



CITY PULSE

SMART CITIES, ENVIRONMENT AND TECHNOLOGIES
MAGAZINE

Vol. 2

**Climate
Change In
ASIA**

**WOMEN
IN TECH**

**GCTC CPAC
COVID-19
eResourceKit**

Wicked Problem

**SMART CITIES,
SMALL BUSINESSES**



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We specialise in: Technologies (Digital Transformaton, AI, Cyber, IoT), Education, Housing, Health, Transportation and Smart Cities.



Editor's Note

Welcome to our 2nd edition

Thank you for taking time out to read our magazine.

50 million paid subscribers from around the world.

How the world has changed so much since our last edition. We are now living in times of extreme change and adaptation that is affecting every person's life around the world.

In this edition we focus on Wicked Problems, Digital Transformation, Fighting Energy Inefficiency, and a special focus on Women in Technology, with an exclusive interview with Sadaf Shaheen whose challenges range from a village girl in Pakistan to a leading international tech professional.

The focus of our magazine is Smart Cities, Environment and Technologies all of which are impacted by the current Covid 19 pandemic. Our magazine is primarily a community-based magazine, written largely by ordinary people from across the world and with input from:

We also feature Covid 19 Pandemic to Technology Renaissance as well as Digital Transformation.

- Research Institutes
- Book writers
- Universities
- Industry experts
- Politicians
- City leaders

For this edition, Amnick has agreed to offer all advertisements for free to all businesses to help them through these challenging times.

We hope you enjoy our magazine and if you do any comments would be welcomed at info@amnck.com

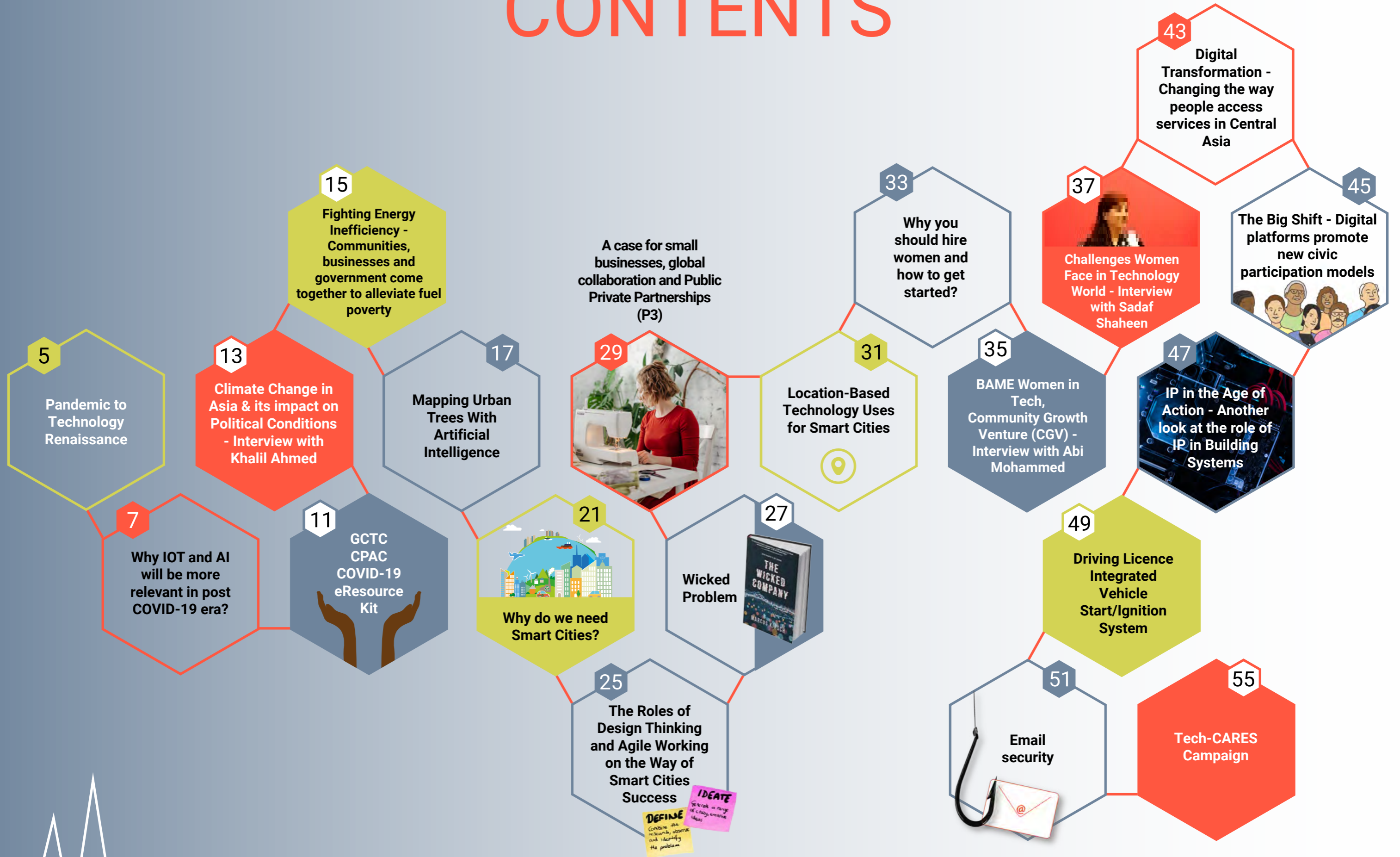
This magazine is shared with 10 million members of LinkedIn groups in our areas of interest. As well as being available to readers on Magzter platform with

John David
Amnick CEO



Designed by:
Rhiannon Griffiths

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Pandemic to Technology Renaissance

The COVID-19 pandemic has brought about a significant disruption to daily life and civilization. People are encouraged to social distance, stay at home, and not travel. The disease is an enemy that cannot be easily seen or fought. Communities, cities, and even nations are now forced to decide between quarantining to contain the pandemic or reopening businesses. The epidemic is also an opportunity to embrace new technologies and bring forth a Technology Renaissance. The biggest impediment to defeating the outbreak is the ability to detect the disease and do so at scale. Some nations have done a better job than others. Just as in the wars of the past, the pandemic will open the door to accelerated technological advances. Smart City initiatives all over the world show great promise. These technologies include such innovations such as Internet of Things (IoT) devices, network sensors, RFID tags, smart meters, robots, autonomous vehicles, drones, Virtual Reality (VR), Artificial Intelligence (AI), Blockchain, 5G cellular networks, and cloud services. Each technology by itself are just components, but together they can transform cities, nations, and the world.

IoT devices are small computing devices that are connected to the Internet and do not require human interaction. These include, for example, smart meters and network sensors. IoT devices, when implemented at scale within cities, can have far-reaching, direct, and noticeable impact. One example is in Copenhagen, Denmark, where a network of sensors monitor pollution and can produce a heatmap of air quality in real-time. Robots are programmable machines that can operate with or without human interactions. They can go to hazardous places where people cannot and perform tasks faster. One example in Wuhan, China, where robots served meals to COVID-19 patients, monitored patients temperature, facilitated communications, and provided entertainment. Another instance in Fukushima, Japan, where robots travelled to the contaminated areas at a nuclear power plant to inspect the damage from a massive earthquake in 2011. Further development of robots can be seen in drones and autonomous vehicles. In 2018, Lyft launched a self-driving ride service

in Las Vegas, Nevada using 30 autonomous vehicles to transport people without drivers. Drones, flying robots, are already being used by Amazon and Alphabet to deliver packages. The use of drones will only accelerate. Virtual Reality (VR) uses headsets to see and experience a simulated world. With the COVID-19 pandemic restricting travel and human interaction, VR can allow people to visit places virtually from home or conduct virtual meetings. People can also utilize VR to be immersed in educational training and have better knowledge retention. The stems from VR using multiple sources to create the virtual experience, not just sight, but sound, and touch. VR can also be used for urban planning to model buildings and integrate them with infrastructure. Such virtual worlds have nearly limitless possibilities. Blockchain is a decentralized digital list of records that contain encrypted data in a chain. It is a relatively new technology with great options since it is more secure and incorporates privacy. For example, Blockchain can be used for identification in voting, taxes, and transactions. Some nations in Europe already use Blockchain for storing medical records and as a digital currency. In the future, Blockchain could be used to minimize identify theft, automate secure financial payments, and reduce real estate fraud.

All new technologies need a network and infrastructure to operate, and for data to flow quickly and easily, cloud services and 5G are leading the way. Cloud services use on-demand computing resources hosted at a cloud provider to reduce costs and for scalability. By reducing the need for expensive data centres, simplifying infrastructure, and requiring fewer people to operate, cloud computing is the perfect infrastructure for new technology for the present and the future. 5G accelerates the speed of cellular networks. It will allow for new technologies to flourish from our mobile devices. Together with cloud services and 5G will drive innovation into the future. During the pandemic, such technology can save the lives of countless people. However, with all these technological innovations, there is a price for such progress, privacy. Among such issues include: network sensors and smart meters that can report

data from activities in homes and cities. RFID tags that can be used to track the movement of individuals. AI that can analyze large amounts of data to create profiles of individuals. Drones can also observe people from the sky. Just as governments can use the data from these devices, they can just as quickly be, stolen by hackers, organized crime groups, or nation-state actors. Although risks are high, Smart City initiatives and new technologies could be implemented with robust data security and privacy. First, frameworks can also be created to unify architectures and standardize to allow for interoperable systems. Second, privacy by design can be used to incorporate privacy in new technology, making it a priority. Third, governments and people can come together just as they did in past struggles throughout history for the benefit of all people. One example of this is when Taipei established a Project Management Office (PMO) in 2016 to host meetings and coordinate Smart City initiatives. Many new technologies can help to heal the world from the COVID-19 pandemic. Technology can be used to help people but may cost them their privacy. Many nations, cities, and peo-

ple are to decide the world we live in and choose to build a new, better world or go back to the old. History has shown that in times of chaos, technology advances. The world can emerge from the pandemic and into a Technology Renaissance.

