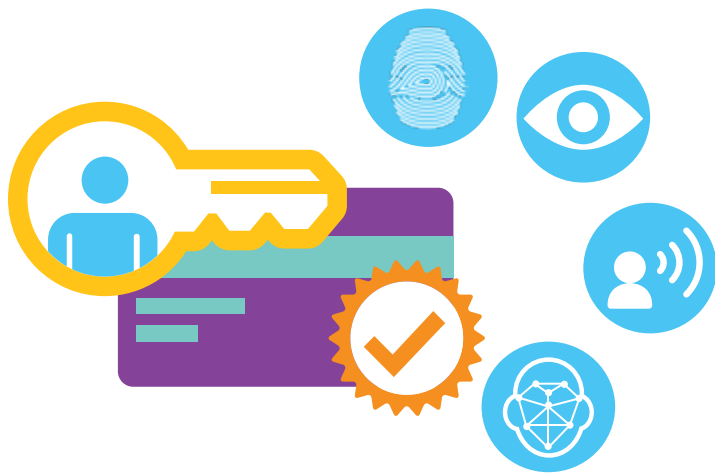
對稱加密技術在加密和解密時採用相同的密碼匙，情況就如一般門鎖，開門和鎖門都使用同一條鎖匙。今次政府採用的公開密碼匙加密 (public key cryptography) 則屬於非對稱加密技術，它在加密和解密時需分別使用公開密碼匙 (public key) 和私有密碼匙 (private key)。用一個公匙加密後，只有相對應的私匙能夠解密，因此除非用戶的私匙被讀取或盜去，其他人將無法讀取當中訊息或資料。

公開密碼匙加密難以透過電腦運算破解，比現有的數字及字母組合密碼更為安全。然而，一旦市民不慎洩露私有密匙，個人資料便有機會外洩。趙敬賢認為加入生物特徵認證，如指紋、語音、虹膜及人面識別等作雙重認證，能進一步確保個人資料安全。現階段，政府亦已開放利用智能電話或裝置提供的生物特徵技術，就eID進行認證，但相關生物特徵均

Public key cryptography

Symmetric cryptosystem uses the same key for encryption and decryption, just like we use the same key to lock and open the door. The public key cryptography used by the Government in the upcoming eID, however, is an asymmetric cryptosystem. It consists of a secure key pair, a public key for encryption and a private key for decryption. The security afforded by encryption via public key can never be compromised unless the private key is stolen.

Public key cryptography can hardly be cracked by computation, thus more secure than number-alphabet combination. However, if a citizen accidentally loses his private key, others will still be



able to steal his personal information. Leo suggested that a two-factor authentication with biometrics can further protect users' personal information. Right now, the Government enables the build-in biometric authentication of smartphones or devices in verifying eID, but relevant data of biometrics will not be uploaded to Government's database, which gives users a peace of mind. Leo believed that after a wide adoption of eID, the Government can consider to gradually introduce biometric authentication based on citizens' acceptance.

e-Business registration fixes the loophole of regulatory framework

In recent year, online shopping and services are getting more popular. The rise of online store has completely changed the consumer experience. Financial services can now take place on smartphones. Some local securities firms are developing an online remote account opening service to simplify the statutory procedure while expanding their market. However, the digitalization of services also makes citizens vulnerable to frauds and fishy sites.

Traditional retail store has a registered location and a legally-traceable business registration to protect consumers. However, when using online services, citizen can hardly check the real identity of the service providers. It is not uncommon for consumers failing to receive the products or receiving wrong product from online services. In this respect, e-business registration (eBR) provides an effective solution.

"In a nutshell, eBR is the eID of an organization," said Leo.

不會上傳到eID的後勤系統或資料庫，令用戶毋須擔心私隱問題。趙敬賢相信，隨着eID的廣泛應用，市民的認受程度日漸增加時，政府可循序漸進加入生物特徵認證。

電子商業登記彌補網上監管缺口

近年，各類服務及消費模式漸趨網絡化。網店的出現，為市民帶來截然不同的消費體驗；轉帳、投資等大部分金融服務，亦可透過智能電話處理；本地證券機構正研發跨境網上遙距開戶，拓展市場之餘，亦為投資者帶來便利。然而，網絡化同時讓各種詐騙及釣魚網站有機可乘。

實體店舖有確實的店舖地址，亦有具法律追溯效力的商業登記，為消費者提供一定保障。但市民在使用網上服務時，卻難以核實店舖或服務供應商的真實身份及可信性，市民網購後收不到貨品或貨不對辦的情況亦時有出現。就以上問題，電子商業登記（eBR）可提供有效的解決方案。

趙敬賢指出，「eBR本質上就是機構的數碼個人身份。」eBR使用的核心技術其實與eID無異，唯一分別是它的應用層面由個人提升至機構。過去市民使用網上服務時，往往因過程繁複及時間所限，難以核實相關機構身份，以致易



“The core technology of eBR is basically the same as eID. The only difference is that it applies to organization, not individual person. In the past, while using online services, citizens could not readily verify the identity of the service providers due to its being time-consuming and complicated. This made them vulnerable to frauds,” explained Leo. He also recalled that some organizations used their revoked license to run businesses, resulting in losses to citizens.

Senior Counsel Mr. Johnny Mok also pointed out that the eBR is supplementary to traditional business registration, and “for any question on the identity of online service providers, citizens can check their eBR through the certification website of the Hong Kong Post (www.ecert.gov.hk).”

Johnny added that for any update on the registration status of any organization, regulatory bodies can make announcements on the website, and this not only would fix the loophole of the regulatory framework, but would also enhance its transparency.

In the eID proposal to the Government, Smart City Consortium (SCC) suggested cooperating with the Hong Kong Domain Name Registration Company Limited to add a “verified” tag on the websites having legal eBR for easier verification. By joining hands with different departments, eBR can provide solutions to the long-standing issue of verification on the Internet. This helps to protect citizens in the era of service digitalization.

Apart from the business-to-customer level, eBR can also facilitate business-to-business services especially in the situation of cross-border commerce. Johnny highlighted the Certificate Policy for Mutual Recognition of Electronic Signature Certificates issued by Hong Kong and Guangdong in 2012. Mainland organizations can conduct background check and verification on Hong Kong organizations based on their eBR issued by the Hong Kong certification authorities. Organizations with eBR that is mutually recognized by Hong Kong and Guangdong are regulated and protected by the law in both jurisdictions, which means that any violation will become traceable by law enforcement agencies based on the mutual recognition agreement.

This practice not only provides an alternative to the existing background check procedure, which is time-consuming and complicated, but also enhances the level of trust and security of information exchange between Hong Kong and Guangdong. In the long run, we can replicate the mutual recognition framework to other countries and regions. This helps to eliminate geographic barriers, eventually realizing a true mutual-connection of services and capitals.

eID – opening a new chapter for big data

Mainland has made a big progress in eID development. Its eID builds on WeChat and Alipay which are real-name verified. Whenever citizens are engaged in any activities on these platforms, a huge amount of behavioral data relating to their identities will be created. This gives opportunities to create different innovative applications using those big data. Baihang Credit Scoring, which conducts credit scoring based on behavioral data, is one of the great examples.



