NATIONAL INFOCOMM AWARDS 2016

Winner for the Category of Most Innovative Infocomm Product/Solution

Company: **CashRun Pte Ltd**

Product/Solution: **CashShield**

Product/Solution Description
CashShield is a real time fraud prevention solution designed with big data and machine learning, which is optimised through a unique financial risk management algorithm. A big challenge currently exists in the payment ecosystem; online merchants suffer the greatest losses from fraudulent chargebacks with a lack of protection from credit card companies such as Visa and MasterCard, and payment service providers (PSPs). Whenever a fraudulent chargeback is filed by a consumer, the merchant has to compensate the consumer, on top of the losses he/she made from the lost product.
This issue is exacerbated by the fact that the existing fraud solutions are extremely costly and ineffective in dealing with fraud. Traditional fraud solutions often rely on manual reviews, are very complicated to set-up, taking as long as 3-6 months and use various restrictions and rules that alters user experience whilst turning away genuine customers, effectively killing conversion rates. CashShield is able to remove all these unnecessary and harmful restrictions to boost customer experience and sales with results visible within 1-2 weeks.

CashShield's self-developed algorithm generates optimized decisions, eliminating the need for manual reviews and shifting businesses towards full automation. We stand by our decisions with by offering an unprecedented 100% Chargeback Protection for both physical and digital goods.

Benefits
What sets CashShield apart from other traditional fraud solutions is that CashShield eliminates the need for manual reviews while removing hard rules. This means the solution effectively lowers the cost of managing fraud, allowing greater business potential for companies that adopt this solution.

The benefits of CashShield include:

1) Increased acceptance rates
   a. The usual approach to fraud prevention is often very risk averse, or very focused on bringing fraud as close to zero as possible, which severely impacts acceptance rates and borderline genuine transactions are often turned away.
   b. CashShield's unique financial risk algorithm works to optimize revenue based on the optimal level of risk for the merchant. As a result, CashShield is able to achieve high acceptance rates (average 95-98%) for businesses, even for high risk industries. The industry average is normally 60%.

2) Increased revenue and growth
   a. Traditional hard rules and unnecessary buying restrictions (e.g. not being able to purchase beyond a certain value in a day) that turn away genuine customers and severely impact user experience can be removed with CashShield.
   b. The resultant greater flow of customers (and more transactions from returning customers) together with the higher acceptance rates both contribute to the increased revenue growth for the business.
   c. CashShield is the first and only solution in the world to provide a 100% Chargeback Protection for both physical and digital goods, making it a merchant-centric solution that provides real protection from fraud. This also allows merchants to expand globally easily with lowered risks.

3) Lowered cost of managing fraud
   a. CashShield's first-of-its-kind fully automated system is the only solution in the world that does not require human reviews and is able to eliminate all manual reviews and move businesses towards full automation.
   b. With the elimination of manual reviews, businesses can now redirect resources that were previously meant for manual reviews in more efficient areas, and focus on their core business.
   c. Full automation also means businesses can scale up operations easily without a huge jump in the cost of managing fraud.

4) Reduced fraud and chargebacks
   a. CashShield's intelligent fraud system based on big data and machine learning is able to detect coordinated fraud attacks and stop them in real time, while allowing genuine customers to pass, achieving lowered fraud rates.
   b. At the same time, CashShield's 100% Chargeback Protection covers any unauthorised transactions, safeguarding you from chargeback risks.

About CashRun Pte Ltd
CashShield was established in 2007 with the objective of pioneering research within the highly unexplored and specialized field of cyber fraud risk management to develop an optimized online fraud protection solution. Since CashShield's launch, it has helped partner merchants, including major Telcos in Europe and US, boost sales and cut cost, where they enjoy an average 220 – 1800% revenue growth (over 6 months – 2 years).

A global leader in the payments and fraud industry, CashShield has travelled around the world, speaking up on payments and fraud at various events such as the Merchant Risk Council (Brussels), World FinTech Forum (Seoul) and Millennial 20/20 (Singapore). At the same time, CashShield has accumulated various accolades, such as the Emerging Enterprise Award (EEA) 2014, the Innovation 4 Impact Award 2015 and was awarded the Productivity and Innovation Credit (PIC) under the R&D section for our one-of-its-kind optimized fraud management technology.

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NATIONAL INFOCOMM AWARDS 2016

First Runner-up for the Category of Most Innovative Product/Solution

Company: DC Frontiers Pte Ltd

Product/Solution: Handshakes

Product/Solution Description
Handshakes is a Software-as-a-Service platform that was developed to provide a simple tool to understand the complex corporate web of relationships. Curating and disambiguating data from highly-reliable sources, Handshakes is able to create an interactive map within seconds for user analysis. Beyond a one-stop platform for network analytics, DC Frontiers is also a data integrator with unique expertise in datasets "Handshaking", an IT term for the combination of different datasets.

Current clients leverage Handshakes for leads generation, due-diligence, and enforcement. The Handshakes platform combines two types of products: Corporate Intelligence and Data Enrichment to map out relationships between companies and persons in the corporate ecosystem, allowing financial services firms, regulators, corporates and researchers to gain business insight and intelligence. With their proprietary curated and disambiguated corporate information, they provide high assurance on data quality, which enables users to effectively and efficiently address their business needs.

The Corporate Intelligence products provide an innovative way of using official data (from Company Registries, Capital Markets, and Regulatory Records). The Data Enrichment products provide text-mining capabilities to process private documents and securely enrich extracted information with official data.

Benefits
1. The unique combination of Data Enrichment with Corporate Intelligence enables a unique knowledge management offering that does not only unlock but can also securely enrich a client's private data with official ground truth data.
2. The pricing model for their Corporate Intelligence products is charged by visual maps created, instead of the traditional reports-driven business model. This enables users to comprehend information much more efficiently via visual maps as they are more intuitive and a cost-efficient way of accessing and analysing large amounts of data.
3. Their products have brought real benefits and significant impact to society. (Real use cases will be elaborated in our Finals Round presentation.)

About DC Frontiers Pte Ltd
DC Frontiers Pte Ltd is a fintech company that develops and operates an analytics platform for relational information about companies and the personnel involved in their ownership, governance, and management. The company solves the problem of information overload by capturing relationship information in regulatory filings, and presenting them as visual maps of people and companies connected by their interactions with each other; and provide knowledge maps of the corporate

relationships of Singapore's listed companies. Its application provides users with direct access to the Handshakes database. The company also provides consulting services. DC Frontiers Pte Ltd was incorporated in 2011 and is based in Singapore.

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NATIONAL INFOCOMM AWARDS 2016

2ⁿᵈ Runner-up for the Category for Most Innovative Infocomm Product/ Solution

Company: **V-Key Pte Ltd**

Product/Solution: **V-OS and V-ID**

Product/Solution Description
V-OS is a software version of a hardware called Secure Element (SE). Hardware SEs (also known as smart card chips), such as secure USB dongles and hardware tokens, are expensive for organizations to manage and inconvenient for end-users. Because V-OS was developed using the same conceptual architecture that has been proven for decades in hardware SEs, V-OS can attain a level of security that was previously only possible using a hardware-based solution. Being embeddable inside any Android or iOS mobile app allows V-OS to provide a high level of security while dramatically improving convenience and reducing costs of ownership. Within V-OS's secure operating system, Trusted Applications (TAs) can be run to handle secure data storage and processing in any way that is required to enable a vast number of use cases.

V-ID PRODUCT SUITE
On top of the V-OS foundation, V-Key has developed a trust platform called V-ID. It is comprised of the three solution pillars around **Universal Mobile Identity, Authentication, and Authorization.**

Pillar 1: Universal Mobile Identity
The Universal Mobile Identity allows mobile eKYC and mobile app Single-Sign-On. A customer can open a bank account using their standard biometric passport together with their photograph. V-ID makes the mobile app secure enough for banks to trust the customer's phone as an authoritative and authentic channel for personal data collection. The information contained in this digital identity is always secured using biometrics for maximum safety. Having this Mobile Identity on the smart phone subsequently allows every app that uses the V-ID mobile SDK to enable user login with biometrics. Not only does this get rid of length registration processes (since every participating app leverages V-ID), but it establishes trust and security for the app as well.