About Adaptable Security Corp (ADA) ADA is a technology and management consulting non-profit consortium based in California. ADA specializes in helping over 500 cities and organizations address today's cyber risk challenges with strategies and execution that are actionable, repeatable, and legally defensible. The CARES Campaign is rooted in years of enabling cities and communities with proven smart, secure technologies and processes.

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Written by: Nathan Chung

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Images from: Freepik.com

Why IOT and AI will be more relevant in post COVID-19 era?

IOT and AI Trends

Studies show that Internet of Things (IOT) technology has picked up momentum in the past few years. Gartner states that "In 2019, an overwhelming 99% of companies either maintained or increased their budget for IoT (the average increase was 11%). And in 2020, budget allocations for IoT are expected to increase further". Many businesses have implemented projects to increase operational efficiency, enhance customer and workforce experience, mitigate risk and create new revenue (as-a-service) models.

Artificial Intelligence (AI) adoption has been also steadily increasing, with many decision makers realizing that data and AI are an essential part of the business "survival / growth" strategy moving forward. AI makes IOT data "meaningful", and IOT has been instrumental in enabling Artificial Intelligence, as data gathered from "things" was necessary for use cases of predictive maintenance, computer vision, predictive health and others.

However, some industries were still lagging behind with slow adoption of IOT and AI for reasons that ranged from lack of business case, a long ROI payback, not seeing the disruption in the industry among others. This is about to change and the driver is not something that businesses or industry analysts saw coming: the global crisis caused by COVID-19. The change might be massive to the point that COVID-19 could be named the Global Chief Digitization Officer of 2020!

The post COVID-19 Era

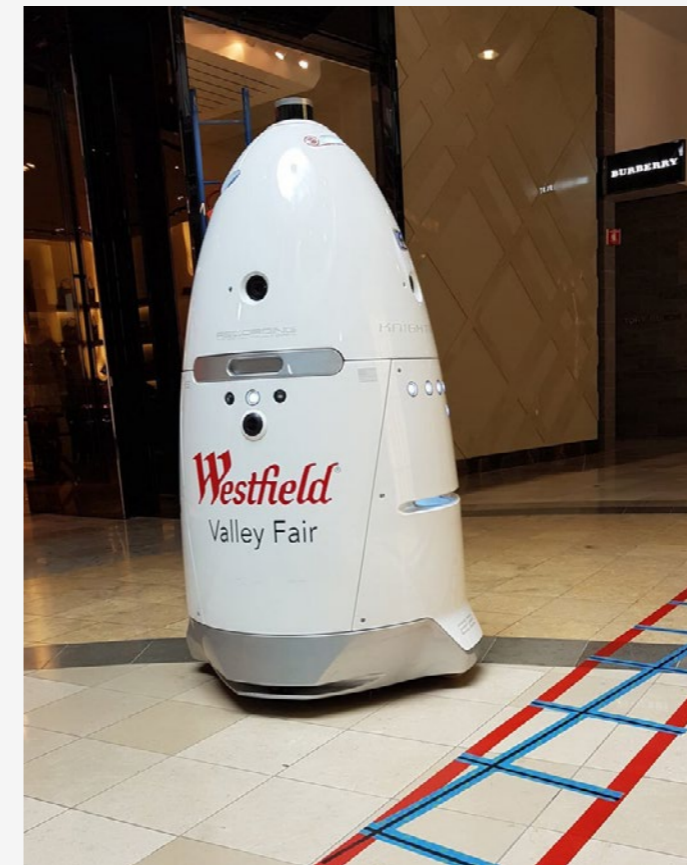
As the world recovers from the global crisis, we'll be seeing much more adoption of IOT and AI use cases. Businesses will be scrutinizing every item that affects the bottom line; looking to automate tasks, creating higher operational efficiencies, reducing workforce exposure to infectious environments, and making fast and efficient decisions in times of crisis. IOT and AI will be two major tools that businesses will adopt: IOT enables remote readings of data from areas where human presence might be deemed dangerous, once remote devices are connected, control becomes as easy as clicking a button on a computer screen.

AI will enable better business insight through the analysis of real-time and historical data. Computer vision on video surveillance cameras is a good example: there will be more adoption of video surveillance for remote monitoring, real-time meta data generated through video analytics will enable real time alerts and ability to quickly find events for post-event investigation. Here are a few examples of use cases that will thrive with IOT and AI.

99% of companies either maintained or increased their budget for IOT in 2019

Robots and Drones

Robots have been perceived as a threat to many jobs, however, in this new world, we will get used to machines performing tasks such as food and coffee preparation, food delivery, mall security patrol and others. Many malls in Silicon Valley have already adopted robots for security patrol. Police departments are adopting Robot-patrols and aerial patrols through drones. This need for drones will accelerate drone-related regulations around the world. The robots and drones are enabled with computer vision for smart navigation and object detection. This will ignite privacy debates as cameras could potentially identify individuals, and this will be counter-argued by needs of "safety and security" for the public.



A robot doing a patrol in the Valley Fair Mall in Silicon Valley. Source: https://www.reddit.com/r/mildlyinteresting/comments/6bc6pd/this_mall_in_silicon_valley_has_a_robot_mallcop/

IOT Wearables

Wearables - smart devices that humans wear to detect, analyze, and transmit information concerning body signals such as vital signs - have been used for many years in the consumer and industrial industries.

As businesses automate systems and deploy less resources in areas where humans must be present, the safety of these field workers will be of paramount importance. For example, in the oil & gas and utilities industries, wearables are used to track real time location, total active hours, fatigue, and man down situations. The command and control center will receive alerts if any of the worker's readings is outside normal ranges. Moreover, by collecting this data over time and analyzing it with AI algorithms, patterns of fatigue can be identified and avoided, hence resulting in better operational efficiency.

Detecting changes in workers' vital signs is used to indicate the individual is in distress. A nice example of such a system is the Blue Force Tracking solution, implemented in the Netherlands.



The professional wearable vest collecting data to track of real time location and body signals. Source: <https://www.nalta.com/experience?hsCtaTracking=2039fc41-aece-47e0-8af4-285ea0b18fa>



The technology works with webcam and PC. Image Source https://www.neurotechnology.com/sentigaze_sdk.html

AI in Education

During the crisis, remote learning has become the only form of education in many countries around the world. Although many institutions have decided to drop major exams for this year, there will be a need to come up with innovative ideas to have students test from home, while ensuring the testing rules and regulations are met. AI could be a technology that will come to the rescue: with computer vision, an exam can be run at home, while the camera is watching the students face, analyzing behavior to ensure he/she is looking at the exam screen only. AI could also analyze voices in the student's environment to ensure the student is not getting remote help.

The extent to which this global crisis will affect how we live, the way we'll use technology and what will become a norm is not yet known. One thing is for sure: this crisis will propel the adoption of emerging technologies and get them in our hands sooner than we thought.



Written by: Hani Khalaf

Designed by: Lena Privalenko

Amnick International Collaboration Team



Our Services

Environment-Transportation-Cyber Security
AI-Iot-Digital Transformation-Innovation

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- Technologies

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GCTC CPAC COVID-19 eResourceKit

We are faced with many global challenges during the COVID-19 pandemic. FBI is cautioning against the "other" Coronavirus Crisis, Cybersecurity & Privacy risks and scams. There is a lot of current and anticipated criminal activities at an unprecedented scale as criminals devise means to prey upon the public's fears. This eResourceKit is your guide to Working, Learning and Living from Home with your security and privacy defended. It will be a long and challenging road for us all, but we can and will get there, together. Cities and Communities, Businesses, First Responders, Hospitals and Self-Employed/Gig Workers: This is for you.

Our Objective: share succinct, actionable guidance on Security and Privacy for the new operating and living environment we are all in now, as well as provide insights and warnings on cyberattacks, scams and malicious activity that may be more dangerous in our Work From Home world; or are unique to COVID-19 related environment.

This e-ResourceKit shares:

1. Tools for operating an organisation of any type in the current time of COVID-19. Gig workers and the self-employed have the same common challenges as first responders, healthcare professionals, businesses, nonprofits, K-12 schools, and our local government municipalities in these unprecedented times. You all need to find solutions for:

- Remote Access
- Communication
- Security & Privacy

2. Recommended, expert-vetted secure tools and advisories on current scams and targeted malware, phishing campaigns.

COVID-19 Toolkit for:



3. Best practices for common risks, leveraging existing or new resources:

- Cloud Security
- Ransomware
- Phishing
- Account for shadow IT
- Patching
- Multi factor authentication

CISA Insights: Risk Management for Novel Coronavirus (COVID-19) which provides executives a tool to help them think through physical, supply chain, and cybersecurity issues during the pandemic.

4. GCTC COVID-19 Projects

There are applications being created globally to track citizens that may have COVID-19 or have been exposed to someone who is, perform surveillance, carry out tests for symptoms, etc.. These applications may have Privacy and Security risks and vulnerabilities. We have Volunteers with deep Security & Privacy skills that can provide validation of Security/Privacy Architecture, Design and implementations.

We are adding resources in an easy to consume format such as that organisations who may not have a large number of resources can act on the guidance for business resilience, security and minimize impact on revenue.

The EResourcekit is available at:
https://gctc.opencommons.org/GCTC_CPAC_COVID-19_eResourceKit.

You can reach me at: Pamela.Gupta@outsecure.com with any questions, comments or suggestions.

Written by: Pamela Gupta
Editor and NIST GCTC COVID-19 Task Force Co-chair

Designed by: Stuart Kinnear

GCTC

CPAC

Climate Change in Asia & its Impact on Political Conditions

Interviewee: Khalil Ahmed

Political Economist & Political Philosopher, Pakistan

Briefly please introduce yourself and your immersion as a Political Economist and a Political Philosopher.

I am a Political Economist and a Political Philosopher. I cherish a cosmopolitan spirit and consider myself a Moralistic and a Rationalist. I founded the first free market think tank in Pakistan, Alternate Solutions Institute (www.ASIInstitute.org). I wrote/published hundreds of articles on a variety of economic and political issues. I am also an Author to a number of books on politics, economy and statecraft in Pakistan. More information you can find on my personal website - www.PakPoliticalEconomy.com



How do you perceive 'Natural Climate Changes' as a threat to overall Asia's Economy?