墮詐騙陷阱；亦有機構被撤銷牌照後，仍沿用舊有的商業登記進行活動，令市民蒙受損失。

資深大律師莫樹聯指出，eBR可與實體商業登記互補。市民若懷疑網上服務供應商的身份，可透過香港郵政電子核證網站 (www.ecert.gov.hk) 核實其電子商業登記。假若相關機構的商業登記有任何變動，監管機構亦可透過該網站即時對外發布並更新狀態，修補監管漏洞的同時，大大提高了商業登記的透明度。

早前，智慧城市聯盟向政府遞交有關數碼個人身份的建議書，當中提到可與香港域名註冊有限公司合作，在擁有合法電子商業登記的網頁加上認證標籤以作識別。有了不同部門配合，eBR將能大大發揮作用，在服務網絡化的年代，打破互聯網世界無法識別身份的問題，保障市民的利益。

除了企業對客戶層面，eBR亦於企業對企業層面甚有幫助，在跨境商貿上尤其明顯。莫樹聯指，香港政府於2012年與內地政府落實《粵港兩地電子簽名證書互認》協議，香港政府核證機關為香港機構頒發eBR，以供內地個人及機構查詢及核實公司背景。持有互認資格電子簽名證書的企業或機構，將受粵港兩地法律保護，相關機構違反本地或內地法律時，執法機關可依據互認協議，透過註冊資料進行追溯。

這種做法不單能避免過往核實機構背景的繁複程序，廢時失事，亦能增加兩地電子訊息交換的安全度及可信性，長遠更可將互認協議拓展至其他國家及地區，打破區域局限，實現真正資金及服務互聯互認互通。

According to the working paper of OGCIO, the Government is planning to provide the application programming interface (API) to digital service providers. Therefore, we can all expect the bloom of add-on applications as eID is being rolled out.

However, there are voices in society expressing their concerns about privacy and data security coming along with big data. According to Leo, these concerns are understandable. “The protection on privacy is the key to our success in the past. The protection in Mainland is looser, yet we cannot directly copy the way China develop big data,” Leo said.

Johnny referred to the Personal Data (Privacy) Ordinance that service providers should comply with certain principles when collecting data from users, including but not limited to the prescribed consent from individuals, informing the purposes of data collection and amount of data or information collected. In Hong Kong, the Privacy Commissioner for Personal Data (PCPD) oversees the entire process.

“Abuse of personal information is not rare in recent years. There were well-known cases such as Octopus Hong Kong selling clients’ personal information in 2010, and a mobile application called *Do No Evil* in 2013. The latter provided a background check service on citizens based on the collated personal information from public domain including Judiciary, Official Receiver’s Office and Company Registry,” said Johnny. The operator of *Do No Evil* voluntarily shut down the application after the investigation by PCPD. In this case, we can see how our legal framework and PCPD protected our privacy.

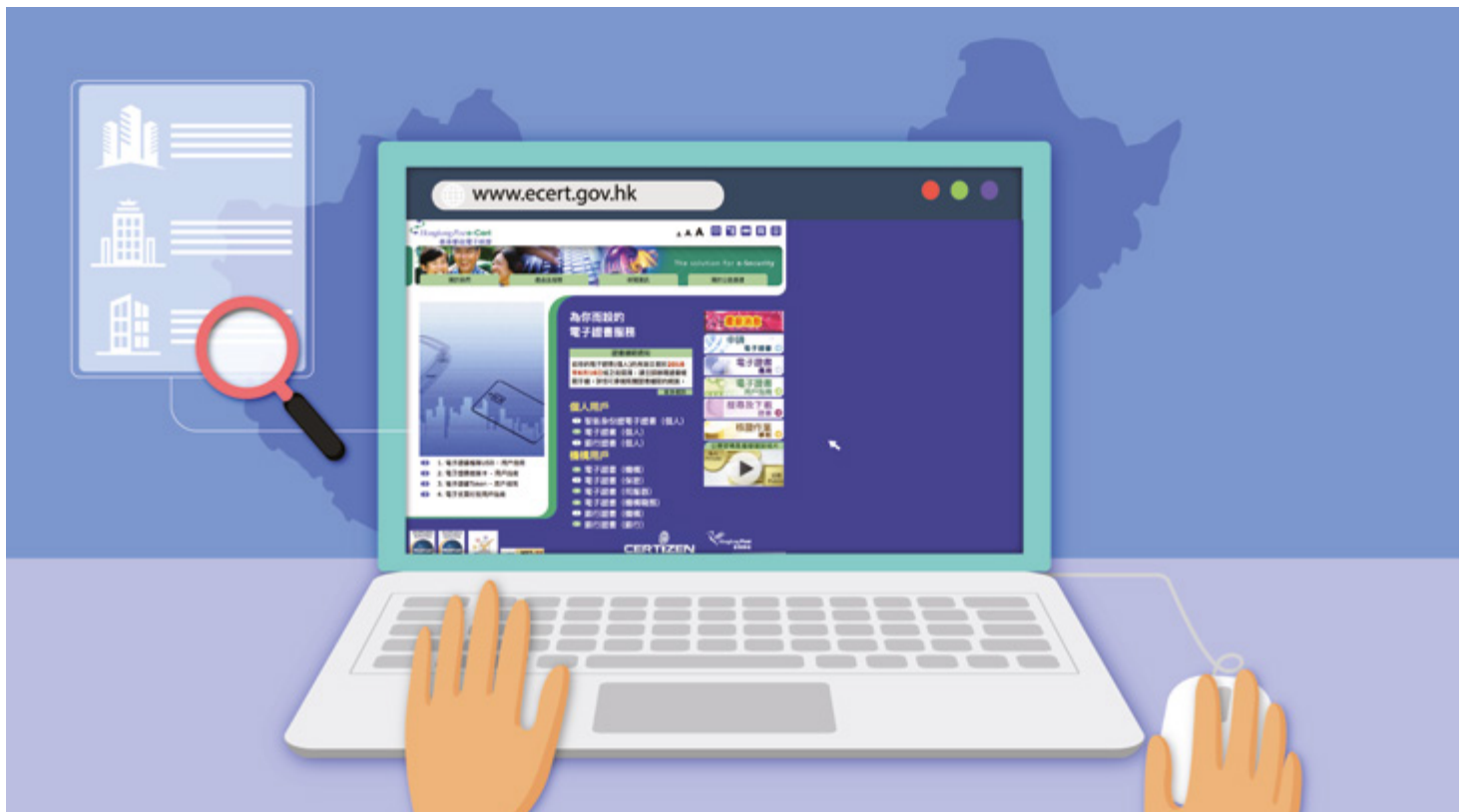
數碼個人身份創造大數據時代

中國大陸在數碼個人身份方面發展得極為快速，其eID建基於具實名認證的微信及支付寶。市民日常於相關平台進行各種消費及活動，能產生大量與個人身份掛勾的行為數據，以這些大數據為基礎的各種創新應用亦應運而生，以行為數據進行信貸評級的百行徵信就是一例。

香港政府資訊科技總監辦公室的政策文件顯示，政府有意為電子服務供應商提供應用編程介面（API），探討eID在公營及商業機構不同電子及網上服務的進一步開發，我們期待各種以eID作基礎的應用，將如雨後春筍陸續出現。

然而，社會大眾亦有擔心大數據背後的私隱及安全問題，趙敬賢對此表示理解：「對私隱的重視是過去香港成功的關鍵，內地的個人私隱保障較為寬鬆，我們不可能全盤採用內地發展大數據的做法。」

莫樹聯援引《個人資料（私隱）條例》，指出服務供應商使用市民個人資料時需考慮幾項因素，當中包括市民自願給予的明示同意、搜集個人資料的用途，以及所牽涉的數據或資料量，香港亦有個人資料私隱專員公署監督相關範疇。



International society started to treat data as a crucial asset and regulated its storage and out-bound. Mainland China has implemented *Network Security Law* which requires the network operators of critical information infrastructure to confine their data in China. In this May, the European Union enforced the General Data Protection Regulation which requires both EU-established organizations and organizations located outside EU with access to personal data in EU to comply with the new data processing standard such as the right to be forgotten and the right to avoid automated data profiling.