Pillar 2: Authentication
V-ID's Authentication solutions include a SoftToken for generating OTPs, PushAuth for tap-to-authenticate flows based on secure push notifications, and ShadowAuth, a fully automated and background version of SoftToken, for the best end user experience. In addition, V-ID Authentication includes the latest in biometric verification methods, including fingerprint, eye print, voice print, facial print, and behavioural biometrics.

Pillar 3: Authorization
The authorization pillar streamlines transactions of all kinds.

a. A micro risk and fraud engine is embeddable within a mobile app, decides if a payment should be allowed. This offloads a dramatic amount of the back-end fraud processing, and enables the creation of a purely offline wallet.
b. V-ID allows the creation of highly secure digital wallets of all kinds, both online and offline. These digital wallets can be used to store tokenised credit cards, stored value, and even bitcoin and other cryptocurrencies.
c. V-ID's authorization solution also enables PKI-based document signing, which helps users streamline their paper processes and provides authenticity as well as non-repudiation.

Benefits
1. V-OS is the world's first and only virtual secure element.
   The resiliency of V-OS has been proven repeatedly, and has remained completely unbroken after 9 penetration tests overt 12 months. This level of cybersecurity hardening allows V-OS to act as a software-based root of trust on any software system, regardless of underlying hardware. In the mobile ecosystem, V-OS creates a root of trust for mobile apps that was not possible before.

2. V-OS can replace and disrupt a decades-old secure element ecosystem.
   Every SIM card and every chip-based payment card, stored value card, identity card, and access card uses a secure element. Many high-end smart phones and some specialized devices, such as cable-TV set-top-boxes, also use secure elements. In 2016 alone, 12.3 billion of these chips will be shipped. V-OS can virtualize all of the into apps and software, changing the way ordinary people live and work on a daily basis.

3. V-OS has created a new market.
    Higher compute performance and more memory than hardware SEs allows development of Trusted Applications that one could only dream of on a hardware SE. Thus, the advent of the virtual SE allows the creation of new, high-value use cases on mobile apps and IOT devices that the world has not seen before. This new digital market is rapidly expanding, and has even greater potential than the hardware SE market.

4. V-OS is a trust platform for the future digital ecosystem.
   As a software SDK, V-OS is highly scalable, adaptable, and flexible, and able to address a wide array of current and future use cases. Today, V-OS is used primarily in Android and iOS apps. However, there is no limit to V-OS's potential reach – into IOT devices such as wearables, smart TVs, smart vehicles, and smart automated machines, as well as into server and datacenter virtualization.

About V-Key
V-Key is the world leader in virtual smart card technology, and is the pioneer and inventor of V-OS, the world's first virtual secure element. This unprecedented technology not only provides extremely resilient mobile app cybersecurity, but allows the development of products and features previously never seen in an app.

V-Key's Identity, Authentication, and Authorization suite is empowering banks, government agencies, and enterprises to realize their digital ambitions. By helping

organizations with eKYC, unified mobile identity, biometrics, 2FA, virtual payment cards, and digital document signing, V-Key makes people's lives safer, more secure, and more convenient, all while maintaining trust.

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NATIONAL INFOCOMM AWARDS 2016

Merit for the Category of Most Innovative Infocomm Product/Solution

Company: **Taiger Singapore Pte. Ltd.**

Product/Solution: **HDB Virtual Assistant Project (using Taiger iConverse solution)**

Product/Solution Description

At Taiger, we specialize on information access by applying advanced AI. iConverse is a Conversational Assistant supporting both oral and written interactions. It is focused on matching and understanding meaning rather than characters thereby allowing free oral and written communication and interaction.

Singapore is building a Smart Nation by harnessing technology to the fullest with the aim of improving the lives of citizens, creating more opportunities, and building stronger communities. By using Taiger iConverse, people and businesses are empowered through increased access to data in an automatic and user friendly way. Organisations are benefiting in offering a better service and in saving costs. People are gaining flexibility and convenience.

Benefits

Taiger implemented its Virtual Assistant iConverse in HDB: a smart multi-channel virtual assistant that makes it possible to process, understand, and answer questions posed in any language about the Build-to-Order (BTO) and Season Parking programs.

Taiger iConverse solution value-adding to HDB Virtual Assistant Project includes:

- Delivered a quality and consistent multi-channel experience to customers: a consistent experience and answer when an enquiry is either typed or tapped onto a screen or spoken into a mobile device.
- Increased productivity in service delivery by empowering customers to find answers quickly online.
- Customer Experience and User Experience improvements
- Better customer support.
- OPEX reduction.

Due to the success of the HDB project, Taiger is discussing the implementation of iConverse with a large number of public and private companies in Singapore and region.

Due to the usage of advanced Artificial Intelligence the implementation is easier and the quality of the results are superior to the market. This results in more efficient use of resources and scalability to enlarge the number of areas the virtual assistant can used within an organization.

About Taiger Singapore Pte. Ltd.

At Taiger, we specialize on information access for the Fintech and Government sectors by applying and combining advanced AI (Knowledge Representation, Reasoning, NLP and Machine Learning).

At this time, we are present in three continents. Our three core products are iSearch, iConverse and iMatch:

- iSearch is an enterprise-grade search engine that exploits the meaning of information to provide more accurate search results overcoming the limitations of traditional keyword-based search and Google PageRank like approaches for corporate information.

- iConverse is a Conversational Assistant supporting both oral and written interactions. It features deflection rates of up to 93% and is focused on matching and understanding meaning rather than characters thereby allowing free oral and written communication and interaction.

- Our new iMatch FinTech solution can drastically reduce cost by automating any process involving a human reading documents including KYC, on-boarding, credit scoring, compliance, due diligence, reconciliation, AML, and much more. iMatch is able to understand, extract, cleanse, validate, and store key data points contained in digital, as well as, physical documents. We are currently rolling out projects with a leading Asian insurance company and a global bank outperforming defined KPIs to comply with the strictest regulatory framework.

We currently feature a portfolio of world-class references including Banco Santander, Vodafone, Repsol and Sony DADC internationally or HDB, AGC and NSCS in Singapore.

Taiger is present in Europe, the US and Singapore. Taiger products and technology is protected by a number of international patents.

You can find more information about Taiger at the following links:

- Taiger: https://vimeo.com/111826395
- iSearch: https://vimeo.com/118847825
- iConverse: https://vimeo.com/136815892

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NATIONAL INFOCOMM AWARDS 2016

Merit for the Category of Most Innovative Infocomm Product/Solution

Company: **Lynx Analytics Pte Ltd**

Product/Solution: **An Interconnected Graph**

Product/Solution Description
Today, customer knowledge is becoming more and more 'social'. Business to consumer marketing is moving away from traditional database marketing and progressively turning to social platforms to derive critical insights regarding their customers. The interesting fact is that such 'social insights' already exist among many B2C enterprises, however, a suitable technology engine is required to convert these static data records into dynamic social customer knowledge.

At Lynx Analytics, the world is seen as a Graph of interconnected people, things and actions. To visualise the world through analysis and comprehension from a Graph perspective is a fundamental shift from our everyday thinking.

The lack of technical abilities deems problematic within organisations to recognise and apply Big Graph thinking to improve their business. Due to such limitations to think in rows and columns of the information systems available, people or objects that are underserved or not detected (or visible at all) may be overlooked and omitted if they were not tailored into the specific design used. As there is an absence in existing 3rd party graph engine technology to provide these unrevealed insights (at least not anything that could perform at scale and performing at reasonable speeds), Lynx developed its own proprietary and correlated solutions: LynxKite™ & LynxEnterprise™ (see presentation). Both solutions have gained recognition within the market as the World's fastest Big Data Graph Engine at the core.