As for the "Natural Climate Changes," and their impact on Asia's economic conditions, climate changes occur as a consequence of long-range seasonal cycles spanned over centuries, and there may be man-made factors affecting it too, but that's a farfetched conclusion and at best it is guesswork that's climate alarmists are using to increase the size of govern-

ment spending which in turn is burdening the people with more and more taxes. In my view, more than the impact of natural climate changes, it is government policies that affect the economies of Asia. For example, for the last few decades Pakistan is moving in a vicious cycle of ever-increasing spending by the government.

http://www.longrangeweather.com/global_temperatures.htm?fbclid=IwAR16wB-p7-JPtzpmTS58iX-13C8yRI8Pv02XIErOD6rhSqKzgy_91em2mv-c

How do you consider 'Advance Technological Tools help fight against Climate Changes, affecting Human lives?

No doubt, prior to the industrial revolution, the graph of environmental degradation was very high; but with the improvement of industry and technology, the environment started improving. That's a lesson that tells us that advanced/advancing technology not only improves natural environment, it unprecedentedly better human conditions also.

Please share your pros and cons thoughts regarding Artificial Climate Control in relation to Political impacts. Why do you think certain Asian States refuse to avail AI's (Artificial Intelligence) help?

AI is sort of help from without. But controlling climate may backfire; it's a global as well as cosmic phenomenon. We should be doing our bit, the human effort, to improve the environment and in order to that AI could be a great help. As for political impact, that is taxing and regulating choices of the people, in no way that's advisable. That will increase the power of the already too much empowered state authorities, and make the life of the people poorer. The Asian states that have the capability of using AI, whatever their reasons for their refusal to avail the AI, many an Asian states, such as Pakistan, India, simply don't have capability of making use of AI.

China stands as a Global Leader regarding Climate disaster. What are your thoughts on it?

China is a rising industrial and technological power, but for the fact that it's not a knowledge-based economy, and since it is involved in too much international politics pedaling influence through its BRI (Belt and Road Initiative), it may need to focus on the issues related to the environment and human conditions. First, let it deal with the Wuhan Coronavirus, that's a test case for a country eager to act as a power with an international stature.

What do you have to say about the Smog and Atmospheric unhealthy pollution crisis that took place in both Pakistan and India recently?

It is in such areas that the capability of these two Asian countries exposes itself. As far as smog and

pollution are concerned, there is no awareness in the respective governments in Pakistan and India. There is no long-term strategy to deal with them. Both governments just keep on sleeping till the moment it starts hurting the population. The only good thing is the civil society of Pakistan and India which spreads awareness in the people and pushes the governments to do its part.



How much is the Environmental degradation costing Pakistan and India's Economy?

Why are the governments of Pakistan and India unable to control Climate Pollution? More than the economy, its human lives that matter, the environmental degradation is hurting very badly both in Pakistan and India. Often, Karachi, Lahore, Faisalabad, Delhi, Lucknow, Patna, etc. are ranked at the top in various indices that judge the bigger cities for pollution.

How do you think risky political games are playing a vital role in aggravating Climate Change?

As stated above, the concept of Climate Change is a political one. It's not based on scientific evidence. In other words, it may be said that it is based on half-cooked evidence. That's why it is out-coming in an increasing role of government. Whereas what the governments need to focus on is the environment, that is a clean and green environment.

Interviewer: Sadia Farooqi

Designed by: Rhiannon Griffiths

Fighting Energy Inefficiency

Communities, businesses and government come together to alleviate fuel poverty



Figures reveal that 10% of all households in England live in fuel poverty. A household is said to be in fuel poverty when its members cannot afford their fuel costs, given their income or their fuel costs are above the national average. Three factors - Fuel prices, household income and energy efficiency, effectively determine whether a household has fuel poverty or not. It is also understood that energy consumption in households contribute almost 25% to overall CO2 emission in urban areas. Many cities and councils across the UK, as part of their sustainability strategy aims to make their energy consumption more efficient and sustainable as they understand that energy measures efficiency in buildings can support several other cities. Goals such as boosting economic activity, improving the quality of life, reduced CO2 emissions and lesser import of fuels. There are various short terms and temporary measures to improve fuel poverty such as installing prepayment meters, using energy efficient equipment at home, cold weather payments, ECO funding and many more, but energy management needs

structural overhaul and greater participation from all impacted stakeholders to achieve their goals. Technology and innovation are playing a big part in helping cities achieve some of these goals, become more sustainable and energy efficient. The City of Milton Keynes has developed a unique solution (figure 1) to transform energy usage by bringing communities and businesses together on a common platform. This platform enables a bottom-up community-based energy initiatives and aims to reduce CO2 emissions while reducing citizen's energy bills.

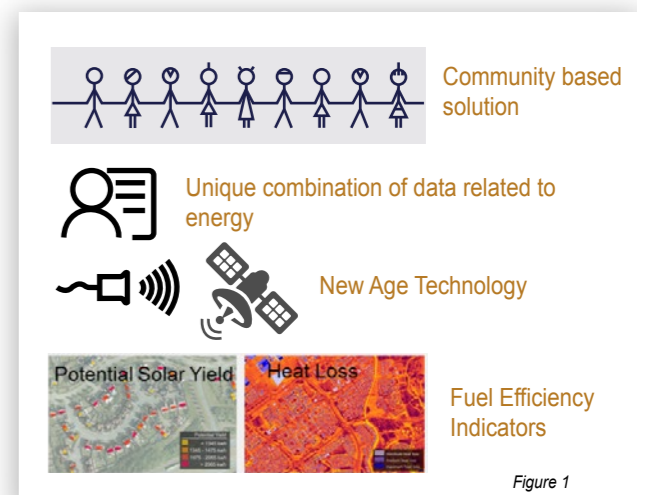


Figure 1

The platform connects citizens and business together with an amount of energy related datasets – generated by data from citizens themselves, a mix of open and licensed data, combining satellite and aerial imagery (solar or ground source heat pump potential), socio economic and energy consumption data. Such detailed information has enabled accurate targeting of energy efficiency measures. For example, houses with the highest Solar potential are identified easily and can be reached by businesses using this platform. While technology will play its part, there is a need for strategic energy planning and investment especially in new age energy retrofitting. Older neighbourhoods, which are typically impoverished, mostly live in fuel poverty.

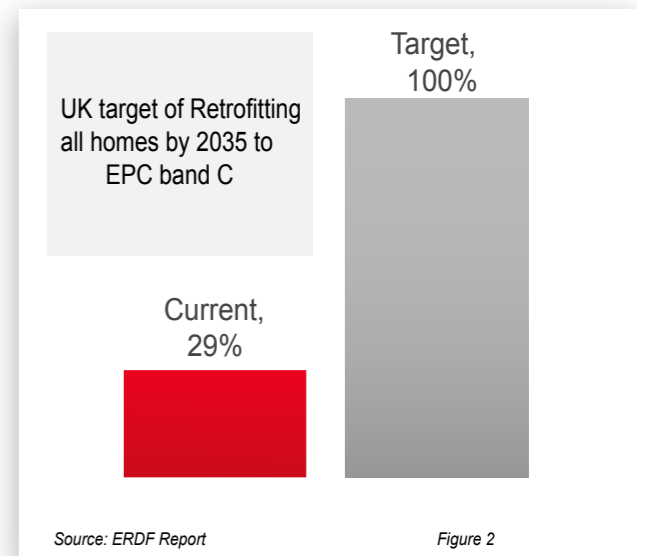


Figure 2

They have low income and cannot keep warm at reasonable cost. These neighbourhoods across UK are in desperate need for energy efficient renovation or energy retrofitting. Due to lack of funding and rising costs, UK has been able to achieve only 29% of its ambitious target of retrofitting all homes to standard EPC band C (figure 2). To overcome the costs for renovations, many cities have established public-private partnerships with housing partners. The City of Liverpool with the help of EU funded REECH project and private partners implemented new age 'whole house' model of energy retrofit in communities targeting 3,375 homes that resulted in carbon reduction of 20,736 tonnes over a 5-year period almost 10-15% in energy usage. The City of Liverpool with the help of EU funded REECH project and private partners implemented new age 'whole house' model of energy retrofit in communities targeting 3,375 homes that resulted in carbon reduction of 20,736 tonnes over a 5-year period almost 10-15% in energy usage.

Energy efficiency is defined as the cause of fuel poverty and is also the solution. When done correctly it has a huge impact on the households as well as other critical aspects of a city. Therefore, it is imperative that communities, businesses, technology innovators and city councils come together to champion the cause of energy efficiency. As we have seen in the case of Milton Keynes where local communities with the help of the city council and more than 20 participants from the business community jointly piloted the energy efficiency project and has achieved considerable success.

Written by: Sudip Bain
Digital Strategy Consultant Tech Mahindra

Designed by: Boglarka Szoke
Images from: Pixabay.com, Freepik.com



Mapping Urban Trees with Artificial Intelligence

Do you live in a city? If you answered yes, you are not alone. Rather, you are part of the 55% of people spending their lives in urban environments. We now must reimagine how we live in an era of climate change. It begs the question: how do we create healthy and resilient cities under climate change conditions?

Healthy trees and forests provide communities with a host of climate-related benefits. Active planning, management, and care of the urban forest can be useful both in mitigating climate change and in helping cities adapt to higher temperatures, increased rainfall intensity, storm surges, flooding, and other impacts of climate change.

Despite these benefits, urban tree canopies continue to decline. The average lifespan of an urban tree is between 13 to 20 years old, and whilst the majority of social and ecological benefits come with age, most never reach adulthood. There are also issues of disparities in the tree canopy. More trees tend to grow in neighbourhoods with money and influence; low-income areas often have a fraction of the trees found in more affluent areas.

Technology can and should be involved in creating and managing greener, more liveable cities. Herein lies the connection with the so-called "smart city", where information and communication technologies increase the quality of government services and citizen welfare. The question is: how can we apply advancements in technology—namely big data, AI, and machine learning—to urban forest management?

Our company, Green City Watch, "takes nature online" to allow urban foresters, arborists, and landscape managers to manage trees faster, cheaper, and more accurately so cities can invest their resources in acting, rather than collecting and playing catch up.