“While the whole world is imposing tougher restriction on data out-bound, the development of cross-border authentication of identity and related industry of personal data is still in early stage. This actually opens a window for Hong Kong,” said Johnny.

He proposed that Hong Kong should upgrade its data protection regulation to match the EU standard so that we can make the best use of our unique role in One Country Two Systems and act as a platform for data transfer and exchange for the mainland, EU and the rest of the world.

“We are trusted by Mainland, but at the same time having a legal framework which is up to the western standard. I believe that our local talents can turn Hong Kong into an international data entrepôt,” said Johnny.

Blockchain – the gatekeeper of personal data

A secure storage of data is equally crucial to a worldwide data entrepôt. Leo suggested that blockchain is most suitable for this role. Simply put, blockchain is a distributed decentralized database. “Distributed” refers to the feature that for any new entry on the blockchain, every node will have the same record. In this regard, even if the data on one of the nodes is tampered,

「近年有關濫用個人資料的案件不時出現，以2010年八達通出售客戶資料及2013年名為『起你底』的應用程式較為轟動，後者在公共領域如司法機構、破產管理局及公司註冊處收集市民個人資料，整合後讓市民以名字審查其他市民背景，該程式公司於私隱專員公署展開調查後，決定自願停止營運。由此可見香港法律對個人私隱的保障，以及私隱專員在當中的角色。」

近年各國開始將數據視為重要資產，並落實不同法規限制數據儲存及離境：內地去年6月開始實施《網絡安全法》，要求關鍵訊息基礎設施營運商在中國境內儲存個人訊息和重要商業數據；歐盟於本年5月實施《一般資料保護規例》（GDPR），要求在歐盟境內或其他要處理區內個人資料的機構遵守相關規例，當中包括賦與個人將其資料從網上刪除以及避免自動資料分析的權利。

莫樹聯指出，「各國都開始收緊數據出境限制，大大打擊了跨境身份認證以及其他牽涉個人數據產業的發展，但這對香港而言，卻是一個契機。」他認為香港應提升其對個人資料的保障，以跟上歐盟現時的標準，同時發揮一國兩制的優勢，成為中國與歐盟，以至世界各地個人數據之間的橋樑。



the other nodes can still identify the flaw; “decentralized” means that the whole blockchain consists of a number of nodes, thus it does not depend on any single entity and no single keeper can successfully amend its data.

The above two features make blockchain suitable to store the personal information of eID. By combining blockchain with personal and business eID, we can further unleash the potential of Fintech and other innovative technology. Cross-border e-commerce is a good example.

Recently, international financial institutions are working rigorously to comply with anti-money laundering directives, resulting in high cost for meeting Knowing Your Customers (KYC) and compliance requirements. SCC has suggested the use of blockchain, eID and eBR to build Hong Kong as a global database connecting different countries and jurisdictions so as to cut cost and fundamentally put an end to money laundering.

“In Hong Kong, we have a tank of talents in finance, insurance and legal field to serve this role. With the help of artificial intelligence, all frauds will become detectable,” emphasized Leo.

In the past, Hong Kong relied on the advantages in legal enforcement and talents to win the role of international financial centre. However, while all countries are prioritizing the smart city initiatives, we need to catch up with our competitors by developing an eID system that connects all smart city applications. The Government is expected to roll out the new service in 2020, we all look forward to the positive changes it will bring to society.

他總結道：「我們有貼近西方國家的法律制度，亦因一國兩制獲國家信賴，只要善用本地人才，定能成為國際間的數據轉口港。」

區塊鏈為個人數據安全把關

要成為國際認可的數據轉口港，妥善保存數據至為重要，趙敬賢認為區塊鏈技術乃不二之選。區塊鏈本質上是一個「去中央化」的「分散式」資料庫。分散式記錄，是指區塊鏈上每有一個新的交易，每一個節點 (node) 都會記存這項交易，因此即使其中一個節點上的資料被篡改，其他的節點都能夠辨認整個區塊鏈中出現的錯誤；而去中央化則指整個系統由不同節點組成，既不依賴任何單一個體，亦無人有權更改當中的資料。

由此可見，區塊鏈這項技術非常適合作eID個人資料庫，而將區塊鏈與個人及企業的eID結合，更會為金融及創新科技發展帶來不同可能性，跨境金融就是其中一例。

近年國際金融機構都嚴厲打擊洗黑錢活動，以致過去在「認識你的客戶」(KYC) 過程及符合法規上花費甚高。智慧城市聯盟早前提出利用區塊鏈、eID及eBR，將香港打造成串聯不同國家及司法區的國際標準數據庫，節省成本之餘更能杜絕洗黑錢活動。

趙敬賢強調：「香港在金融、保險及法律上人才充足，非常適合擔任這角色，如果再加上人工智能技術，所有『老千』將無所遁形。」

香港過去有賴完善的法規、制度及人才優勢，贏得國際金融中心的地位，但各國發展智慧城市的同時，香港亦要加快腳步，才能趕上鄰近地區的步伐，發展能串聯不同智慧城市應用的數碼個人身份就是當中關鍵。政府預期數碼個人身份將於2020年推出，我們非常期待它為社會帶來積極的改變。





International ICT Expo eID: Key to Smart City Blueprint Success

國際資訊科技博覽

電子身份認證：智慧城市發展藍圖的成功關鍵

Organized by the Hong Kong Trade Development Council (HKTDC), the International ICT Expo 2018 was held at the Hong Kong Convention and Exhibition Centre from 13th to 16th April. With funding from the Innovation and Technology Commission, the Smart City Consortium (SCC) launched the Smart City Pavilions at the Expo. On the opening day, more than 100 professionals from the industry attended the seminar on eID: Key to Smart City Blueprint Success, where Ir. Allen Yeung, Government Chief Information Officer and a number of expert from financial, IT and cybersecurity sectors discussed the latest development and applications of electronic identity (eID).