Benefits
As of now, there is no global equivalent competitor who can perform graph computations at the scale and with the speed as Lynx does this with the proprietary graph algorithms and engine Lynx has created. There are graph database providers in the market, however, only storage is provided for collected graph data points and minimal tools to generate data in a graph format – computations to generate graphs and graph insights, on top of what Lynx in basic and uniquely ensures. Aimed to find unknown, new and unrevealed information for Lynx's customers of the clients they serve or would like to serve better.

With IoT approaching, it will be critical to utilise Graph engines developed by Lynx, to make sense of truly massive data sets that will become available and collected. The era of true big data challenges has not even begun – while in parallel that not all business leaders understand to fundamentally perceive the world, the business and services they provide differently – adding a graph perspective.

In addition, Lynx's solution is mostly used within the Telecommunications industry. A strategic choice made was to harden-test the product and algorithms (as mostly Telco's have to deal with the largest data sets and as they need to innovate as their business model is always at pressure). Lynx had the opportunity to collaborate within

the APAC region (Hong Kong, Malaysia, Cambodia, Philippines, India, and Indonesia). Furthermore, global expansion arrangements are currently ongoing, using the recent investment secured.

Potentially, Lynx can move to almost any vertical or industry globally where plans to explore this measure will be taken gradually in time. In addition to Telecommunications, Lynx broke into the Financial Services Industry and are exploring Security and Smart Cities initiatives. Lynx Lab was implemented to explore and prepare for new verticals, data sets and use cases – next to, but hand in hand with Lynx as a commercial organization.

Lynx was profitable since day one. Currently, Lynx generated multiple millions of revenue and aim to reach above the 10 million revenue numbers in the next financial year (as a result of current additional product development and improving the scalability options of (deploying) our solutions).

About Lynx Analytics Pte Ltd
Lynx Analytics Pte Ltd was founded in Singapore in 2010 and headquartered here since. It is a tech start-up with academic roots that were planted before its incorporation. The co-founders are pioneers in the 'Graph Theory' space. They published the World's first research paper (in Singapore) on Social Network Diffusion in 2012 where research began in 2007. In addition, the European Science Decision Institute (ESDI) presented one of Lynx's co-founders with the Best Paper Award in 2013 (published in 2014) on applying the Graph theory within the Telco domain.

As there was no available technology or 3rd party solution in the market to apply the Graph Theory at scale (or with reasonable computation performance), Lynx was established and a new revolution began through the construction of Graph theory-supporting products.

The business was profitable from the start with a yearly growth of 50 - 60%, while 70% of the profits were reinvested into R&D. The company has grown from 5 to 50 headcount since the beginning and have expanded operations throughout the region.

A strategic decision was made to start within the Telco market, as this would allow Lynx to test and learn to apply Graph Theory at scale with real big data. Additionally, it allowed Lynx to succeed and build the first product. Meanwhile, Lynx directed its focus towards Financial Services and supported a Smart City test bed initiatives in Singapore.

In 2016, Lynx accepted and announced the first-ever seed investment at a USD 66 million valuation to help scale its growth within the region, into new verticals and to prepare the organization for further global expansion.

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NATIONAL INFOCOMM AWARDS 2016

Merit for the Category of Most Innovative Infocomm Product/Solution

Company: **Arcstone Pte. Ltd.**

Product/Solution: **arc.ops**

Product/Solution Description

arc.ops (Arcstone Operations Platform) is our in-house IoT/SaaS platform integrates with IoT sensors, machines, ERPs, and workstation tablets for fully automated to fully manual processes in manufacturing, machine maintenance and warehousing. An intuitive and powerful solution for facility managers and workers to run their day-to-day operations and maximize productivity, arc.ops also gives senior management the ability to visualize and optimize their facilities anywhere in the world, and to forecast and plan for future growth.

Benefits

arc.ops helps to bring data collection and analytics into that manufacturing industry. Implementing data analytics in a manufacturing atmosphere helps lower costs, decrease wasted time, and increase the quality of products. Because arc.ops collects data in real-time, manufacturers are able to make proactive changes rather than reactive changes.

In addition to real-time data, arc.ops is tailored specifically to the clients' requests which enables manufacturers to have a solution that is perfectly suited to their needs. Manufacturers are able to choose from a variety of features such as batch tracking, automated KPIs, scheduling, work flow tracking, alarms & alerts, materials management, SPC value stream, WIP inventory, and more.

About the company

Founded in 2013, Arcstone seeks to revolutionize the way data is utilized in enterprises. We believe that manufacturing processes and equipment management can be monitored, maintained and controlled by fully operationalizing and unlocking the value of data. Arcstone raised its Pre-Series A venture funding at the end of 2015, and has successfully delivered solutions to global and innovative companies. Our current clients consist of Fortune Global 500 Companies and SMEs, in Singapore and globally, all utilizing arc.ops.

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NATIONAL INFOCOMM AWARDS 2016

Winner for the Category of Most Innovative Use of Infocomm Technology (Public Sector)

Company:	**Land Transport Authority**
Product/Solution:	**Project Land Transport Real-time Info@SG (POLARis)**

Product/Solution Description

Over 2.2 million commuters take public transport daily in Singapore, generating 6.8 million trips of which 3.8 million trips are made on public buses. In the Public Transport Customer Satisfaction Survey 2012, commuters expressed that bus services can be further improved in terms of waiting time, comfort and connectivity. In response, LTA studied bus trends using fare card analytics. To better match supply and demand for bus services, in 2013 LTA conceptualized Project Land Transport Real-time Info@SG (POLARis) that leverages on the use of cost-efficient, commoditized sensors installed on every public bus to track, monitor and predict arrival times, compute crowding level on every bus in real-time and alert bus operators to inject additional buses on busy routes. At the same time, navigational maps and traffic incidents reported along the routes of every individual bus service are displayed on a dual-language console to aid bus drivers in completing the journey.

Tracking of buses in real-time requires accurate sensors capable of transmitting location data at per-seconds intervals. Traditional solutions depend on expensive, dedicated radio networks. LTA adopted an innovative approach by leveraging on public telecommunication networks, using ruggedized SIM cards. The end-result was delivered at a fraction of the cost of traditional systems with bus arrival predictions accuracy of 95% better than most advanced cities within six months of operations.

Today, POLARis is a key pillar of Smart Mobility significantly improving the overall commuting experience of Singapore citizens particularly with wait time and bus reliability.

Benefits

Today POLARis forms the technology backbone for enhancing commuter's experience on bus journeys, transforming the bus industry workforce including 9,200 bus captains with smart solutions, and enabling LTA to monitor service standards and access to real-time situational awareness.

Real-time bus arrival data from POLARis is also shared free-of-charge for third-party development and research to innovate and co-create transit solutions with the Government. These data are highly sought after and accessed at least 13 million times a month.

POLARis also played an instrumental role in improving commuter overall experience, especially with wait time and bus reliability. Public Transport Customer Satisfaction Survey results has shown improved customer satisfaction with public bus services for three consecutive years: 88.3% (2013), 90.2% (2014) and 90.7% (2015) with the popularity of bus as a public transport mode growing by 100,000 trips year-on-year.

About Land Transport Authority

The Land Transport Authority of Singapore (LTA) was set up under the Ministry of Transport to spearhead land transport developments in Singapore. The primary role of LTA includes:

• Planning, designing, construction, management and maintenance of the transit systems, roads and related facilities;
• Acting as agent of the Singapore Government in the administration, assessment, collection and enforcement of various taxes, fees and charges and other services relating to land transportation;
• Regulating both private and public transport, and manages Singapore's transport needs to provide an efficient and cost-effective transport system that includes bus, train, taxis and cars;
• Advising the Singapore Government on matters related to the land transport system; and
• Representing Singapore internationally in respect of matters relating to land transport.

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NATIONAL INFOCOMM AWARDS 2016

1st Runner-up for the Category of Most Innovative Use of Infocomm Technology (Public Sector)

Organisation:	**Singapore Civil Defence Force**
Product/Service:	**myResponder mobile application**

Product/Service Description

The SCDF myResponder mobile application notifies users, termed Community First Responders (CFR) to nearby cardiac arrest cases so that they are able to render immediate assistance to the victim before the arrival of emergency services.