Since 2018, we've built greener, smarter cities using geospatial AI and data-driven urban ecology. Our suite of products drives evidence-based urban green space management with near-real time (geo)data on irrigation, ecological hotspots, and standing water and flooding. Our flagship product, TreeTect™, offers a smarter way to identify, map, and track one of the most important urban infrastructure assets - trees. While "smart cities" continue to innovate and invest

in applications for "smart" waste management, mobility, and outdoor lighting, tree care and management have lagged behind.

How does it work?

After speaking with 50+ city officials, it's clear the current (manual) process for managing tree inventories is labour intensive, costly, and rapidly out-of-date. Three things cities can do better. TreeTect™ empowers tree managers to take stock of their tree inventory in near-real-time whilst saving time (an impressive 90% less) and money in the process. A digital tree inventory by TreeTect™, coupled with individual tree health monitoring optimises manual fieldwork, allowing tree managers to "tree-age" treatment based on the severity of the tree's conditions. Since most urban trees never reach maturity, yielding sunk costs for cities and people, it's imperative to apply intelligent and proactive (as opposed to reactive) methods for monitoring individual tree health. Especially if we want to increase tree longevity in cities.

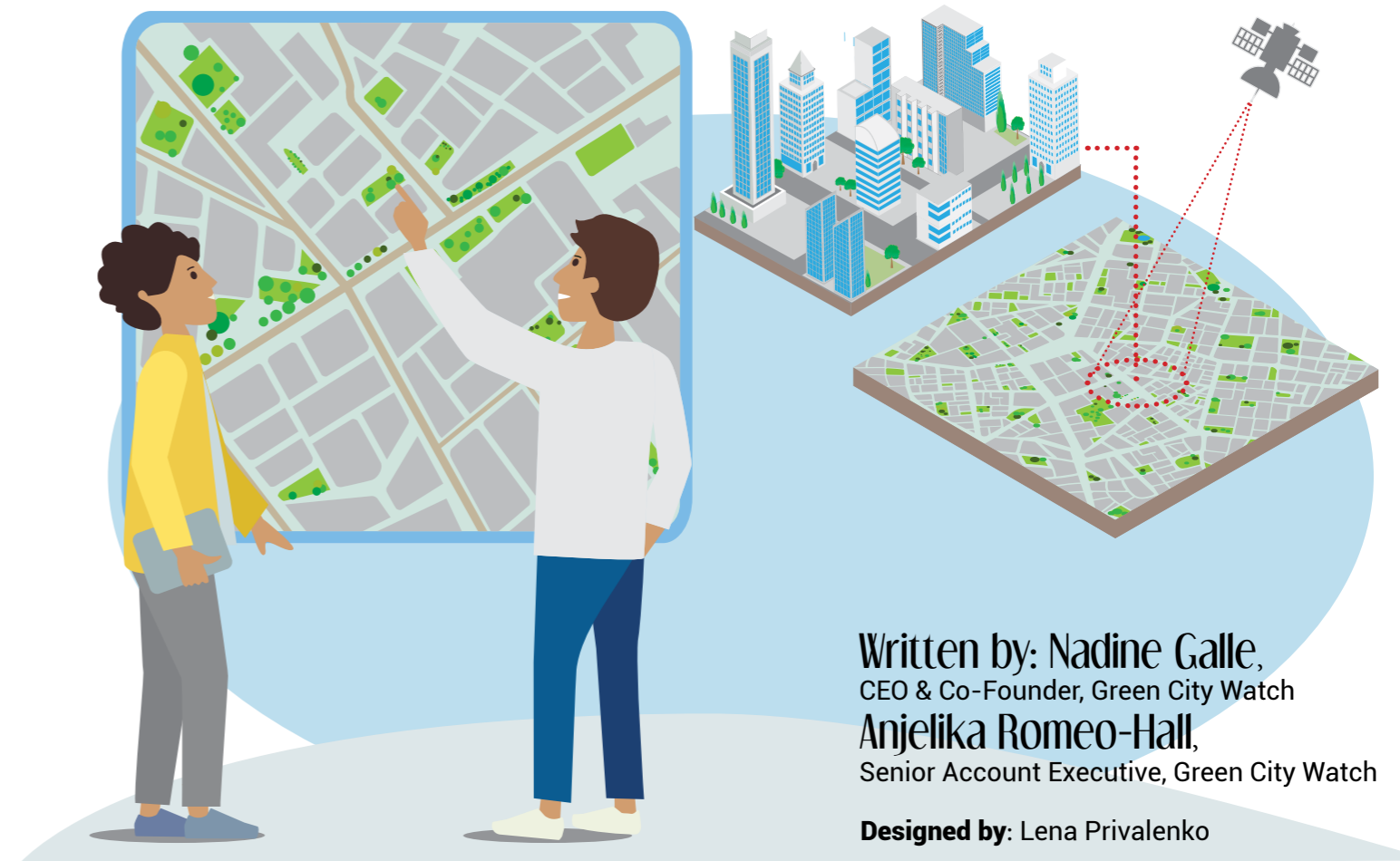
TreeTect™ technology draws on hi-res satellite imagery, machine learning, and LiDAR data (if available) to detect individual tree location, size, shape, species, and its physical condition. Last month, we successfully completed our first major project with the City of Boston. We applied TreeTect™ to deliver a complete

tree map of Nubian Square, a neighbourhood in southern Boston, by combining artificial intelligence and satellite technology. Time spent on the tree inventory process, traditionally done by hand, was reduced by a third.

The project, which was first-of-its-kind in the US, mapped the health of individual trees across the area, detecting thriving hotspots and identifying how equally trees are distributed across Nubian Square. As a result of the project, the data provides a baseline map which can lead to the revival of unhealthy trees, the removal of dead trees and the filling of empty tree pits with new trees.

What's next?


Green City Watch is an Amsterdam-based geoAI firm, bringing ecological engineers and geo-data scientists together to build a world in which every human being can freely access wild and beautiful nature, at their doorstep. We are currently exploring the North American and European markets, with clients confirmed in the United States. We also have experience applying our technology to developing economies, with clients in Indonesia, and valuable collaborations with leading sustainable development organisations like the World Bank Group. By working globally, our technology continues to scale across urban landscapes everywhere.



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Senior Account Executive, Green City Watch

Designed by: Lena Privalenko

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Why do we need Smart Cities?



Most nations', during the past and present century, have experienced the rapid growth of an urban population. Over half the world's population now inhabits a city, and by the close of the century cities will contain most of humanity.

City leaders – standing before this phenomenon - are tasked with an exceedingly difficult job. Urbanisation is the most enabling parallel processes for a nation's economic and social progress. Learning how to make cities inclusive, safe, resilient, and sustainable places to live will be the greatest challenge of the 21st Century.

Initially - as a constantly developing, relatively new process of the past and present century with widely varying rates and results - understanding of urbanisation was limited. Overlooking its significance for several decades has meant the bad and certainly the ugly things have been neglected.

Excessive consumption of resource, strain on services and infrastructure congestion, unwanted emissions, at its worse, lack of affordable housing, shortage of basic amenities, unemployment, spatial segregation, informal settlements, and inequality of access. Just some of today's urban ills. In the most developed, let alone the least developed nations, overcoming these will be no easy feat.

The worlds rapid urbanisation

Europe and Northern America – having experienced an early industrialisation - urbanised rapidly throughout the Twentieth Century. By 1950, with just 32 per cent of the world's total population, they accounted for 59 percent of the world's urban population. With over 81 percent of their population inhabiting the urban environment they remain the most urbanized regions.

As high-income nations -they correspondingly have the world's most successful urban economies. 600 cities, including some recent additions from

upper-middle income nations, account for 60 percent of the global economy. Their capacity to generate income, produce national wealth, attract investment, and ultimately provide access to millions of jobs is leveraged by large scale public investment in education and health institutions, as well as infrastructure and services.

High-income nations have achieved this leading edge at the cost of unrestrained consumption and production practices. Reliance on the economic performance and influence of cities has meant the humanist character of cities has not been affirmed nearly enough. Cities, according to the United Nations, occupy roughly three percent of the world's land but consume 75 percent of natural resources and produce 60-80 percent of all greenhouse gas emissions

Still, "the city" according to the United Nations "is one of the highest pinnacles of human creation ... Through agglomeration, [they] have the power to innovate, generate wealth, enhance quality of life and accommodate more people within a smaller footprint at lower per capita resource use and emissions."

The World Bank similarly affirms: "no country has grown to middle-income without industrializing and urbanizing. None has grown to high-income without vibrant cities. The rush to cities in developing countries seems chaotic, but it is necessary."

The Global South - referring to low and middle-income countries in Asia, Africa, Latin America, and the Caribbean, is now the best representation for the world's urban population. As developing nations, they do not have the capacity to meet the needs of a rapidly growing urban population. Between 1950 and 1975 overlooking uncontrollable urban momentum in the Global South neglected the growth of urban slums. By 1990 there were 689 million inhabitants, up to 791 million in 2000 and recently 880 million in 2014.

- 600 cities account for 60% of global economy
- Cities make roughly 3% of the world land, but consume 75% of the natural resource
- Cities produce 60-80% of all global emissions



Latin America and the Caribbean, having urbanized rapidly since 1950, has a similar proportion of its population urban to today's high-income nations. Africa and Asia, now account for most increments of the world's urban population. In the period 1950-1970, these two continents accounted for 52 per cent of all the increase in the world's urban population. share that rose to 81 per cent in 1990-2018, with 64 per cent in Asia alone. Africa's urban population is likely to nearly triple between 2018 and 2050, while that of Asia is likely to increase by over 50 per cent.

27 of the world's 33 megacities - of more than 10 million habitants - reside in the Global South. Developing productive economies within the largest cities has contributed to disproportional urban primacy. As the United Nations explains: "urbanization is often conflated with agglomeration, but they are not synonymous, especially if the fastestgrowing areas are small cities and towns rather than major cities". In the Global South, the fastest growing urban centres are indeed the small and medium cities. In 2018, they account for 59 per cent of the world's urban population and 63 per cent of the urban population in Africa.