由香港貿易發展局主辦的國際資訊科技博覽，在4月13至16日於香港會議展覽中心舉行。智慧城市聯盟獲創新科技署資助，於大會設立展區，更在開幕當天舉辦「電子身份認證：智慧城市發展藍圖的成功關鍵」專家論壇，獲近百位業界人士出席，政府資訊科技總監楊德斌先生與多位金融、資訊科技及網絡安全專家，更於論壇上與大家分享電子身份認證的發展及最新應用。



SCC President Mr. Eric Yeung delivered the opening remarks.
智慧城市聯盟會長楊全盛先生致歡迎辭。

Seminar on eID development

In his opening remarks, Mr. Eric Yeung, President of SCC, expressed his heartfelt thanks to HKTDC, the co-organizer, and Asia PKI Consortium, the knowledge partner, for their comprehensive support. He also stressed that eID could strengthen protection on confidential transaction data and act as an impartial evidence to deal with any dispute among the participants over transactions.

At the seminar, five speakers delivered keynote speeches on eID development. Mr. Oliver Ng, Chairman of the Hong Kong Association of Online Brokers (HKAOB), outlined the latest trends of eID authentication development in Hong Kong. He also stated that HKAOB had been working closely with SCC and Certizen to advocate and



Mrs. Junu Rani Das Kailay, Controller of Certifying Authorities of the Government of India, stated that eID authentication is an efficient and secure approach to increase overall performance of Internet services.

印度政府認證機構代表Mrs. Junu Rani Das Kailay指出，電子身份認證能以安全快捷的方式，提升各種網上服務的效率。

專題論壇 講解電子身份細節

在歡迎辭中，智慧城市聯盟會長楊全盛先生感謝協辦機構貿易發展局及知識夥伴亞洲公匙基建聯盟的鼎力支持，並指出電子身份能為交易資料進行保密，同時作為交易各方處理爭議時的有力依據。

五位嘉賓分別在專題演講中致辭。首先，香港網上經紀協會主席伍子權先生講述香港電子身份認證的發展，其組織亦一直與智慧城市聯盟及翹晉電子商務有限公司合作，推動具法律效力的電子身份認證，以實現非實體的「認識你的客戶」（Knowing Your Client，簡稱KYC）程序；來自印度政府認證機構的Mrs. Junu Rani Das Kailay則指出電子身份認證能以安全快捷的方式，提升各種網上服務的效率，是構建智慧城市不可或缺的基礎設施。



Mr. Oliver Ng, Chairman of the Hong Kong Association of Online Brokers, outlined the development trends of eID authentication system in Hong Kong.

香港網上經紀協會主席伍子權先生講述香港電子身份認證的發展。

世界銀行顧問Ms. Prema Shrikrishna在演講中談及區塊鏈的概念及應用，並指出區塊鏈的去中介化特點能提高電子身份的保密性，亦能協助金融機構進行各類背景調查；楊德斌先生則分享了《香港智慧城市藍圖》的重點內容，又指去年發表的這份政策文件只是「1.0」版本，未來相關部門將不停更新藍圖，與時並進。最後，Nexusguard亞太區網絡安全方案副總裁李侍龍先生從網絡安全角度，講解發展數碼個人身份時要注意的細節，否則可能因小失大。他認為隨着不同服務電子化，黑客或網絡攻擊將越發頻密，各機構需做好準備，保障網絡數據及服務安全。



Ms. Prema Shrikrishna, Consultant of the World Bank Group, talked about the concept and applications of blockchain technology.

世界銀行顧問Ms. Prema Shrikrishna在演講中談及區塊鏈的概念及應用。

群策群力 推動智慧城市發展

專題演講後的座談會，由普華永道合夥人兼亞洲公匙基建聯盟副主席季瑞華先生擔任主持，並邀請了Ms. Prema Shrikrishna及智慧城市聯盟秘書長兼電子身份委員會主席楊文銳先生上台，就電子身份在商業上的應用交流心得。楊先生指出香港的商用電子身份認證已有一定發展，只要有相關的政策支持，配合現有的法規優勢，將能大大配合各種網上服務及電子商貿的發展。

智慧城市聯盟兩位創辦人及榮譽會長葛珮帆議員及鄧淑明博士，在座談會後分別致辭，感謝各位講者分享電子身份的多項相關議題，令與會者對此有更全面而深入的了解。



Mr. Jeremy Lee, Vice President of CyberSecurity Solutions, APAC of Nexusguard Limited, pointed out that we should attend to the cybersecurity issues when rolling out the eID strategies.

Nexusguard亞太區網絡安全方案副總裁李侍龍先生指出，發展數碼個人身份的時，更要注意網絡的安全細節。



Mr. Allen Yeung highlighted the key areas of the Smart City Blueprint for Hong Kong.

楊德斌先生分享了《香港智慧城市藍圖》的重點內容。

promote a legally binding and enforceable eID authentication system that could enable the electronic KYC (Know Your Customer) function. Mrs. Junu Rani Das Kailay, Controller of Certifying Authorities from the Indian government, pointed out that eID authentication could serve as the backbone of a smart city to expand online services capabilities in a secure and efficient manner.

Ms. Prema Shrikrishna, Consultant of the World Bank Group, explored the concept and applications of blockchain technology with the audience. She also indicated that the decentralisation feature of blockchain could enhance the confidentiality of eID and facilitate various background checks in the financial services industry. When highlighting the key areas of the *Smart City Blueprint for Hong Kong* published last year, Mr. Allen Yeung stated that the Government would keep track of the technological advancement and changing needs of our community by updating and expanding the version 1.0 of the *Blueprint*.



A group photo was taken after the keynote speech session.

一眾嘉賓在專題演講後一起合照。



A group photo was taken with the guest speakers and students from the Hong Kong Shue Yan University after the seminar.

論壇完滿結束，一眾嘉賓講者與樹仁大學的學生合照。

As the last keynote speaker, Mr. Jeremy Lee, Vice President of CyberSecurity Solutions, APAC of Nexusguard Limited, highlighted the cybersecurity matters that would occur in the process of eID development. In the light of digitalisation of various services, he suggested appropriate security measures to protect the Internet data and online services against increasingly sophisticated cyberattack and hacking.

Collective measures to facilitate smart city development

Following the keynote speech session was the panel discussion hosted by Mr. William Gee, Partner of PwC China and Vice-Chairman of Asia PKI Consortium. Guest speakers Ms. Prema Shrikrishna and Mr. Gary Yeung, Honorary Secretary of SCC and the Chairman of eID Committee, were invited to discuss applications of eID in business transactions. Mr. Yeung stated that Hong Kong's commercial e-authentication system, which has been growing in sophistication, and our coherent legal system could provide a stable platform to facilitate the development of e-commerce and other online services, once the Government takes steps to give more policy support to the system.

Our two Founders and Honorary Presidents of SCC, Dr. Hon. Elizabeth Quat, and Dr. Winnie Tang, delivered their speech after the guests' sharing. They expressed the sincerest gratitude to all the speakers for their generosity and insightful sharing on the eID development.

The Smart City Pavilions were also the charming spots outside the forum. SCC presented a number of innovative solutions and applications developed by our partners, including Certizen, Hitachi East Asia Limited, HKAOB, Hundsun.com Co., Ltd., iASPEC Services Limited, Kamfu International Technology Limited, PriSec Limited and We Software Limited.

Without the generous support from our partners, the exhibition and seminar would not have proceeded with such a great success. By providing more comprehensive support and strengthening cooperation with the authorities and our business partners, SCC will remain committed to the implementation of the *Smart City Blueprint for Hong Kong* to build a full-fledged smart city.