The app leverages the fact that Singapore has one of the highest smartphone penetration and adoption rates in the world. The development of the app has also incorporated smartphone location services and existing Government platforms such as SingPass and OneMap in its function and design.

The myResponder mobile app allows CFRs to provide feedback on publicly accessible AEDs by, identifying new AEDs, notifying a change in AED locations and feedback on AED readiness for public use.

In November 2015, the SCDF collaborated with SMRT and Temasek Cares to make AEDs available in 100 taxis under the "SMRT-Temasek Cares AED on Wheels" project. In the event of a cardiac arrest case, an AED can be quickly delivered to the scene by a taxi driver trained in CPR and the use of an AED, thus helps to improve a victim's chance of survival. This initiative to mobilise taxi drivers via the myResponder app is believed to be a first-of-its-kind in Southeast Asia.

Benefits

- Innovative use of crowdsourcing efforts for saving lives. First of its kind in Singapore.
- Promoting the notion of active citizenry by linking people in need of help with members of the community who are able to provide the needed help.
- Geo-location and integration with 995 Operations Centre points the community and emergency responders to the exact location of the out of hospital cardiac arrest (OHCA) patient.
- Bridges the gap between the time of the onset of cardiac arrest and the arrival of SCDF paramedics, thereby increasing the chances of survival of the cardiac arrest victim.
- Raises awareness on the importance of using automated external defibrillators (AEDs) and applying cardiopulmonary resuscitation (CPR).
- Provide opportunities to improve the utilisation rate of AEDs and CPR by the CFRs.

myResponder is free and available for download on Google Play and Apple app stores. Users can also register as a Community First Responder using SingPass.

About the Singapore Civil Defence Force
The Singapore Civil Defence Force (SCDF) is a uniformed organisation under the purview of the Ministry of Home Affairs. The main role of SCDF is to provide fire-fighting, rescue and emergency medical services; mitigating hazardous materials incidents, as well as formulate, implement and enforce regulations on fire safety and civil defence shelter matters.

SCDF achieves world-class outcomes despite being one of the leanest emergency organisations internationally. One of the key thrusts is through imbuing the spirit of continuous improvements in our people and anchoring innovation as one of the key tenets in our quest for excellence. Singapore is consistently ranked as one of the most fire-safe countries globally, with the lowest fire fatalities, fire injuries and number of fires per 100,000 population since 2010. We are also one of the most economical firefighting organisations, with the lowest direct fire loss and fire administration insurance (World Fire Statistics 2015).

About GovTech
Digital Transformation within the public sector is at the heart of what GovTech, or Government Technology Agency of Singapore, does. GovTech harnesses the best info-communications technologies to make a difference to the everyday lives of people in Singapore.

Today's government digital services are held to the highest standards by users. Not only must they be safe, secure and accurate, they have to be easy to use and empowering. This means business is not as usual anymore for the government seeking to connect more closely with citizens.

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NATIONAL INFOCOMM AWARDS 2016

2nd Runner-up for the Category of Most Innovative Use of Infocomm Technology (Public Sector)

Company:	**Institute of Mental Health (IMH), National Healthcare Group Pharmacy (NHGPh) and Integrated Health Information Systems (IHiS)**
Product/Solution:	**Implementation of Medication Packing Engine for Enhanced ConviDose (Multidose Pre-packing of Medication) System in IMH Long-Stay Wards**

Product/Solution Description

The Institute of Mental Health (IMH) is the largest hospital in Singapore in terms of number of beds with over 1,900 beds in its inpatient setting, approximately 60% of which are housed in long-stay wards for patients under long-term care.

A study had shown that the medication administration error rate (including "near misses") averaged at 3-5% daily in a typical long-stay ward. In view of the fairly stable medication regimens of the long-stay patients, a pilot was introduced in four long-stay wards at IMH, whereby oral medications were outsourced to National Healthcare Group Pharmacy (NHGPh) to be packed into multi-dose sachets (trademarked as ConviDose™) for medication administration. The results of the pilot showed that ConviDose™ greatly reduced the medication administration error rate and improved the medication administration process, resulting in significant time savings for staff.

During the pilot however, the transmission of medication orders from IMH to NHGPh for pre-packing was a manual process, which presented dual risks of communication failure and manual transcribing errors during data entry. The monthly billing process was also a manual task, whereby paper invoices from NHGPh had to be transcribed by IMH Pharmacy staff into the billing system, which also led to risks of billing errors for patients. All these manual processes above were manpower-intensive, inefficient, time-consuming and error-prone.

In order to address these gaps, an IT solution known as Medication Packing Engine (MPE), was jointly developed by IMH, NHGPh and Integrated Health Information Systems (IHiS). The MPE enabled these enhancements:

(i) Enhanced IMH's prescribing system to send electronic medication orders to NHGPh after the orders have been reviewed by IMH pharmacists;

(ii) Automatic transcribing of the medication orders for NHGPh, thereby significantly reducing the need for data entry and the risk of transcribing errors. Rework was also reduced as changes were communicated automatically and the most updated medication orders were used for packing;

(iii) Automatic transmission of drug items that were dispensed by NHG Pharmacy back to IMH's billing system, thereby removing the need for manual entry of invoiced items. The enhanced ConviDose™ system has brought about

improvements in medication safety and productivity. For NHGPh, it has reduced packing turnaround times by 50% and dispensing near misses by 40%; For IMH, pharmacy staff save 93% of their time previously spent on manual billing of patients and nurses spend 35% less time during medication administration, enabling them to spend more time on other patient-care activities. With the enhancements, ConviDose™ has been rolled out to 22 suitable long-stay wards in IMH.

The MPE is an innovative solution that has helped to reduce the risk of medication errors and billing errors, at the same time improving the productivity of staff so that the time savings can be channelled to provide better patient care. Although NHGPh provides ConviDose™ services to 22 nursing homes, the MPE is a unique interface between IMH and NHGPh and there is no similar interface between NHGPh and their nursing home clients.

Benefits

1. The MPE is designed as a multi-tenanted application and can be used as a broker system to interlink Public Healthcare Institutions (PHIs) and non-PHIs without the need to change the supplier system, for example iPharm, in the case of NHGPh.

2. Once implemented, the MPE is a back-end logic engine and there is no need for front-line users to learn how to interface with an additional system.

3. This solution contributes to Singapore's Smart Nation vision by harnessing technology to the fullest to automate the accurate transfer of information across two institutions, to bring about improvement to both staff's and patients' lives. This solution has also demonstrated that info-comm technology can be used to effectively integrate and streamline processes of two different institutions.

4. With the demand for healthcare constantly increasing – Singapore's population aging at one of the world's fastest rates, coupled with the limited pool of skilled healthcare staff, the MPE solution addresses the gaps in the medication ordering process, significantly improves patient safety and pharmacy's efficiency and capacity by reducing manual processes.

5. NHGPh is serving approximately 5,100 nursing home beds with the ConviDose model at the moment. We hope to share the MPE solution with these nursing homes, so that more patients and healthcare staff can benefit from the harnessing of infocomm technology, to enjoy improved medication safety and increased staff productivity.

6. In the near future, there will be discussions with the Agency for Integrated Care (AIC) on further plans to integrate the systems of nursing homes island-wide for medication supply, including the nursing homes that are not currently served by NHGPh. There are currently approximately 70 nursing homes providing 12,000 beds in Singapore, and this number is projected to increase to 17,000 by 2020.

7. Finally, the MPE is a milestone beginning that will eventually evolve and be incorporated conceptually at the national level, in our nation's journey towards a National Harmonised Pharmacy system.