The Global South must accomplish in a few decades what high-income countries achieved in over a century or more. These nations will face challenges in meeting the needs of their growing urban

populations, including for housing, transportation, energy systems and other infrastructure, as well as for employment and basic services such as education and healthcare.

The world's attention shifts

Using the United Nations as a presidency for national and international discourse, a true understanding on the dynamics of urbanisation and the nature of growth has taken several decades.

Urbanisation has only received the attention it justifies in recent decades:

- Nations in 1976 acknowledged responsibility for the "emerging future" of cities and committed to alleviate the worst conditions of "uncontrolled urbanization" in the UN Human settlements programme (Un-Habitat).
- Nations in 2000 committed to the UN Millennium Development target to "achieve, by 2020, a significant improvement in the lives of at least 100 million slum dwellers".
- Nations in 2015 committed to the standalone UN Sustainable Development Goal to "make cities and human settlements inclusive, safe, resilient, and sustainable by 2030".

Reinventing and reengineering cities

The term 'Smart City' has emerged as a solution to reinvent and reengineer cities. In the 90s, scholars

and practitioner's, intent on comprehending how urban potential can be most effectively and efficiently fulfilled, as well as solving the environmental and social substantiality issue of cities, discussed the advantages of making cities intelligent using Information and Communication Technology (ICT).

Driven by Europe (37%), closely followed by Asia-Pacific (28%), as well as Africa (13%), America (13%) and Latin America and the Caribbean (9%) - outlined in the United Nations 'Smart Sustainable Cities: Reconnaissance Study' (2016) - cities throughout the developed and developing world are engaging in 'Smart City' initiatives.

The 'Smart City' has become a Twenty-First Century buzzword. In its most holistic conception, it is a means to reduce energy consumption, streamline city management, improve the accuracy and quality of decision making, provide customized services to city residents with diverse interest in a more efficient manner, address urban problems and improve quality of life.

The pervasive character of data and services - known as the 'Internet of Things' (IoT) envisions to collect live insights on the environment, urban life, and public services, that in turn, re-inform innovation and efficiencies for more effective and smarter decision making. Some cities are being made smart using urban apps, big data, intelligent infrastructure, city sensors, urban dashboards, smart meters, smart buildings, and smart grids. Others are being built to be smart from the start.

The principles of urban planning are of paramount importance to deploying IoT platforms. Researchers on the 2019 'Drivers and Barriers for Smart Cities Development' explain 'Smart Cities' will connect multiple stakeholders - "not only local authorities, and leading companies in the information technologies, but also scientific and philanthropic organizations, companies, investors, and citizens."

Can the 'Smart City' save urbanisation?

In the coming decade, surrounding the Sustainable Development Goal, will smart reinventing and reengineering of cities, mean the worlds concrete jungles can be the places what dreams are made of? If so, in a turn of events, will cities avoid being defined by excessive consumption of resource, strain on service and infrastructure, unwanted emission and citizens excluded from the entitlements of living in a democracy? As it stands, high-income nations, as the leading edge of urbanisation and historically large contributors of unrestrained consumption and

production practices, have a debt of responsibility to make cities inclusive, safe, resilient, and sustainable. Many have already begun to deploy IoT platforms to re-inform urban planning - managing everything from traffic flows and parking to water and air quality.

Low-and-middle income nations, on the other hand, must quickly grasp this opportunity for planning and managing the future of urbanisation. The pervasive character of data and services has the potential to inform investments for early and coordinated urban planning into public Infrastructure and services. That will prove crucial for the tremendous deficit - circa \$40 trillion - necessary to meet the needs of these emerging urban economies.

In reality, "Smart City development is highly complex, challenging and context-specific" explains the United Nations in the 'Smart Sustainable Cities: Reconnaissance Study' (2016). Only 8% of 'Smart City' policy organizations are based in the Global South, and 12% of the most published research on 'Smart Cities' is being produced in the Global South. If we are to bridge the gap there is a need for local and contextualised research and action in developing nations.

References

United Nations Human Settlements Programme (2012) *Urban Patterns for a Green Economy Working with Nature*. Nairobi, Kenya: United Nations Human Settlements Programme.

The World Bank (2009) *World Development Report 2009: Reshaping Economic Geography*. Washington, United States of America: World Bank.

Turok, I. and McGranahan, G. (2013). 'Urbanization and Economic Growth: The Arguments and Evidence for Africa and Asia', Sage Journals, Volume: 25 issue: 2, page(s): 465-482.

United Nations University (2016). 'Smart Sustainable Cities - Reconnaissance Study'. Canada: United Nations University.

Veselitskaya, N. and Karasev, O. and Beloshitskiy, A. (2019). 'Drivers and Barriers for Smart Cities Development', *Theoretical and Empirical Research in Urban Management*, Volume: 14, pages(s): 85-110.

Written by: Sam Myhill

Collaborative journalist with Amnick Social Enterprise



Designed by: Lena Privalenko



The Roles of Design Thinking and Agile Working on the Way of Smart Cities Success

It is a common myth that technology is a solution to address many problems which exist in today's world or in our society. Smart cities are no exception to that. It helps to improve the quality of life of every citizen with the help of urban informatics. In other words, it raises the standard of every person. Urban informatics means, to implement ICT and its data in the context of cities and urban environments. In this digital era, these data are not just considered as numbers or any info, it can be inferred like a statistical inference in Six Sigma or Statistics.

Why urban environments in the above context? Today, 1/2 of the population lives in cities, whereas in the next 3 decades, 2/3 rd of the world's population is forecasted to live in urban areas. The key goal is, to travel efficiently from one place to another by considering traffic congestion in more dense areas.

In the view of the environment, it leads to a friendly atmosphere. For example, air quality sensors around the city can track air purity level. From a city safety standpoint, it leads to a safer city with the help of leveraging various technologies and reduces strange activities. Therefore, smart city means leveraging technology to transform the lifestyle of citizens and the environment. The key areas are healthcare and public services.

According to IDC, \$124 billion is forecasted to invest in 2020 especially in smart cities initiatives. In terms

of market share, US and Western Europe ranks 1 and 2 respectively. To explore multiple rigid use cases, it is a right opportunity for us to think from the end user side especially with few considerations during COVID-19 period. From a Design Thinking perspective, this period helps to empathize, how to leverage the various technologies which exist today to a greater extent. Design thinking which is a human centered approach, the idea is to develop solutions which are tailored to the needs of citizens i.e., understand the core problems that the individual is facing now. According to Grand View Research, the market size will be worth \$463 Billion by 2027. The areas include healthcare, transport, water, assisted living, security and energy. It also includes the services with respect to implementation.

All the above quoted numbers might be changed now due to the importance given to COVID-19 from the government and various corporates. But HfS Research highlighted that, an initiative like smart cities, are critical enablers to fight against in a situation like COVID-19.

The key concern is, it requires hefty investment from the government and cautious steps are required towards the implementation, but it changes the lifestyle of every individual in the country. In Oct 2019, Gartner listed the top 10 technologies to be used by governments by 2020. Agile approach from the beginning is one of the items in their list. For this, CIOs must create an agile responsive environment. 360 degree of a citizen view and early intervention are

the keys. With an agile approach, we can learn how to create pilot programs and away from traditional governance.

From a technology standpoint, IoT and AI plays a pivotal role in this space. AI will be used for predicting events by reading several years of data and its incident. Also, the plans or roadmap with respect to smart cities are not supposed to be overpromised and under delivered which leads to various risks. In the lens of evolution, there is no edge for smart cities. It continues to improve and continue to expand.

To celebrate the success, one needs to groom their lifestyle with the present day demands. This is called "Put People First", then Technology. Imagine If everything goes well, when we're in a smart city world, if we travel from one place to another, you can sit back and relax in your car, especially in a traffic congested city. That's called True Success!!!



DESIGN THINKING



Written by: M. Muni Prabaharan
A Change Agent / Independent Researcher

Designed by: Rhiannon Griffiths

Wicked Problem

Digital transformation is too focussed on technology. They tend to fail as investments. According to Forbes via Michael Gale, 84% of digital transformations fail to generate the business benefits they promise. A focus on transforming the 'digital' estate without addressing the cultural aspect of change and the actual outcome or problem to be solved, is like buying a speedboat for your pond. Blaming it on the tools is a lazy way to blame your shortcomings. And it will prevent you from enabling the step-change your business needs.

Your business and its culture and mindset need to lead the use of the characteristics that our new technologies have. Not the other way around. Otherwise, speedboat ... pond.

The three hygiene factors below are a culmination of my 20 years working in innovation and transformation for organisations such as BT, GSK, Nationwide, Nissan, HSBC and many others.

The Mission Statement of Why

Knowing the problem is half of the solution. Since the industrial revolution, where we had simple or 'tame' problems, we designed organisations in a way that expected upper-management to know everything about the solutions. In a world, where the customer's expectations and change of need is highly complex and by definition 'wicked', a handful of people in a room will continuously fail to un-

derstand the problem. The best startups are not the ones with the most comprehensive solutions, but who understand the problem they are working on best.

As a leader, you have to communicate the initial problem better and understand that your teams will explore and expand its maturity and granularity of understanding. Let them educate you.

As a team, you need to get as close to the problem as you can and be allowed to tell your leader what the real question is.

You will want to develop a problem statement that everyone can read, write and share.