Ms. Prema Shrikrishna (centre) and Mr. Gary Yeung (right), SCC's Honorary Secretary and Chairman of eID Committee, were invited to share their views on the potential and current development of eID, while Mr. William Gee, Partner of PwC China and Vice-Chairman of Asia PKI Consortium was the moderator of the forum.

座談會邀請到Ms. Prema Shrikrishna (中) 及聯盟秘書長兼電子身份委員會主席楊文銳先生 (右) 進行分享，並由亞洲公匙基建聯盟副主席季瑞華先生擔任主持。



Grand occasion of the Smart City Pavilions.

智慧城市聯盟展區盛況。

專家論壇以外，智慧城市聯盟亦在展區中展出多個企業夥伴的創新應用，這些應用分別來自翹晉電子商務有限公司、日立遠東有限公司、香港網上經紀協會、香港恒生網絡有限公司、永泰信息技術服務有限公司、金賦國際科技有限公司、PriSec Limited及慧訊軟件有限公司。

是次展覽及專家論壇得以成功舉行，實有賴各夥伴全力支持。智慧城市聯盟未來將繼續與各政府機構及企業組織合作，從不同角度推動智慧城市發展，為落實《香港智慧城市藍圖》中各政策項目作出貢獻。



Opening Remarks for Seminar on eID: Key to Smart City Blueprint Success

Eric Yeung, President of Smart City Consortium

「電子身份認證：智慧城市發展藍圖的成功關鍵」
專家論壇歡迎辭

智慧城市聯盟會長楊全盛先生

Distinguished guests, ladies and gentlemen,

On behalf of the Smart City Consortium (SCC), it is my great pleasure to warmly welcome you all to the Seminar on eID: Key to Smart City Blueprint Success. It is encouraging indeed to see so many experts from many countries in this afternoon. I would like to express my sincere gratitude, especially those of you coming from abroad, for joining us and sharing your valuable insights.

It is our honour to join hands with Hong Kong Trade Development Council in this seminar, as well as our special thanks to the support from our knowledge partner Asia PKI Consortium and the secretariat of SCC for all of their diligent work which made this seminar possible.

As we know that in a well-developed smart city, it is important to ensure that our online identities are well protected at all time; confidentiality of the transactions is properly safeguarded and the transacting parties can rely on the indisputable digital evidence to resolve any dispute if it should arise. "Electronic Identity" (eID) is widely accepted as the answer to these challenges. Today's seminar is a very meaningful event where we can have more information on the roles of eID in the smart city development, including implementations, non-face-to-face verifications, Blockchain technology and cyber-security, from the sharing of our experts.

For those who may not be familiar with us, SCC was formed in March 2016 by a group of professionals from different corporations and industries. It aims to share our expertise, advice and views in collaboration with other professional bodies to assist the Government in developing Hong Kong as the leading smart city in the region.

In the past year, with the continuous support of our members, SCC has successfully organized and supported over 200 local and international events with over 10,000 participants. To facilitate the international exchange of experience and to accelerate business opportunities, we have signed 27 memorandums of understanding with worldwide smart city organizations. Many professional views and ideas have also been exchanged with the overseas experts during our visits.

Ladies and gentlemen, thank you once again for taking your time to join us this afternoon. It is our sincere wish that your work and business will benefit from your participation in this seminar.

Thank you.

各位嘉賓、各位朋友：

我謹代表智慧城市聯盟熱烈歡迎各位出席「電子身份認證：智慧城市發展藍圖的成功關鍵」論壇。今天能夠有多位來自世界各國的專家聚首一堂，為我們分享獨特見解，實在令人鼓舞。我在此衷心感謝各位嘉賓，特別是遠道而來的朋友的支持。

智慧城市聯盟非常榮幸能與香港貿易發展局攜手舉辦是次論壇，亦特別感謝亞洲公匙基建聯盟和智慧城市聯盟秘書處的協助。論壇能夠順利舉行，實有賴這些專業夥伴的鼎力支持。

眾所周知，一個發展成熟的智慧城市必須提供安全可靠的網上身份。這個網上身份既要有效防止交易資料外洩，亦要為交易各方提供可信賴的數碼證據以解決交易糾紛，而「數碼個人身份」正正被視為應對以上挑戰的解決方案。今天論壇內容豐富，多位專家將從具體落實措施、遙距身份認證、區塊鏈和網絡安全等方面，為我們講解數碼個人身份在智慧城市發展中扮演的角色，肯定會令我們獲益良多。

也許並非在座每一位都對我們有所認識。智慧城市聯盟在2016年3月成立，匯聚一群來自不同業界的專業人士，致力與其他機構合作，向政府提供專業意見及政策建議，以推動香港發展成為區內領先的智慧城市。

全賴各位成員的熱烈支持，聯盟去年成功舉辦並支持超過200項本地和國際活動，累計參加人數超過10,000人。為促進國際間的經驗交流並締造更多商機，我們與世界各地不同的智慧城市組織簽訂了共27份諒解備忘錄，更在多次考察中與外國專家交流。

最後我想再次感謝各位在百忙中抽空出席論壇，希望是次活動能對大家的事業有所裨益。

多謝各位！



13th-16th
Apr, 2018

Seminar on eID: Key to Smart City Blueprint Success
「電子身份認證：智慧城市發展藍圖的成功關鍵」論壇

With funding from the Innovation and Technology Commission, the Smart City Consortium (SCC) launched the Smart City Pavilions at the International ICT Expo 2018 from 13th to 16th April. On the opening day, SCC held a seminar on eID: Key to Smart City Blueprint Success, where Ir. Allen Yeung, Government Chief Information Officer and a number of experts from different industries discussed the latest development and applications of electronic identity (eID).

智慧城市聯盟獲創新科技署資助，於4月13至16日在國際資訊科技博覽2018設立展區，並於開幕當天舉辦「電子身份認證：智慧城市發展藍圖的成功關鍵」論壇。政府資訊科技總監楊德斌先生與多位業界專家，於論壇上與大家分享電子身份認證的發展及最新應用。



17th
Apr, 2018

Delegation to Knowledge Capital, Osaka
代表團參觀大阪Knowledge Capital



On 17th April, 2018, SCC formed a delegation to Knowledge Capital at Osaka, Japan to visit their latest smart city technologies.

智慧城市聯盟一眾成員於2018年4月17日組成代表團，到日本大阪的Knowledge Capital參觀交流，認識當地最新的智慧城市技術。

1st

Jun, 2018

Signing MoU with the U.S. Consulate General Hong Kong and Macau 與美國駐港澳領使館簽署諒解備忘錄



On 1st June, 2018, Founder & Honorary President Dr. Hon. Elizabeth Quat representing SCC signed a Statement of Intent with the U.S. Consul General Mr. Kurt Tong. Both parties undertake to promote the development of smart city and entrepreneurship in innovative technology. This also marks the 27th memorandum of understanding since our inauguration.

2018年6月1日，創辦人及榮譽會長葛珮帆議員代表智慧城市聯盟，與美國駐港澳總領使唐偉康先生簽署諒解備忘錄，雙方將攜手推動智慧城市及初創發展。這是聯盟成立至今簽署的第27份諒解備忘錄。

5th

Jun, 2018

Greater Bay Area eID Forum 大灣區互聯互通發展研討會

Greater Bay Area eID Forum, organized by Smart City Consortium and co-hosted by the Chinese Manufacturers' Association of Hong Kong, Certizen Limited and Asia PKI Consortium, was held successfully on 5th June, 2018. Numerous government, business and technology professionals were invited to share and discuss how to create an inter-connected eID authentication system in the Greater Bay Area.