About Institute of Mental Health (IMH)
The Institute of Mental Health, a member of the National Healthcare Group, is the only tertiary psychiatric care institution in Singapore. Located on the sprawling 25-hectare campus of Buangkok Green Medical Park in the north-eastern part of Singapore, IMH offers a multidisciplinary and comprehensive range of psychiatric, rehabilitative and therapy services in hospital-based and community-based settings. The 1950-bedded hospital aims to meet the needs of three groups of patients – children and adolescents (aged below 19 years), adults and the elderly. Besides providing clinical services, IMH also leads in mental health research and training the next generation of mental health professionals in Singapore. For more information, please visit www.imh.com.sg.

About National Healthcare Group Pharmacy (NHGPh)
NHG Pharmacy, a business unit of National Healthcare Group (NHG) manages the pharmacy services and retail pharmacies at all NHG Polyclinics. We are also the leading provider of pharmacy services in the long-term care sector. Our mission is to promote the safe, effective and responsible use of medication.

Our team of pharmacists provides clinical pharmacy services to help customers achieve the best results for their prescribed therapy by working with other members of the healthcare team. Conveniently located in the heartlands, our retail pharmacies offer an array of quality and affordable healthcare essentials.

We constantly innovate with an aim to make a difference in the care of customers, to add more years of health to their lives.

https://www.pharmacy.nhg.com.sg/

About Integrated Health Information Systems
IHiS is a multiple award-winning Healthcare-IT leader, transforming patient care through smart technology. Managing highly integrated systems across Singapore's public healthcare sector, its IT professionals support 40,000 healthcare staff at all public hospitals, national specialty centres, polyclinics and many more.

IHiS architects and oversees the performance of the clinical, business and healthcare analytics systems of the healthcare institutions. It has garnered more than 70 awards for its innovations, and played a key role in ten Singapore public healthcare institutions becoming amongst the first public institutions in Asia Pacific to achieve HIMSS EMRAM Stage 6 and Stage 7, an international benchmark for advanced technology used in patient care.

IHiS is at the forefront of innovation, driving new standards in quality care. It focuses and synergises the IT resources of Singapore's six Regional Health Systems (RHS) to transform healthcare delivery across the country, for improved patient outcomes and cost-effective care.

IHiS' goals are to use technology to:

- Drive Service Excellence and Value
- Integrate Care Delivery across the healthcare continuum, so patients can benefit from the continuity of care
- Innovate to Transform Healthcare Delivery

www.ihis.com.sg

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NATIONAL INFOCOMM AWARDS 2016

Merit for the Category of Most Innovative Use of Infocomm Technology (Public Sector)

Company: **Government Technology Agency of Singapore and Ministry of Finance**

Product/Service: **Whole of Government "Ask Jamie" Virtual Assistant**

Product/Service Description

'Ask Jamie' is a virtual assistant (VA) that can be implemented on agency websites (refer to Annex B) and trained to be able to answer queries within specific domains. When activated on a website, a chat window will open to allow the public to 'chat' with Jamie, very much like how one would chat on instant messaging. 'Ask Jamie' leverages on its Natural Language Processing (NLP) engine to understand the questions typed by the public and respond with an appropriate answer. When an answer entails multiple permutations, 'Ask Jamie' can be trained to ask follow-on questions to narrow down the answer to one that is specifically relevant to the context of the end-user.

Other key features of 'Ask Jamie' include cross-agency queries which eliminates the need for the public to know which agency websites to go to for specific queries, escalation to 'live' chat to allow the public to continue a conversation seamlessly while getting help from a real person and answering questions by leveraging on an agency backend database, the Gov iFAQ system and the Wolfram Alpha general knowledge database.

Beyond the current 'Ask Jamie' webchat, there are exciting plans to extend it to a conversational chatbot with transactional capabilities, to further enhance the interactions between citizens and the government. With the 'Ask Jamie' chatbot, the public will be able to use popular messaging platforms such as the Facebook Messenger, Skype and Telegram to ask questions and to carry out transactions, bringing innovation and ease of use to the next level.

Benefits

The WOG 'Ask Jamie' Virtual Assistant will bring about the following benefits:
- Greater convenience and accessibility to the government, 24 by 7;
- Quick, consistent and direct answers to queries;
- Availability of self-help and reduced need to call the call centres;
- Ability to get help without knowing which agencies to go to; and
- Better user experience through using conversations to get help.

About Government Technology Agency of Singapore

The Government Technology Agency of Singapore (GovTech) is a new statutory board formed in October 2016 after the restructuring of the Infocomm Development Authority.

GovTech works with public agencies to develop and deliver secure digital services and applied technology to individuals and businesses in Singapore. GovTech builds

key platforms and solutions needed to support Singapore as a Smart Nation. As a leading centre for information communications technology and related engineering such as the Internet of Things, GovTech also enhances the capabilities of the Singapore Government in these domains.

About Ministry of Finance
The Ministry of Finance aims to advance the well-being and development of Singapore through Finance. The Ministry strives to achieve a balanced budget through prudent fiscal policy, foster a regulatory environment conducive to business and enterprise, ensure prudent investment of the Government's reserves and other public funds, and sets policies for government procurement, e-government, customs regulation, accounting standards and business regulation.

We achieve this together with our departments (Accountant-General's Department, Centre for Public Project Management, Singapore Customs and Vital.org – Centre for Shared Services), and statutory boards (Accounting & Corporate Regulatory Authority, Inland Revenue Authority of Singapore, Tote Board and Singapore Accountancy Commission).

For more information, please visit www.mof.gov.sg.

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Agencies/Websites with 'Ask Jamie' VA

	Agency
1.	Accounting and Corporate Regulatory Authority (ACRA)
2.	CorpPass
3.	GeBIZ
4.	Government Technology Agency (GovTech)
5.	Infocomm Media Development Authority (IMDA)
6.	Integrated Land Information Service (INLIS)
7.	International Enterprise Singapore (IE Singapore)
8.	Ministry of Education (MOE)
9.	Ministry of Social & Family Development (MSF)
10.	Municipal Services Office (MSO)
11.	Ngee Ann Polytechnic (NP)
12.	Personal Data Protection Commission (PDPC)
13.	Republic Polytechnic (RP)
14.	Singapore Land Authority (SLA)
15	SingPass
16.	Unique Entity Number (UEN)

NATIONAL INFOCOMM AWARDS 2016

Winner for the Category of Most Innovative Use of Infocomm Technology (Private Sector - Open)

Company: **Jurong Port Pte Ltd**

Product/Solution: **Smart Gate**

Product/Solution Description:
Jurong Port's (JP) Smart Gate is an integrated one-stop gate processing solution for a multipurpose port.

Every day, more than 2,000 vehicles and 3,000 port users pass through our main gate, transporting about 50,000 tons of cargo a day. The efficiency of the main gate is key to ensure a smooth customer experience as well as to meet our safety and security requirements. Owing to the diverse range of cargo handled, an off-the-shelf solution could not address our unique requirements.

Smart Gate integrates various technologies, selected after intensive testing, to achieve a single-touch experience for port user without compromising security. Some of the technologies integrated include, but not limited to, the following:
- 2-tier gate access with biometric verification, a vascular vein reader selected for its field-proved reliability and ease of use
- Lane management to manage vehicles based on traffic conditions
- CCTV with video content analytics
- Real time intelligent logic processing based on the inputs from various subsystems
- Smart UI design automatically highlighting areas of concern, e.g. security validation

Benefits of Smart Gate
Smart Gate's objectives are aligned with that of Smart Port whereby it reduces manpower requirements, reduces supply chain bottlenecks and allows more efficient deployment of manpower by automating manual & repetitive work. The gate is also part of the port's overall data sensor network to continuously collect and use data to streamline port processes. The gate is designed with JP's future plans in mind and would be able to cater to the port's growing cargo volumes.

By leveraging on right technologies and automating manual work, there has been a 61% reduction in document processing time at the gate. Faster and easier clearance at the gate improves the user experience of port users. Reliable technology also has enabled JP to enhance the security of the port.