Redistribute Decision-Making

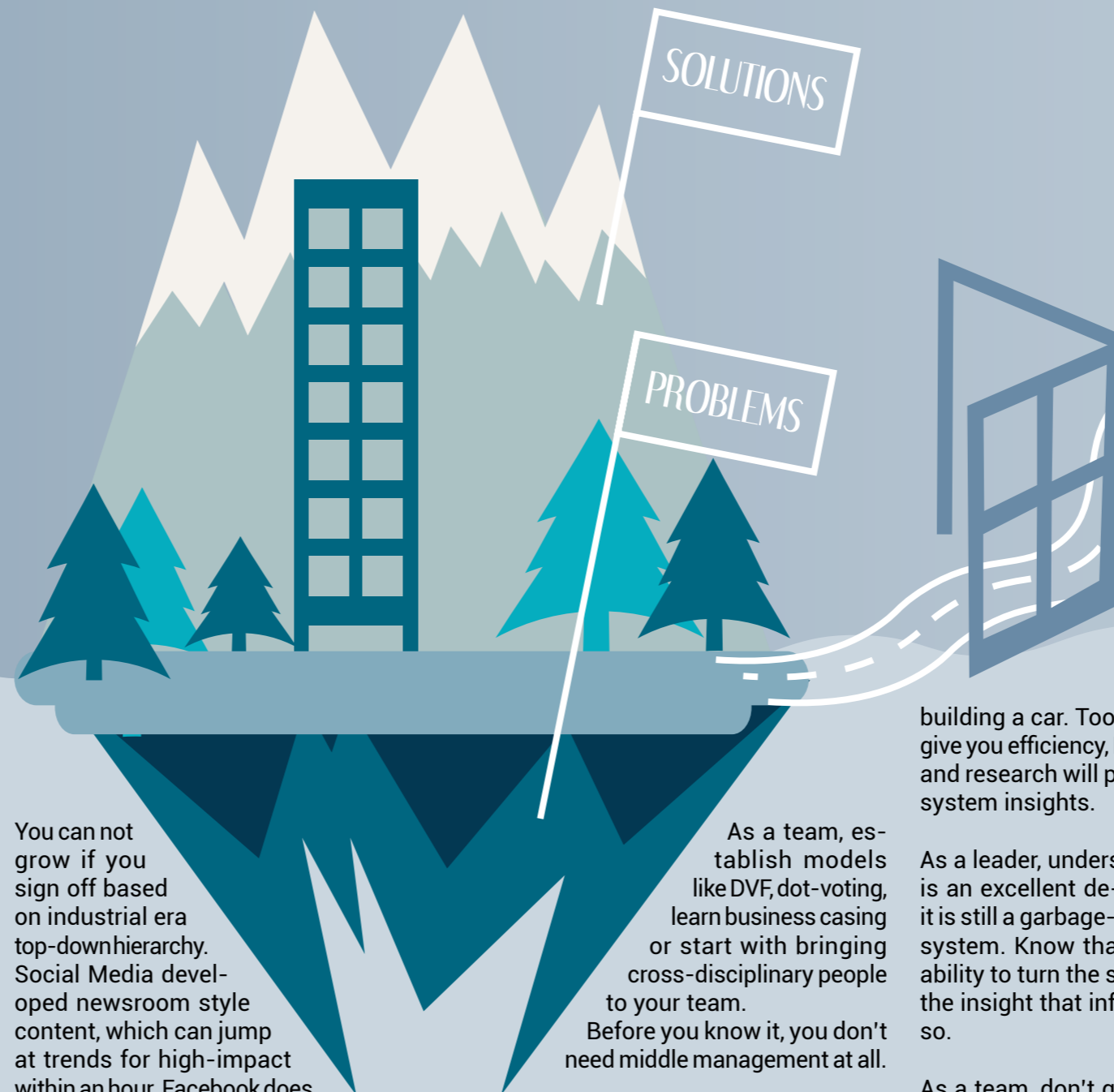
Governance has to be disrupted so that organisations can evolve. Modern organisations test and build many more things than classic ones.

You can not grow if you sign off based on industrial era top-down hierarchy. Social Media developed newsroom style content, which can jump at trends for high-impact within an hour. Facebook does dark-posting to 1,000 niche customers. Imagine each step would need days to be approved by your current management structure. Today, DVF and other assessment models de-risk decision making. Today cross-disciplinary teams outperform single silo teams in better decision making. Enable them so that you can test and succeed more and faster. As a leader, remove product or service owners and establish 'good enough' as a decision model. Make sure research data drives the team's decisions.

As a team, establish models like DVF, dot-voting, learn business casing or start with bringing cross-disciplinary people to your team. Before you know it, you don't need middle management at all.

Avoid Speed

The internet, Amazon, Facebook, Uber or Airbnb are not successful, because they are faster than their competition. Their dominance is based on the system benefits in their offers. A system is a wicked problem, complex and evolving. But it can create something of an exponential impact if you take time to understand it. Efficiency only grows linear. Playing along the system can be exponential, like a virus. Efficiency is making a horse run faster. Solving a wicked problem is



building a car. Tools like Agile will give you efficiency, Design Thinking and research will provide you with system insights.

As a leader, understand that Agile is an excellent de-risier, but that it is still a garbage-in-garbage-out system. Know that you need the ability to turn the ship around and the insight that informs you to do so.

As a team, don't get caught up in using your tools to focus on producing more in less time. Use tools and activities that get you closer to the problem.

Epilogue:

Ignoring the above, you will likely:

- Not let your organisation improve its understanding of the problem because you are too focused on solutions;
- Work on the wrong priorities, because you have not let teams work on what has been evidenced as a priority;

• Mis-invest in solutions that create a minor benefit, instead of being able to catch-up with the modern world the way you should.

Embracing the above, you will likely:

- Create better performing teams that do smart things, in full alignment with business priorities;
- Have priorities that are essential, not temporary. Something of real value to your customers and that makes your organisation more sustainable;
- Build up the flexibility and spread of opportunity you should have as a modern company.

Some of this advice does challenge your organisational model. But it is worth it. The other will be easy to adopt and act as a case study. **Use it so!**

Written by: Markus Kirsch

Designed by: Santa Evertovska - Kirsteine





Smart Cities, Small Businesses

A case for small businesses, global collaboration and Public Private Partnerships

If 2019 was the year of the Smart City, then 2020 is the year of Public Private Partnerships. Around the World, cities are building strategies to get SMART. In the global rankings of Smart Cities, Europe has 12 out of the top 25, North America has 6, Asia has 4 (all in the top 10) and Oceania has three. While these cities are deploying SMART strategies, considering how many cities there are in the World, we have a long way to go to make sure that everyone benefits from cities of the future.



Here in the United States, Smart City applications are in pockets, with cities deploying aspects of emerging technologies, like 5G. There is also much discussion about how Smart Cities have the potential to help underserved populations, build affordable housing, address epic climate change predictions and determine how people will continue to work and live as artificial intelligence encroaches on workforce opportunities. But beyond the discussion, I don't see any real cohesive effort to leverage emerging technologies and drive Smart Cities towards human centric solutions. The truth is, the driver for Smart City applications is most often money. Tech companies want to "sell" us new technologies – it's their business paradigm. And they have been very successful at making tons of money



doing just that. Where are small businesses in the Smart City discussion? For the most part, they are non-existent. That needs to change. Small businesses are perfect for Smart Cities.

We're already LEAN. We know how to maximize our revenue. We know how to do big business on small budgets. We are much more likely to support our local communities and economies. We are subject matter experts in our fields. We are financial, legal and consulting professionals. We are cosmetologists, yoga instructors and alternative medicine providers. We are organic farmers, local pub owners and your favorite delicatessens, bakeries, coffee shops and Internet cafes. We are innovators and we are the future of cities.

As we start expanding our horizons and building global partnerships, we can build consortiums of small businesses that can do all of what big business can do, faster and more efficiently.

We have the ability to help Governments get LEAN. The traditional bureaucracy and inefficiency of government has no place in Smart Cities. We can design cooperative, car free/car lite neighborhoods with equal opportunities for all residents in education, food access and quality housing. We are right sized and just-in-time with the right expertise to help our cities evolve as fully diverse and inclusive. But we can't do it alone. I'm excited about collaborating with Amnick Social Enterprises to start this global revolution!



Written by: Karen Jensen

President of Saaby Consulting Company

Designed by: Toby Boyd



LOCATION-BASED TECHNOLOGY USES FOR SMART CITIES

Previously, as a CEO of the Gett (GettTaxi) technology company, Alexey was in charge of developing the revolutionary Gett service from the ground up and deploying the operation across the globe from London to Moscow and Tel Aviv. When it comes to smart city services and urban planning, the role of geospatial or geolocation technologies is quite significant.

Every smart city solution is inherently based on geolocation data; in fact, most of the new-generation technologies like AI and IoT will only meet expectations if they operate in sync with the location-based technologies.

In this article, we will uncover how the use of location technology enhances smart city services, look at some examples of smart city initiatives enabled by location tech, and explore various location tech application ideas. Read on and learn more!

Every physical object on the Earth's surface has a location. Location-based technologies assign attributes to this location, identify how it interacts

with other objects on a city map, collect data, and help make better decisions.

So how does location intelligence empower smart cities initiatives? Before we proceed with the use cases, let's see how cities use location tech to become smarter.

How Smart Cities Maximize the Value of Location Technologies

Geo tech implementation enhances just about every facet of a smart city's services: Traffic and transport management, optimizing energy use, city marketing, real estate development, crime-prevention, and event-management are areas where the application of geospatial and geolocation technologies has the most positive impact. For example, geofencing location based services can be used to create virtual perimeters around physical areas. This feature of a smart city can be applied to a vast array of areas, from security to in-store marketing. The advent of 5G is expected to

propel urbanistics to an entirely new technological level, and geofenced smart cities will become ubiquitous.

Smart sensors, autonomous vehicles, and drones all use location intelligence to collect and manage data. Moreover, digital twin technology and twin technology and indoor positioning systems (IPS) are also enabled by location tech.

The combination of location-based services with city demographics and smart city analytics enables both local businesses and city authorities to precisely target their initiatives and be alerted about the most urgent needs of an urban community.

A restaurant chain, for example, can use location intelligence to identify city areas which will benefit most from opening new locations; police can identify areas with increased outbreaks to enhance surveillance, etc. In other words, smart city services can be delivered at the right time, to the right place, and exactly to the people who need them most.

Examples of location based services

As of today, smart cities worldwide are using GIS (geographics and intelligent systems) and location based solutions to tackle various problems - from managing city tourism to improving security and healthcare.

To read the full article, go to: <https://easternpeak.com/blog/location-based-technology-uses-for-smart-cities/>

Have an idea about a smart city location-based service that you want to bring to life? At Eastern Peak we have vast expertise in creating smart city solutions - from test drive in a virtual sandbox to full-on implementation.