由智慧城市聯盟主辦，香港中華廠商聯合會、翹晉電子商務有限公司及亞洲公匙基建聯盟合辦的「大灣區互聯互通發展研討會」，已於2018年6月5日完滿舉行。研討會獲多位政商界及科技界人士出席，一同分享及討論如何塑造大灣區電子身份互聯互通認證體系。





Greater Bay Area eID Forum

大灣區互聯互通發展研討會

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Development as smart cities has gradually become a global trend. The Hong Kong Government also announced a detailed plan for the construction of smart city and actively promoted related measures. Among them, eID, as an important infrastructure of smart cities, has drawn wide attention in society. Participants of the eID Forum discussed the authentication of eID and analyzed how to use the authentication system to facilitate the flow of capital, goods and information in cross-border and cross-jurisdiction situation.

In her welcoming remarks, Dr. Hon. Elizabeth Quat, Founder and Honorary President of SCC, expressed her sincere gratitude to the Government and all sectors of the community for their efforts to promote the application of eID in the Greater Bay Area. Afterward, our guests Legislative Councillors Mr. Chan Kin-por, Mr. Cheung Wah-fung and Mr. Chan Chun-ying shared their expectation to have a secure, legally recognized and inter-connected platform for trade and business transaction between Mainland and Hong Kong.

During the sharing session, Mr. Oliver Ng, Chairman of the Hong Kong Association of Online Brokers shared the experience of a pilot project of eID mutual recognition scheme between Guangdong and Hong Kong. Mr. William Gee, Partner of PwC China and Vice-Chairman of Asia PKI Consortium, explained how blockchain technology can protect the security of personal information in a macroscopic way. During the Q&A session, Mr. Johnny Mok, Senior Counsel, highlighted that the Hong Kong Government should give priority to upgrade the privacy-related law for public interest after the official launch of eID.

A legal and recognized e-transaction framework, in addition to handling contract with e-cert which is legal binding in both Mainland and Hong Kong, can mutually foster the digitization and automation of taxation and lower the barrier and risks for cross-border e-commerce. SCC hopes that this framework will soon connect the database of all governments along the Belt and Road corridor so as to enhance the synergy for economic growth.

發展智慧城市已逐漸成為全球趨勢，香港政府亦公布了建設智慧城市的方案和細節，並積極推動各項相關措施。其中，數碼個人身份（eID）作為智慧城市的重要基礎設施，獲社會各方廣泛關注。研討會圍繞電子身份認證進行討論，並分析如何以身份互認系統促進跨地區及不同法制下的資金流、物流及訊息流。

智慧城市聯盟創辦人及榮譽會長葛珮帆議員於研討會開幕致辭中，感謝政府及社會各界共同努力，推動eID於大灣區的應用。及後，陳健波議員、張華峰議員及陳振英議員於嘉賓致辭時，均期待粵港兩地能夠加快推出安全且合法的互聯互通交易平台。

在研討會分享環節中，香港網上經紀協會主席伍子權先生，就粵港兩地電子簽名證書互認的試點應用進行分享；普華永道合夥人兼亞洲公匙基建聯盟副主席季瑞華先生，則以宏觀角度分享如何以區塊鏈技術保障個人資料安全；莫樹聯資深大律師則在提問時段指出，香港法律應從大眾利益出發，期望日後廣泛應用eID時，政府能加強個人私隱保障方面的法例。

一套合法合規的電子交易體系，配以電子證書處理於兩地均有法律約束力的合同，能促進內地及香港區內稅務的電子化及自動化，降低跨境商貿的門檻和風險。智慧城市聯盟期望，這個體系於不久的將來可覆蓋「一帶一路」沿線國家的政府數據庫，促進整個區域經濟的協同發展。



Opening remarks for Greater Bay Area eID Forum

by Dr. Hon. Elizabeth Quat,
Founder and Honorary President of SCC

智慧城市聯盟創辦人及榮譽會長葛珮帆議員
「大灣區互聯互通發展研討會」開幕辭



Welcome everyone to the Greater Bay Area eID Forum hosted by the Smart City Consortium (SCC) and supported by The Chinese Manufacturers' Association of Hong Kong, Certizen Limited and Asia PKI Consortium.

SCC was founded in March 2016 and comprises a group of professionals from different corporations and industries, with the aim of providing opinions and suggestions to the Government for formulating related policies and standards in the development of Hong Kong as a world-class smart city. We encourage worldwide collaboration between different stakeholders to create the right ecosystem, which fosters innovation and sustainable economic growth of Hong Kong.

Since the establishment in 2016, SCC has signed 27 memorandums of understanding with 13 different countries and regions, so as to work jointly with our global partners to promote smart city development around the world.

We also hosted more than 200 events with a total of over 10 thousand people having participated, aiming to foster the development of Hong Kong as a world-leading smart city. We hope to become a pioneer in nurturing the culture of smart living, and collaborate with the Government to formulate the strategic plan for smart city development.

大家好，歡迎大家出席由智慧城市聯盟主辦，香港中華廠商聯合會、翹晉電子商務有限公司以及亞洲公匙基建聯盟支持協辦的「大灣區互聯互通發展研討會」！

智慧城市聯盟於2016年3月成立，匯聚一群來自不同行業和機構的專業人士，為香港發展成為一個世界級的智慧城市，在政策和標準層面提供專業意見和建議。我們鼓勵與全世界不同的持份者合作以創造合適的生態系統，促進香港創新及經濟的可持續增長。

自2016年成立以來，智慧城市聯盟與來自13個國家及地區簽訂共27份諒解備忘錄，致力與各界共同推動智慧城市發展。

智慧城市聯盟已舉辦超過200多場活動，出席人次過萬，聯盟致力於促進香港成為世界領先的智慧城市，期望成為創造智慧生活文化的先鋒，並與政府合作制定智慧城市的發展戰略。

大家或許知道，智慧城市發展已漸漸成為全球的主題，香港政府亦公布了有關智慧城市建設的方案和細節，積極推

As you may know, smart city development has become a hot topic on the globe. The Hong Kong Government has also published the master plan and the details for the construction of smart city. Among all the policies, electronic identity (eID), as an important infrastructure of smart city, has been put under the spotlight. It is not a physical entity like the ID card, nor any written, black and white identity document. It can be recorded in a chip such as in bank card or even a customized, portable wristband for any service.

Two years ago, SCC has signed an agreement of strategic framework with the eID Operator of the Third Research Institute of Ministry of Public Security (Third Research Institute) to enhance the inter-connectivity and mutual recognition of eID between Mainland China and Hong Kong. The framework sets the foundation to progressively introduce various cross-border online eID applications, including healthcare, ticket-purchasing and transportation, in a secure, convenient and smart manner.