About Jurong Port

Headquartered in Singapore, Jurong Port (JP) is a leading international multipurpose port operator. Established in 1965, the port initially served Singapore's Jurong Industrial Estate. JP has since expanded to serve as Singapore's main general and bulk cargo gateway. Today, it welcomes more than 15,000 vessels each year from both the region and internationally. In 2015, Jurong Port's local and overseas terminals handled close to 34 million tons of general and bulk cargo, and 560,000 TEUs of container cargo.

Internationally, JP operates two joint venture terminals in China and two in Indonesia.

The port had won the Most Innovative Use of Infocomm Technology (Private Sector) - Merit Award at the Singapore National Infocomm Awards 2010 for "Transforming General & Bulk Cargo Operations through Infocomm Technologies".

For more information, please visit www.jp.com.sg.

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NATIONAL INFOCOMM AWARDS 2016

1st Runner-up for the Category of Most Innovative Use of Infocomm Technology (Private Sector - Open)

Company:	**DBS Bank**

Product/Solution:	**I.Serve**

Product/Solution Description

Prior to implementing I.Serve, DBS' Customer Centre and branches were faced with three main challenges:

Too Many Systems

Staff had to toggle between 13 different systems in order to handle customer enquiries and service requests (SRs), resulting in longer servicing times and poorer customer experiences. New staff also took longer to gain proficiency in the various systems.

Lack of Demand Visibility

SR information was entered as free text into systems. As such, the data recorded was difficult to analyse. This caused managers to have little visibility on understanding call demand and how to prevent it.

Feedback from Employees and Customers

All SRs had to be manually-entered using a single template, increasing the likelihood of missing data and incorrectly-routed SRs. This caused more rework and delays in SR fulfilment. Customers at branches would also have to fill in long application forms and wait a long time to obtain updates on product application status.

There was thus an opportunity to improve the way in which customers bank with DBS, how staff can serve customers and fulfil service requests, and how the management can better address call demand. I.Serve was thus designed as a solution with the following:

One Single System

Staff no longer have to access multiple systems while assisting customers but are able to view customer information and enter service requests directly from I.Serve. New staff no longer need to learn as many systems as before and are thus able to complete training faster.

Demand Insight and Prediction

The use of structured data fields and near-real-time data capture resulted in improved MIS capability, thus providing management insight into why customers are calling and how to address their issues even before they call in. Real-time data mining on events related to customer interactions (e.g. card transactions, PIN failures, SMS/emails sent by DBS, etc.) also gives CSOs insight into why customers are calling in.

Tools Improving the Employee and Customer Journeys

I.Serve features a range of tools to reduce the effort required by both staff and customers. These include the auto-population of forms, field input validation and workflow integration with

authentication framework and approvals. I.Serve also sends out customer surveys in real-time and displays results received to create an instantaneous customer feedback loop.
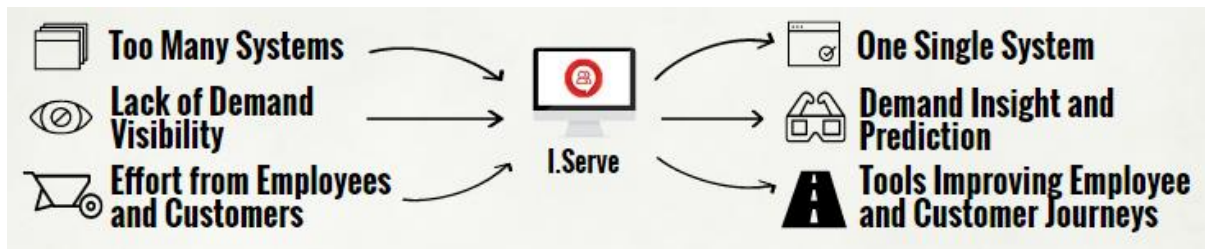
Revolutionising customer service through I.Serve includes:

Asking Only What is Required

I.Serve only asks for information that is absolutely needed (e.g. if a customer with a salary-crediting account fills in a form for a loan, existing data is auto-populated to minimise the fields to be filled).

Digitising Customer Instructions

I.Serve digitally captures and processes customer instructions. Information is captured using template-based data entries with the pre-population of existing information. SRs are also authenticated and approved within the platform, before being routed digitally to the appropriate unit for follow-up.

Designed for Mobility

Different screen layers are shown depending on the channel used by the customer.

Designed for No Training

Human-centred design was applied when creating the platform's user interface and navigational flows. This included considering users' reading behaviour when placing key items on the screen. Screen flows are also event-based rather than product-based so that users can access their desired screens in only 3 mouse clicks. In addition, I.Serve uses customer-friendly terms so that CSOs and customers can communicate with the same language.
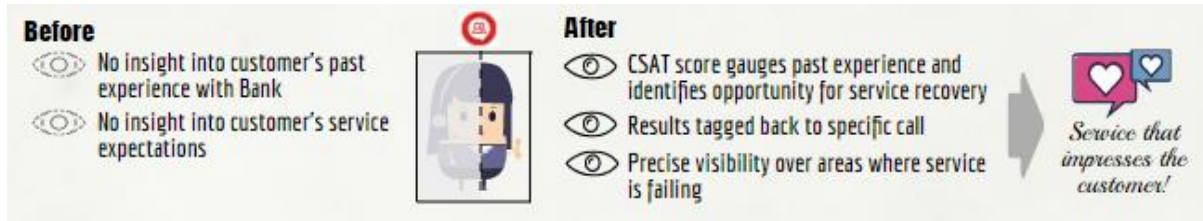
Built Once for Use Across Channels

A "super-set" or "expandable set" of functions are built such that I.Serve can be easily made scalable to other channels where required.

Call Prediction

Events related to a particular's customer interactions with the bank are displayed to the CSO when he/she receives the customer. This gives the CSO insight into why the customer is calling, allowing him/her to address the customer's needs quickly.

Customer Satisfaction

I.Serve automatically triggers customer satisfaction surveys to customers and survey results are tagged back to the call/CSO/request type. The survey template sent out is customised by call nature and customer segment.

Before
- No insight into customer's past experience with Bank
- No insight into customer's service expectations

After
- CSAT score gauges past experience and identifies opportunity for service recovery
- Results tagged back to specific call
- Precise visibility over areas where service is failing

Service that impresses the customer!

The following tools have enabled I.Serve to deliver a superior user experience:

Criteria Engine

This is an automated rule engine that stores business algorithms to assess given queries or to send out the correct reply for SRs. The criteria engine allows pre-validation rules to be set up to enable/disable action buttons and automatically determine eligibility for straight-through processing requests. As part of the design for minimum processing, the parameters used by the engine can be easily modified by users. For example, if the business unit changes the criteria for fee waivers, I.Serve users can update it themselves and do not have to rely on the system support team.

Digitisation of Customer Instructions

With the three steps as detailed below, DBS was able to achieve the level of data quality and system readiness required to process SRs in bulk:

1 Capture into Digital Data
- Templated data entry
- Pre-population of existing data
- Pre and post-validation
- Ability to attach supporting documents

2 Authentication & Approval
- Risk-based authentication
- Risk / Location-based approval

3 Process Effortlessly
- Request assigned to the relevant team
- Processing is faster

Integrated Event Processing (IEP) System

I.Serve was integrated into an event processing system that enabled us to automatically trigger customer surveys based on parameters like SR type and time period from last survey, etc. The IEP would decide on applicable survey recipients, send out surveys in real-time and translate survey results into structured data for analysis.

I.Serve uses the IEP in two ways. Firstly, it provides CSOs with rich data on customer interaction events with us on a real-time basis prior to the call. Secondly, it helps us to auto-trigger customer surveys and integrate survey responses back to I.Serve. These two functionalities help us to reduce call handling time, improve customer experience and speed up service recovery.