Visit Eastern Peak at www.easternpeak.com to request a free consultation.



Written by: Alexey Chalimov

CEO at Eastern Peak

Designed by: Stuart Kinnear
Images from: Johnathon Riley on Unsplash

Why you should hire women and how to get started?

In the building automation industry



The building automation industry is made up of a very homogeneous group of people: over 90% of the industry is made up of white men.

The statistics vary: 1.4% of heating, air conditioning & refrigeration mechanics and installers are women, while 6.4% of mechanical engineers are women. There isn't even current data on the presence of racial minorities or LGBTQ + people in the industry, but I'm willing to guess it's lower than the above stats. But one thing is for sure: the people automating our buildings do not reflect those living, working, or playing in those buildings, and we aren't even talking about it.

And it's important to talk about it. We all have past experiences and biases that shape what we do on a daily basis. Until we are willing to engage in real conversations about the lack of diversity in our industry, we won't understand our own biases. We won't go the extra mile to hire for diversity. We won't push conference organizers to put women on their "manels." And we won't understand why saying "we just hire the best person for the job" is perpetuating our homogeneous industry.

You see, for decades in building automation, the perceived best person for the job has been a man. In order for a woman to be seen more qualified.

developed some amazing implicit bias tests, and I highly recommend anyone hiring to take some of their tests and learn about your own biases. Once you identify your biases, you may start to recognize small things you do in your life as a result of them. And you may also start to make decisions based on skills and training instead of your gut. Or add people with different biases to your hiring teams.

Another thing you can do is keep gender out of the hiring process for as long as possible. Have someone who is not participating in the hiring process delete the names from every resume before looking at them (black out the PDF or print resumes and cut the names off). Take away the opportunity to consider gender in the first round of applicants.

We need to start hiring more women in this industry; we're struggling to find talent, and reducing the candidate pool to half the population is not helping. We need to have women speaking at conferences, authoring articles, training technicians, and mentoring new hires.

And we need to talk about why all of this is so important. The more we address the problem head-on, the more comfortable our workplaces will get for women, and the easier it will be to recruit them, to keep them, and to promote them.

Technology is changing. Buildings are changing. And so is our workforce. Our hiring practices need to keep up.

We also tend to have an unconscious bias towards people who are similar to us: age, race, gender, education level, economic status, etc. We think people like us will be more successful in whatever role we are hiring. And when the hiring team is made up of white men, these biases make it seem like the "best person for the job" is also a white man. But research shows that diversity of every kind — gender, race, sexual orientation, experience, age, the list goes on — makes for better teams, better performance, and better decision making.

Unconscious or implicit bias is hard to overcome. But the first step is to know your biases. Harvard

Written By: Monica McMahan
Director of Marketing, Optigo Networks

Designed by: Peter Ayeni

Abi Mohamed - A BAME Woman in Tech



Community Growth Ventures (CGV) is an Angel Group, that provides funding for founders of start-up businesses from under-represented groups.

What types of start-ups come to you?

We get all different types of start-ups. In 2017, we were open to anyone in the UK. Now we consider founders who understand their business model and enter a large market size. Founders must have a public MVP that is demonstrating month-on-month traction.

How did you go about setting up CGV?

In 2017, I was approached by my co-founders: Emmanuel and Denzel. My co-founders approached me with the idea first. Then we all sat down together, and we felt that our vision and our mission aligned, so we set up the business and carried on.

So how did you get your start in the tech world?

I got into the tech industry in quite a weird way. For my undergrad I studied (International Relations and Economics), then I decided to do a Masters in Information System Management. Once I did that I thought it would be enough for me to get my 1st role in tech. I had industry experience but more in sales, it was difficult job hunting, mostly rejected. I decided to join a boot camp for 3 months, then got put into a placement for 2 years, that's how I made my way into the tech world.

So what exactly is an Angel?

A person with an X disposable amount of income

that is interested in investing. For example, investing in a start-up or a small sized business (SME) with their own money for equity exchange. They invest in a stake in the business.

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that our vision and our mission aligned, so we set up the business and carried on.

I remember reading on your Twitter timeline, that by the time a girl is 16, she will lose interest in STEM (Science, Technology, Engineering, and Maths) subjects. Why do you make of this? And what do you think can be done to tackle this issue?

I think it's due to pressures in schools and the pressure to fit in gender ideals. From my experience, my teachers generally didn't push me or encourage me to explore STEM subjects. I was personally pushed to things that require nurturing or soft skills as a career choice, for example, English and Health and Social Care. Currently, the younger generation look to role models on social media, TV, and magazines, and if they physically can't see themselves in terms of categories such as race, class, and gender, then they are automatically going to think they can't make it there.

So, how do we overcome this problem?

Maybe by introducing school trips to actual companies and seeing real people doing the work, maybe it will spark interest in STEM careers. There should also be a range of subjects offered in school such as STEM subjects, plus work experience in these fields, at an earlier stage of their education lifecycle.

Well done for making onto the Evening Standard Progress 100 List 2018, in the science and technology category. How did you react to the news? Also, how did it make you feel when you got that recognition?

Thank you, it was a surprise. I got an email prior asking me to attend the event for the list, so I decided to go. I think they were giving out a book with the full list. I was literally looking at the best in the science category, as I'm interested in that, then I also saw my name. I'm super grateful for being included in the list.

Interviewee: Abi Mohamed

Community Growth Ventures

Interviewer: Dionne Boateng

Designed by: Boglarka Szoke

Image from: Abi Mohamed

Challenges Women Face in Technology World

SADAF SHAHEEN

“Women across the world have various challenges to enter into the world of Tech. Sadaf is coming from a difficult place to become successful, and to bring other women with her. How did she do it from a remote village in Pakistan?”

John David, CEO and Founder Amnick Social Enterprise

Tell us briefly about yourself and your present Career Status?

My passion are accumulated in my current professional affiliation with a communication for social change organization.

What is your ultimate Professional Achievement?

During the 7 years of my professional career, I worked with very diverse teams and projects where I directly engaged deprived communities with media driven field activities to inform, educate and inspire them, mainly the young girls. The most instrumental was the utilization of Interactive Voice Response (IVR) system for community engagement’s initiative to aware and train young girls to lead and advocate for human rights in Pakistan. Additionally, working as a social media activist, mobilizing young girls towards STEM and ICT4 Development in Pakistan are the most appealing and satisfying achievements for me.

Tell us about the challenges you encountered, in becoming a successful Woman that you are today?

The difficulty for a woman to break-in and secure employment in the field of tech and computer science in Pakistan cannot be underestimated. According to several studies about Pakistan, there is a pervasive internalised belief that the Internet is not appropriate for women and some women do not use it because of negative social perceptions. Some families fear the Internet and ban women and girls from its use due to concerns about cyber stalking, online harassment and sex trafficking. Coming from a conservative part of Pakistan, getting higher education was one of the most challenging chapters of my life that I managed

with passion and negotiation with family elders. Conventionally, women have expected to be employed in the educational institute alone and had restriction over choices on emerging employments. Fighting with traditional stereotypes of the society was again challenging. Now, I am working as a role model in my native town for young girls.

How your parents retorted (the family situation), when you first chose Technology in pursuing your Career?

I knew it would be especially hard for me to enter the notoriously male-dominated field given the deeply entrenched gender norms in Pakistan, but I did it anyway. Not only have I earned my Master’s in Cloud-Dew Computing, but I was awarded the prestigious TechWomen Fellowship. The fellowship is a career-shaping program that enables global women leaders to be immersed in some of the most prestigious tech-driven U.S. companies. Girls in Pakistan are not only responsible to satisfy their parents, but they also have to please the whole extended family while choosing any particular career. In my case, my parents supported me to the maximum level, rest of the relatives gave me a very hard time when I started my job in STEM.

What/who inspired you to adapt male-dominant Tech arena despite Pakistan’s culture, asserting women towards early Marriage?

The inspiration to get in the tech arena might be voracious, but among all, the most prominent role is of my mother who taught me to follow your dreams and goals. My mother absorbed all the pressure for early marriages and acted as guardian angel regarding my education and professional career.



“The TechWomen platform is supportive for young women to become leaders in science, technology, engineering and mathematics (STEM) and that is a very inspirational feeling when you have an incredibly low literacy rate among women in your native town.”

Sadaf Shaheen (Fellow – TechWomen), Pakistan

Being a leading role model as a Social Innovationist, how do you tangle with other Women?

I have decided to return back to my work on community level, by integrating my burgeoning tech expertise with my behavioral change communication background. I now lead "Equal Access International's" tech integration on some critical projects for women in Pakistan. "Equal Access International" approaches gender equality with a mainstreaming lens and has made a concerted effort to support me in continuing to build my skills and grow in my leadership.

Further, I'm also involved in several behavioral change communications through ICT projects in Pakistan as an advisor, where we are focusing specifically on women empowerment and their digital skills. Also, I am the Regional Ambassador of Tech-Innovation in Pakistan where we build the capacity of young girls in STEM/Innovation and let them lead their own startups and compete as a leader globally, nurturing their innovative ideas.

Tell us about your time and experience in association with the U.S TechWomen Department?

It was one of the most industrious experiences of my professional life where we broaden our intellect in Tech and social innovation. Networking with various tech giants of the Silicon Valley, strengthening people-to-people relations to foster mutual of STEM and strengthen professional ties among social innovationists. During my fellowship at TechWomen, I had in-depth meetings with highly esteemed executives from companies like Twitter, LinkedIn and Google and was immersed in a four-week professional co-mentorship program at Autodesk in the Bay area; where I was immersed in a holistic professional development process. I was exposed to emerging technologies including Media and Entertainment, Generative design technologies for highlighting global social issues, Fusion 360, 3D Printing, Visual Reality and Augmented Reality. By sharing their experiences and personal styles of leading teams, the Autodesk executives inspired me

to harness authenticity and innovative leadership. It was particularly motivating to meet and exchange notes with women in leadership roles.

How did you feel when you got picked up by such a dynamic and promising Women Empowerment platform?