Right now, led by the Third Research Institute, Mainland has developed a citizen online identity authentication system, which means that eID can verify the identity of citizens without putting their privacy at risk. The system has already been widely adopted in the mainland market. Meanwhile, in Hong Kong, the proposal of eID has been submitted to the Legislative Council for discussion and approval. The upcoming eID is expected to be deployed earliest in 2020. With the adoption of eID, related arrangement for cross-border e-cert, e-transaction and e-commerce in the Greater Bay Area can be catalyzed. At the same time, more cross-border services will become viable, realizing the vision of unimpeded exchange of goods, capital and information.

On 24th October, 2016, the Hong Kong Securities and Futures Commission released the *Advisory Circular to Intermediaries*. The circular was a breakthrough for the application of eID in Mainland and Hong Kong as it allowed mainland citizens to open accounts in Hong Kong in a non-face-to-face manner, thus how to ensure a legal connection between the mainland and Hong Kong's citizens/institutions has become our veterans' biggest concern. On 9th November, 2016, the mainland eID operators and the certification authority in Hong Kong have agreed on a mutual recognition framework to enhance the inter-connectivity of eID. The framework



進各項措施。其中，「數碼個人身份」(eID)作為重要的智慧城市發展基礎設施，是各方關注的焦點，它不是像身份證那樣的實物證件，也不是明文的身份訊息。它是一個小芯片，可以搭載在任何一張銀行卡等卡片裡，甚至製成手環戴在手上都沒問題。

智慧城市聯盟早在兩年前，已與公安部eID運營機構，簽署了「中港電子身份互聯互通戰略框架協議」，促進兩地電子身份認證互聯互通，逐步實現跨境醫療、跨境購票、跨境車輛等跨境互聯網應用場景，提供更安全、更便捷的智能電子身份應用。

目前，內地在公安部第三所的牽頭下，已開發了公民網絡身份認證系統，即eID可以實現在保護公民私隱的情況下，完成身份認證，這已在內地市場廣泛使用。香港方面也已提交立法會事務委員會討論，最快於2020年開始啟用。屆時，藉著粵港兩地電子簽名證書的相關安排，可以提供更多大灣區內電子交易的跨境服務，促進兩地物流、資金流和信息流的暢通。

2016年10月24日，香港證監會發布《致中介人的建議通函》，增加了內地居民以非面對面方式在香港開立賬戶的方法，為兩地電子身份應用帶來了突破。如何確保兩地居民及





will first be examined by the securities industry, followed by other industries like insurance, investment and remote healthcare. As far as our understanding, the whole system is ready to go. Therefore, we have invited Mr. Oliver Ng, Chairman of the Hong Kong Association of Online Brokers, to give us a detailed introduction of the first pilot test of eID mutual recognition in the securities industry. We hope that the pilot test can benefit citizens in both Mainland and Hong Kong, and act as a demonstration of innovation to the entire Greater Bay Area and along the Belt and Road corridor.

I would like to take this opportunity to express my gratitude to the Office of Government Chief Information Officers, Securities and Futures Commission, the Hong Kong Association of Online Brokers and the whole industry for their countless efforts. The Government has completed the consultation on the *Hong Kong Smart City Blueprint* in 2017, and the Chief Executive, in her first *Policy Address*, has suggested to inject 700 million dollars for the development of smart city infrastructure, in which eID has been listed as the top priority. eID enables citizens to handle online transaction in public and private entities via a one-size-fit-all electronic identity and authentication, opening a new chapter of new business and services model which serves citizens and consumers directly. Together with the Guangdong-Hong Kong-Macao Greater Bay Area Development, we can clearly see the tremendous opportunities and potential for the mainland and Hong Kong!

Lastly, I wish the forum a great success. Thank you.

機構合法、合規地對接，是我以及業界人士關心的重點。為此，我們多方面展開行動，2016年11月9日，內地eID機構與香港政府認證機構達成互認協議，雙方將共同推動兩地公民eID的互聯互通互認，首階段將應用到證券業，未來還會延伸到保險業、基金、遠端醫療等領域。據了解，目前整套系統已經準備就緒，因此，我們特地邀請到香港網上經紀協會主席伍子權先生，為我們詳細介紹兩地電子身份互認在證券業先行先試的方案，相信能夠造福兩地居民，為整個大灣區以及國家「一帶一路」項目樹立創新的示範模板。

在此，多謝政府資訊科技總監辦公室、證監會、香港網上經紀協會等業界共同努力。政府在2017年完成《香港智慧城市藍圖》的諮詢工作，在《施政報告》中建議投放7億元推動發展智慧城市關鍵的基礎建設項目。其中的eID被列為首項，好讓市民能以單一的數碼身份和認證進行政府和商業的網上交易，促進直接面向市民和消費者的新經濟服務模式。加上粵港澳大灣區規劃的發展，將為中港兩地帶來龐大機遇！

最後，順祝本次研討會圓滿成功！謝謝大家。

New financing platform energizes Hong Kong startup scene

Originally posted on EJ Insight on 6th February, 2018

商務配對找資金推動創科

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智慧城市聯盟創辦人及榮譽會長



Can you imagine what Hong Kong will look like 10 or 20 years from now? By that time, can we still rely on the four major industries currently accounting for nearly 60 percent of GDP – trading and logistics, tourism, financial services, and professional services – and continue to enjoy prosperity and stability with a per capita GDP still among the world's top 20, higher than Germany, Canada or the United Kingdom?

The Fourth Industrial Revolution is expected to bring about the unprecedented challenges by the Internet and new technologies. Some people predicted that it would come like a tsunami. Charlie Ang, founding president of The Innovators Institute in Singapore, said that in the face of such an uncertain future, if we wanted our society to have a sustainable vitality, we would have to create a preferred scenario and plan backwards, a strategy called backcasting.

We could no longer depend on forward planning which promotes linear thinking that “can be dangerous in a non-linear future”. Backcasting, on the other hand, encourages “imaginative thinking and futures design to make the necessary quantum leap”.

你想像香港10年、20年之後是什麼模樣？到時我們能否依靠目前佔GDP近六成的四大產業——貿易及物流業、旅遊業、金融業、專業服務養活大多數香港人，令我們繼續繁榮安定，人均GDP維持全球首20位，比德國、加拿大或英國更高？如果你也心有疑慮，可以構想你心目中的未來，然後規劃如何達成理想。

「第四次工業革命」中，互聯網和新科技帶來的改變之大，可能前所未見，有人預言會如海嘯般撲向人類。新加坡創新者研究院創會主席Charlie Ang指出，面對這樣不確定的未來，如果我們要社會持續活力充沛，現在可以做的，不是過去幾十年來的循序漸進，順勢而行，而是逆向思維，甚或大家都需要擁抱的創意思維。

初創企業往往愛體現創新意念，因此世界各地在建構智慧城市時，鼓勵和培養創業風氣成為重點政策，因為大家

When building smart cities in various parts of the world, people recognizes that encouraging and cultivating a pioneering spirit should be a key policy. As startups embrace innovative ideas, everybody expects that it would open up new prospects for the future, bring vitality to the city while creating quality employment opportunities.

However, the success rate of entrepreneurship remains low. Even though universities in Hong Kong are highly commended for overall performance in subjects like engineering, science, technology and computer science within the top 50 in the Times and QS World University rankings, startups struggle under unfavorable environment, contending the high cost of living and the lack of crowdfunding channels. This is a major reason why our startups seldom appear in the “unicorn” (startup with a valuation of US\$1 billion) list.