Implementing I.Serve has generated extensive benefits to both the Bank and its customers:

<u>Benefits to the Bank</u>

Reduction in Call Handling Time

The improved user interface, forms and system integration has enabled CSOs to serve more efficiently and save customers' time. Call handling time has thus seen a 28 second reduction with I.Serve. Customers can also bypass the IVR queue if the system determines that they have a failed event, a direct benefit of I.Serve insight. As a result of the reduction in call handling time, agents are free to take more calls and hence waiting time in IVR has been reduced drastically. We are consistently meeting our service levels (80% of calls answered in 20 seconds) for the last 12 months, across all splits and hotlines.
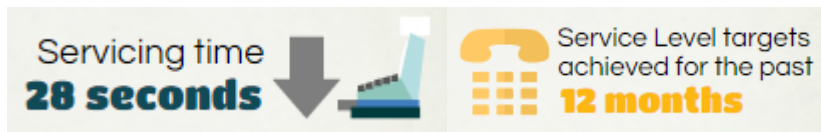
Reduction in Call Volume

With full insight into the nature of calls received, DBS is able to run failure demand programmes in order to address demand drivers. The Customer Centre has thus seen its annual call volume fall from 500,000 to 400,000.
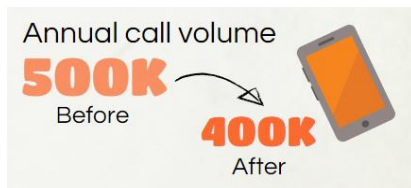

Reduction in Training Time

A shorter training duration for new CSOs would indicate the benefits of better system integration and a human-centred focus on user interface. I.Serve has eliminated the 3-week duration previously needed for system training.


Cost Savings and Avoidance

Much of the impact of utilizing I.Serve can be seen in the amount of time and cost savings derived from this initiative. With I.Serve, DBS has thus far saved 3,300 work hours from re-work avoided and achieved total cost savings of more than SGD 6.2 million.
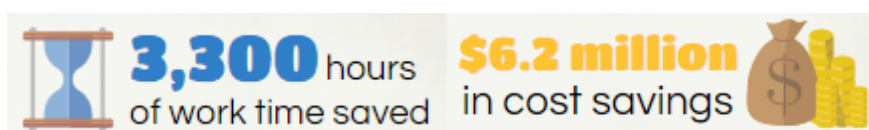
<u>Benefits to Customers</u>

Reduction in SR Turnaround Time (TAT)

The time-saving benefits of STP implementation using I.Serve are seen in how TAT has dramatically fallen for many SR types. For example, loan processing and disbursement TAT was slashed from T+4 days to just 5 mins.
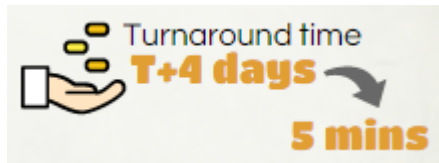
Improved Customer Experience

As a result of call prediction and human-centred design, customer experience has improved and this can be seen from the improvement in CSAT scores.
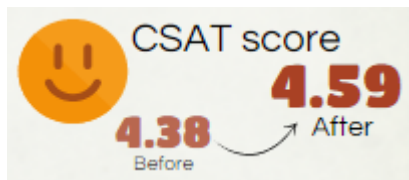
About DBS Bank

DBS - Living, Breathing Asia

DBS is a leading financial services group in Asia, with over 280 branches across 18 markets. Headquartered and listed in Singapore, DBS has a growing presence in the three key Asian axes of growth: Greater China, Southeast Asia and South Asia. The bank's capital position, as well as "AA-" and "Aa1" credit ratings, is among the highest in Asia-Pacific.
DBS is at the forefront of leveraging digital technology to shape the future of banking, and has been named "World's Best Digital Bank" by Euromoney. The bank has also been recognised for its leadership in the region, having been conferred "Asia's Best Bank" by The Banker and Euromoney, and "Asian Bank of the Year" by IFR Asia. The bank has also been named "Safest Bank in Asia" by Global Finance for eight consecutive years from 2009 to 2016.

DBS provides a full range of services in consumer, SME and corporate banking. As a bank born and bred in Asia, DBS understands the intricacies of doing business in the region's most dynamic markets. DBS is committed to building lasting relationships with customers, and positively impacting communities through supporting social enterprises, as it banks the Asian way. It has also established a SGD 50 million foundation to strengthen its corporate social responsibility efforts in Singapore and across Asia.

With its extensive network of operations in Asia and emphasis on engaging and empowering its staff, DBS presents exciting career opportunities. The bank acknowledges the passion, commitment and can-do spirit in all of our 22,000 staff, representing over 40 nationalities. For more information, please visit www.dbs.com.

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2nd Runner-up for the Category of Most Innovative Use of Infocomm Technology (Private Sector - Open)

Organisation: **SP Services**

Product/Service: **Wireless Workforce Management System**

Product/Service Description

As part of service innovation, SP Services harnesses infocomm technology to implement the Wireless Workforce Management System (WWMS). The web and mobile enabled WWMS is an integral part of our field service operations which serves 1.5 million customers. The system optimises our job allocation process and staff resources, ensuring our field staff provide assistance to customers quickly and efficiently.

The Smart Optimizer together with the Automatic Dispatcher utilised in the WWMS is a key enabler for many innovative features that improved overall customer experience, while increasing employee satisfaction and productivity. The Optimizer utilizes a powerful algorithm to iteratively process jobs and available resources at hand to produce an optimum job assignment plan daily. Jobs are automatically assigned out through the system to each field staff through each individual's iPad, creating a paperless workflow. Field staff can have real-time access to customer information on-the-go and in a secure manner through the system. Job results from the field are also transmitted real-time back to the central customer information system. This enables customer service staff to provide accurate information to customers. At any time, supervisors are also able to check on the job status through the real-time Supervisor's Dashboard.

Benefits

The WWMS is beneficial to our Customers, Employees and SP Services. With WWMS, we have shortened customer waiting time, by speeding up our service experience. This provides greater convenience to our customers, improving the overall customer experience. Job orders are sent directly to each staff's individual iPad, eliminating the need for staff to report to office during the morning rush hour. This allowed us to implement a "Start Work from Home Scheme" which improved staff traffic safety and provides the flexibility for staff to achieve better work-life balance, especially for those with young schooling children. By eliminating the need for staff to report to the office and optimizing their travel routes, the system allows us to increase productivity by 20%, lowering our operating costs.

In summary, the WWMS enables SP Services to re-engineer our work processes, allowing us to reap the multiple benefits of improved customer service, increased employee satisfaction and achieving higher productivity.

About SP Services

As the Market Support Services Licensee, SP Services provides metering and billing services to the electricity market. It also facilitates competition in the retail market by enabling consumers to switch seamlessly between retailers and to buy electricity at wholesale market prices.

For the convenience of customers, SP Services also provides one-stop customer service, metering, billing and payment collection on behalf of other utility service providers, including PUB for water charges, City Gas for gas charges, and various refuse collection companies for refuse removal fees.

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NATIONAL INFOCOMM AWARDS 2016

Merit for the Category of Most Innovative Use of Infocomm Technology (Private Sector - Open)

Company:　　　　　　　**M1 Limited**

Product/Solution:　　　　**M1 mPOS (Mobile Point-of-Sale)**

Product/Solution Description

Businesses which have not accepted card payments before and are operating only on cash and invoice terms can now turn to **M1 mPOS (Mobile Point-of-Sale)** solution. M1 mPOS lets every business, small or large, the opportunity to offer the convenience of card payment to their customers, anytime, anywhere – a financially viable solution for SMEs and SoHo businesses to take up that cuts down the application approval time, provides the convenience of anywhere/anytime mobility, as well as removes the financial burden of deposits and monthly payments of traditional point-of-sale solutions.

M1 mPOS, launched in collaboration with CIMB, MasterCard and Wirecard, comprises of a physical card-reader that connects to your smartphones /tablets, transforming it into a secured mobile point-of-sale terminal, utilizing 3G/4G /WiFi networks for connection, to allow merchants to accept credit and debit card payments from customers anytime, anywhere.

The M1 mPOS solution is designed to meet the needs of traditionally cash-based small businesses, start-ups, and 'on-the-go' enterprises, to allow them to offer the convenience of a simple, safe and secure card payment experience to their customers through a wireless Internet connection.

Since launch, many customers have benefitted from this service – including many non-traditional merchants – such as home bakers, repairmen, private tutors, caterers, pushcart retailers, delivery service, plumbers, and locksmiths – who can now go to where the customers are.

Benefits

For M1, the M1 mPOS solution complements our suite of mobile and fixed connectivity services for the SME/SOHO segment.

M1 mPOS was conceptualized and developed with SMEs and SoHos in mind, a segment underserved by existing banks or held back as they were unable to meet the pre-requisites for card payment acceptance. The financial obligations involved (deposit, minimum guarantee, high rates, and monthly service charge) to provide traditional card acceptance facilities to customers make it prohibitive for small merchants to do so.

M1 mPOS encourages SMEs to take the first step in adopting smart payment solutions – through the acceptance of card payments (to replace cash transactions). This, indirectly, encourages the digitization of their businesses through the use of smart

devices (smartphones and tablets) to process sales transactions and accept payments, as well as cost savings from reduced cash handling, loss of business, and potential theft.

M1 mPOS also has the potential to improve customer experience – redefining business delivery where retail assistants and cashiers can be the same person – processing payments on the spot at customer's location, without having to handover customers.

Some of M1 mPOS' features in a nutshell:
- **Transforms Mobile Devices into Smart Secured Payment Solutions**
  - Supports chip and magnetic stripe credit/debit cards
  - Supports iOS and Android Smartphones and Tablets
  - Works on 3G/4G/WiFi networks
- **Certified bank-grade security**
  - Fully PCI-certified (Payment Card Industry) with end-to-end card transaction encryption
- **Fast and Easy Deployment**
  - Accept card payments within 2 working days of registration
  - No deposits, no minimum transactions
  - Available to businesses and individuals
- **Reporting and Management Tools**
  - Real-time data to support smart business decisions
  - Inventory Listing
  - Electronic receipts to customers

About the company

M1 is Singapore's most vibrant and dynamic communications company, providing mobile and fixed services to over 2 million customers. Since the launch of commercial services in 1997, M1 has achieved many firsts, including the first operator to offer nationwide 4G service, as well as ultra high-speed fixed broadband, fixed voice and other services on the Next Generation Nationwide Broadband Network (NGNBN). With a continual focus on network quality, customer service, value and innovation, M1 links anyone and anything; anytime, anywhere. For more information, visit www.m1.com.sg.

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NATIONAL INFOCOMM AWARDS 2016

Winner for the Category of Most Innovative Use of Infocomm Technology (Private Sector - SME)

Company: **Concorde Security Pte Ltd**

Product/Solution: **I-Man Facility Sprinter**

Product/Solution Description

Officially launched in late 2015, the patented I-Man Facility Sprinter (or "IFS") is essentially a mobile command and control centre equipped with advanced monitoring and wireless communication equipment managed by a team of 3 Intelligent-Man (I-Man). Wirelessly connected to a cluster of buildings, IFS provides security surveillance to these building and responds immediately to any security incidents.

The following highlights its key features:

1. **The use of advanced technologies to provide an integrated solution which is more secured and robust**
   IFS provides a more secured and robust solution for our customers despite the reduction in manpower. It utilizes smart devices, like intelligent cameras with video analytic capability and multiple wireless communication technologies using TV White Space (TVWS) as the core technology. The video analytics allow our I-Man to respond to alerts instead of constantly look out for abnormal activities from the multiple monitors installed in the IFS.

2. **Clustering of multiple buildings allows for resource sharing and significant cost saving and increase in productivity**
   As IFS is wirelessly connected to multiple buildings in the vicinity, this forms a cluster enabling the reduction of man guards especially at night. The cost saving allows Concorde to price its services to about half of the cost of a traditional guard. Productivity is greatly improved as the 3-man team provides services to 10 or more buildings.

3. **Enhanced security**
   Securing premises with intelligent cameras and access controls enhances security while minimizing the deployment of human on the ground, normally the weakest link of any security solution.

4. **Connectivity to multiple buildings allows for value-added services**
   Accordingly, since IFS is integrated to multiple buildings, it becomes a logical platform for introduction of smart solutions and other advanced technologies. Aligning with Smart Nation initiatives, Concorde uses big data analytics to do performance monitoring and improve facility maintenance, all of which are value-added services to building owners.

5. **Ease of deployment with a mesh network of IFS**
   Deployment of any IFS to a particular cluster can be done seamlessly as each IFS is already pre-integrated to all the clusters in an area. These would minimize downtime and provide redundancy.

Compared to traditional guards and central monitoring solution, IFS is a simply a revolutionary more intelligent and efficient way of providing security. It emphasizes the use of technologies, allowing people to be elevated to a higher and more intelligent role, in line with the Smart Nation vision.

Benefits
Touted as the future of man-guarding, IFS is simply disruptive. The immediate benefits adopting IFS as the security solution are as follows:

- **Asset Value**: Enhancing Asset Value with improved tenants / customers satisfaction

- **Cost Saving:** Reducing monthly service fees with ROI in less than 12 months

- **Productivity Gain**: Achieving high productivity gain of more than 300% and improving service delivery level

- **Socio – Economic Value**: CSR with good work-life balance and promoting SkillsFuture and the Singapore Core

- **Human Value**: While resolving the manpower shortages in the man-guarding industry, IFS creates new job opportunities attracting new breed of "Intelligent-Man" specialists into the industry

The implementation of IFS also creates a new disruptive business model that entirely transformed Concorde into a unique security technology solution provider with the following impacts:

- **Industry Leader**
  Positions Concorde as an industry leader adopting disruptive innovation and technology;

- **Scalable and Exportable**
  Patented in 57 countries worldwide, IFS solution is scalable and exportable overseas, not possible under the traditional man-guarding business model; and

- **Solution Platform**
  The connectivity of many buildings to IFS vehicles provides a new platform for more advanced technologies and solutions to be introduced and implemented for the benefit of building owners and society. This will be the key to a sustainable and successful business model.

About Concorde Security Pte Ltd
Founded originally in 1997 as a security services agency, Concorde is now a leading integrator of inventive technological innovations for the security industry. Harnessing the latest wireless technologies, we revolutionize the industry by providing a whole suite of disruptive cutting edge Intelligent-Guarding™ Solutions ("I-Guarding™

Solutions) that transformed the lives of traditional guards. For us, they are called "Intelligent-Man" or "I-Man" in short.

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NATIONAL INFOCOMM AWARDS 2016

Merit for the Category of Most Innovative Use of Infocomm Technology (Private Sector - SME)

Company:	**HiVelocity Pte. Ltd. / GenieAgent Pte. Ltd.**
Product/Solution:	**FotoGraft**

Product/Solution Description

FotoGraft is an end-to-end platform that provides a complete solution from registration, payment, race pack collection, real-time photo and timing results for race events. The platform is a result of collaboration between HiVelocity Pte. Ltd. and GenieAgent Pte. Ltd.

FotoGraft solution is flexible and can be used in its entirety or modularly based on the event organisers' needs in various sports events.

Benefits
- Single point of data collection (registration) and results (instead of being fragmented into photos, results, payment, race certificates etc.)
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- Real time photo results solution

- Flexible and scalable deployment of solution means it can be used modularly with other systems from small events to large scale events

About HiVelocity Pte. Ltd.

We are an energetic and driven bunch totally passionate about inspiring athletic lifestyles and inspirational sporting experiences.

Fuelled by our love for marathons, ultramarathons and triathlons, we bring deep expertise and broad experience in endurance sports events and the athlete's development journey.

We deliver sports event planning, management and execution, online mass registration and payment, race timing and results hosting, event marketing and public relations, sponsorship management, epic endurance race travel, bike fitting, race nutrition, athlete equipping, training plans and training camps.

About GenieAgent Pte. Ltd.

We deliver innovative and cost effective end-to-end solutions in the area of Information Technology specialising in Social Media and sports events from registration, payment, timing, real time photos and results.

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