To foster the development of startups, it is important that the innotech ecology can establish a well-functioning production chain. In addition to the government taking the lead, it is equally important to connect startups with the investors.

However, according to data from Pitchbook, a venture capital research firm, the cases of global investment in the early stage of startups, including seed funding, increased year by year in the past 10 years and reached 13,000 in 2014, but dropped to less than 6,000 in 2017. In other words, it is becoming increasingly difficult for startups to raise funds now.

Therefore, Smart City Consortium has set up a business matching platform, LinkedSmart, which was launched on January 30th this year. The goal of LinkedSmart is to connect the world's investors and startups, and further leverage on Hong Kong's advantages as an international financial center to promote innotech development.

With the various measures put forward by Chief Executive Carrie Lam in her *Policy Address* in October last year, plus the LinkedSmart platform, I hope a better environment will be established to facilitate the flourishing of Hong Kong's innovative industries and speed up our smart city development.



都希望初創生力軍可以為未來打開新局面，為城市增添生命力，同時製造高質素的就業機會。

只是創業向來成功機率不高，加上香港生活和居住成本高昂，也欠缺眾籌融資渠道，縱使香港的大學質素為人稱道（不論是整體大學排名，抑或工程、科技、電腦等學科，在泰晤士或QS世界大學排名也必有幾間本地學府躋身全球50大之列），但就是較少培育出全球關注的「獨角獸」（即估值超過10億美元的未上市初創企業）。

要促進初創的發展及營造有利環境，除了政府帶頭外，建立完善的產業鏈對整體創科界的生態環境亦同樣重要，而連結初創及投資者更是關鍵。創投資金研究機構PitchBook的數據顯示，全球對處於創業早期企業的投入，包括種子資金，過去10年投資宗數逐年攀升，至2014年高峰期的逾1.3萬宗，可是之後逐步回落至2017年的不足6,000宗。換言之，現在初創要籌集資金倍感困難。

因此，智慧城市聯盟成立了一個商務配對平台「領智網」（LinkedSmart），於1月30日正式啟動，目標是連結世界各地的投資者和初創，進一步發揮香港國際金融中心的優勢，推動創科發展。隨着行政長官於去年10月的《施政報告》中提出多項措施，為業界拆牆鬆綁，加上「領智網」這個商務配對平台，我希望能促進本地創科百花齊放，加速推動香港智慧城市的發展。



領智網網頁
Website of LinkedSmart

HKT Smart City Solutions 智慧城市方案

Communicating with the environment around us is the key to better living in our increasingly complex and crowded cities. By connecting the 'things' that drive the city through the Internet of Things (IoT), we can improve mobility and transportation, reduce traffic congestion, prevent crime, care more for each other, and preserve a better environment.

HKT is at the forefront of this technology advancement, and has already established a comprehensive IoT ecosystem with multiple connectivity technologies to provide data management and analytics platforms that will help Hong Kong to become a smarter city. Among a multitude of activities, HKT is leading the way in three particular areas.

與周邊環境溝通，有助令我們日趨擠擁的居住環境更智能化。透過物聯網 (IoT) 連繫整個城市的「事物」，我們可以改善流動性、紓緩交通擠塞、防止犯罪，締造更關愛及更優質的環境。HKT作為IoT技術及應用的先導，已建立了安全的物聯網生態系統，在配合多種連接技術的同時，我們更提供數據管理及分析平台，協助香港成為智慧城市。HKT的方案可歸納為以下三個範疇：

IoT vehicle fleet management solutions are integrated with Real-Time Imaging – an effective, safe and congestion-easing solutions for everyone.

Smart parking – with remote reservations and navigation tools for property managers at parking facilities in airports, private-housing estates, shopping malls, and commercial buildings – assist drivers and enhance the overall image of the properties.

物聯網車隊管理解決方案與實時影像結合，安全高效運送貨物，減輕交通擠塞。

智能泊車系統為機場、私人屋苑、商場及商業大廈的停車場營運者提供遙距預留泊車位及導航指引，方便駕駛者之餘，同時提升物業管理公司形象。

Monitoring the health status and location of patients in medical clinics so immediate assistance can be provided when required. This can also be applied to create a more caring environment for the elderly, young people, kids, and the disabled.

監測病人的健康狀況和位置 – 適用於醫療診所，在急切環境下提供即時協助。這方案同時可應用於其他社群，如老弱婦孺、青少年、兒童與殘疾人士。

24x7 facility monitoring – detect potential hazards due to negligence, such as water leakage from water pipes, air quality and smoke etc.

Analyzing the energy consumption of different equipment to make the city a more environmentally friendly living place.

24小時全天候監測容易因疏忽而引起嚴重事故的事件，例如大廈水管滲漏，空氣質素及煙霧等。

監測並分析多種設備的能源消耗有關數據，協助物業管理公司制訂相應措施，令整個城市變得更環保。



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(澳洲股票代碼：FTC)

FinTech Innovation Spirit

金融科技創新精神

FTC is a Hong Kong-registered financial technology (FinTech) company established in December 2010 and was listed on the Australian Main Board ASX from November 2012. FTC has always committed to innovation in Internet + FinTech, with more than 100 independent invention patents and intellectual property rights. In the world's fastest-growing and leading mobile payment market in China, FTC took the lead in 2014 to propose the concept of Integrated Payment and successfully developed the T-LINX Intelligent Acquiring and Settlement Banking System. After 7-8 years of consistent effort and adherence to strict financial regulations, FTC T-LINX system is currently serving more than 300 banks and acquirers. The number of merchants being served reached one million, and continued to grow.

FTC is well versed in rapid development of the technology, and began R&D in the financial blockchain technology in 2016. FTC also ranks among China's top 10 operators in terms of number of patent held in field of blockchain independent invention. FTC continues to be based in Hong Kong. Using its leading-edge financial technology and traceable & irrevocable blockchain technology, combined with industry experience in financial technology, the Company expects to assist the development of Hong Kong Smart City in areas such as Smart Economy, Digital Payment, Smart Living & Health, and Smart Mobility, to implementing a comprehensive technology upgrade to benefit Hong Kong society and enhance overall urban competitiveness.

FTC是一間香港註冊的金融科技公司，成立於2010年12月，並於2012年11月在澳洲主板ASX上市。FTC一直致力於互聯網+金融科技的創新，擁有100多項自主發明的專利及知識產權。在全球移動支付發展最快速及領先的中國市場，FTC於2014年率先提出「融合支付」概念，並成功研發出T-LINX智能收單及結算銀行系統。經過長達七八年的努力及一直堅持遵循嚴格的金融法規要求，FTC的T-LINX系統目前服務的銀行及收單機構達300多家，其他商業客戶也達百萬，並且持續增長。

FTC深諳技術發展快速，在2016年開始進行金融區塊鏈技術研發，並在中國區塊鏈自主發明專利持有數量排名前10強。FTC繼續紮根香港，利用領先的金融科技和可追溯及不可篡改的區塊鏈技術，並結合金融科技的行業經驗，期望能夠協助香港智慧城市的發展。在智慧經濟、數字支付、智慧生活及健康、智慧出行等領域，推行全面技術升級，造福香港社會及提升整體城市競爭力。



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