At the point of selection, I didn't realise how dynamic and promising the TechWomen platform would be. Realising later, I acknowledged how TechWomen platform encouraged young women to pursue their dreams in STEM. The TechWomen platform is supportive for young women to become leaders in science, technology, engineering and mathematics (STEM) and that is a very inspirational feeling when you have an incredibly low literacy rate among women in your native town.

How can you justify gender equality in terms of, 'Information and Communication' Technology?

While increased technology adoption, gender equality and space for women is still questionable in the ICT and technological world. In the male-dominant Tech arena, gender disparity at every level is observed and reported in recent days shows, technological world should need to be exposed for women inclusion and gender mainstreaming.

How/Where do you see Pakistan standing today in terms of 'IoT' based upcoming industry challenges? Is Pakistan ready to face the next era of industry (Industry 4.0) revolution? In your thoughts, where do we (Pakistan) currently stand in Smart City development?

The IoT industrial advancement is still in its initial phase in Pakistan and the transformation of industry into IoT based industries has a lot of space to be intervened. The most prominent among all other challenges associated with the IOT based industry is its social acceptance, as I think it will take some time to become familiar with IOT. Pakistan is ready to face the next era of industry 4.0, as a growing IT based startup/entrepreneurship ecosystem that attracts global IT giants to invest in the Pakistani IT market. Though we are still far away to get much space in the globe market, at least we have started moving forward in the right direction.

Do you think Pakistan is the most technologically advanced country or we still lack behind in terms of culture, society, education, people awareness, women empowerment etc.?

As I have mentioned earlier, Pakistan is not the most advanced country in terms of technological developments, as there is not only the issues related to poor infrastructure but also the cultural acceptance, lack of proper knowledge, awareness on such advancements in the tech industry and equal opportunities for every citizen of Pakistan.



What are your upcoming projects?

There are several plans in the pipeline specifically, I want to focus on a startup that trains and empower young girls to pursue their career in STEM. Further, as being the Regional Ambassador of Tech-novation in Pakistan, I am going to launch Pakistan's first Tech-Innovation girls' chapter by the end of year, 2019. As of now, I have hands-on experience in using all of the amazing emerging technologies. I am hoping to integrate the relevant ones in my work at, "Equal Access International Pakistan"; where I would also want to enhance the M&E part of our projects through ICT by using the digital engagement strategies and new media tools that are used globally for more accuracy and efficiency.

Interviewee: Sadaf Shaheen

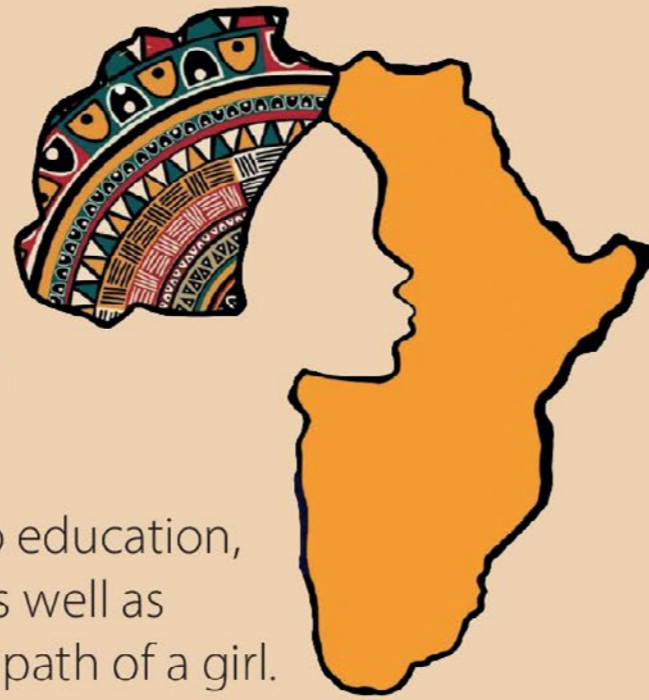
Interviewer: Sadia Farooqi

**Designed by: Santa Evertovska - Kirsteine
Images from: Personal archive**



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Digital Transformation- Changing the Way People Access Services in Central Asia



Smartphones
are the world's
preferred
choice for going
online

There are now more than 4 billion people around the world using the Internet. Over half of the world's population is now online, with the latest data showing that nearly a quarter of a billion new users came online for the first time in 2017. However, the report from CANN shows there are now thirty-six million people which is 86 percent of the whole population out of five nations in Central Asia use Internet. Traditional ways of accessing the Internet via computers and laptops become no longer the only sources.

"Smartphones are the world's preferred choice for going online too, accounting for a greater share with 52% of web traffic than all other devices combined, according to Global Digital."

Nowadays in the world of the Digital Era, a vast number of websites attracted Internet surfers by offering them with large amounts of free information from



Web - service is a global remotely online solution that provides and offers service over the Internet."

browse or request relevant information effortlessly and with ease from any place. Most of all online service has incredible benefits that reduce the time from queuing up the line to attend consultation hours and proceed with important documents regardless of wherever you are.

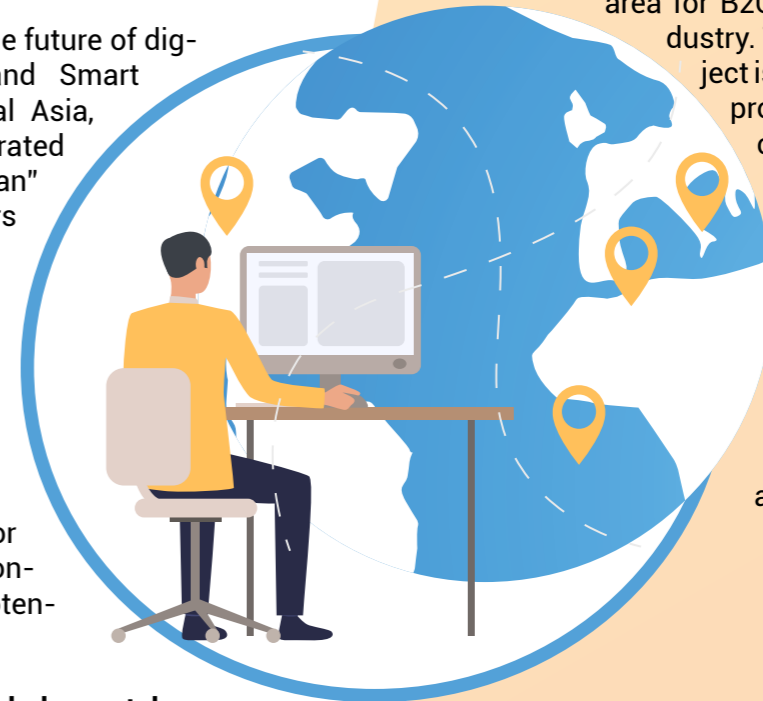
news, tips, life hacks to business data. However, the e-service has become a recent technological innovation, which is designed to provide real-time, any place, 24/7 accessibility and high quality value added services at individual, organizational and societal levels.

Therefore, until now, however, in the literature there has not been a universally accepted definition of e-services (e.g., Scupola et al., 2009). Although the term 'e-service' is generally used in relation to e-services provided in different sectors among which the private and public sectors (e.g., Scupola et al., 2009)

In addition by offering new professional online service such as the Resume Builder project the need of highly-competitive skills is rapidly becoming the most important function within the consolidated base personnel office as more emphasis is being placed on attracting people to a career.

Resume Builder Project is a leader in providing an effective career solution in the digital transformation area for B2C and B2B consulting industry. The main goal of the project is to help people build their professional identity, where candidates successfully find their dream job and employers do not miss the best talents on the Kyrgyzstan labor exchange. The project was not limited to offer the following solution for citizens of the Kyrgyz Republic, Kazakhstan and Russian Federation.

Moving forward into the future of digital transformation and Smart City Culture of Central Asia, Kyrgyzstan has accelerated the "Sanarip Kyrgyzstan" program for next 5 years in order to improve international integration processes and ensure cybersecurity. Such a program is going to open the doors up for new opportunities not only for individual companies, but also for the entire country's economy in general as a potential economical link.



"Web - service is a global remotely online solution that provides and offers service over the Internet."

The provision of various services on the Internet is gaining monumental undertaking. It allows us to

Written by: Viktoriia Khanina

Entrepreneur | Content Writer
Founder of Resume Builder
Project LLC Today's Drive



Designed by: Rhiannon Griffiths
Images from: Freepik.com

The Big Shift

Digital platforms promote new civic participation models

Various organisations have attempted to lower the barriers to meaningful civic participation. Real-time and data-driven applications have already changed the way citizens influence public policy. These developments dramatically challenge the old democratic paradigm of conducting elections every few years (and withdrawing from politics in between these election-cycles), replacing it with new forms of decision-making. Enabling citizens to access multiple touch points with their government and municipalities will rigorously change the system and catch many stakeholders unprepared. Decision makers willingness to adapt to novel smart city technologies will determine the future progress of their constituencies.

While the goal of many civic projects is digital transformation of democratic processes, there are significant challenges preventing novel technologies from being implemented on a wide scale when it comes to voting and decision-making.

The current global public healthcare crisis has forced many organizations, companies and governmental institutions to digitize their activities from one day to the next, suddenly finding themselves taking part in virtual parliaments and debating in online meetings.

An interesting question to ask is why governments and politicians weren't exploring digital democracy solutions before the crisis? Technology experts typically explain this situation by the difficulty in ensuring that online elections are free, fair and anonymous, and that many tools have failed due to security issues. Accessibility and user experience is another problem, as users must go through a long and sometimes tedious registration process in order to cast their vote online. Additionally, some citizens may lack access to the digital setup required in order to perform the voting. Most solutions may also not be accessible for special-needs citizens.

However, digital democracy is not just about creating a perfect, seamlessly working online-voting solution. Smart cities stakeholders are working on and in some cases already put into action civic platforms, including online petitioning to participatory budgeting modules. A great example is the Spanish Decidim platform, which offers free open-source participatory democracy tools. Organizations like the Berlin-based Liquid Democracy are providing the city of Berlin digital tools for including more citizens in the public-decision making process.

Nevertheless, the hurdle to a wide scale implementation of such platforms is often the insufficient number of people who use these tools or even are aware of their existence.

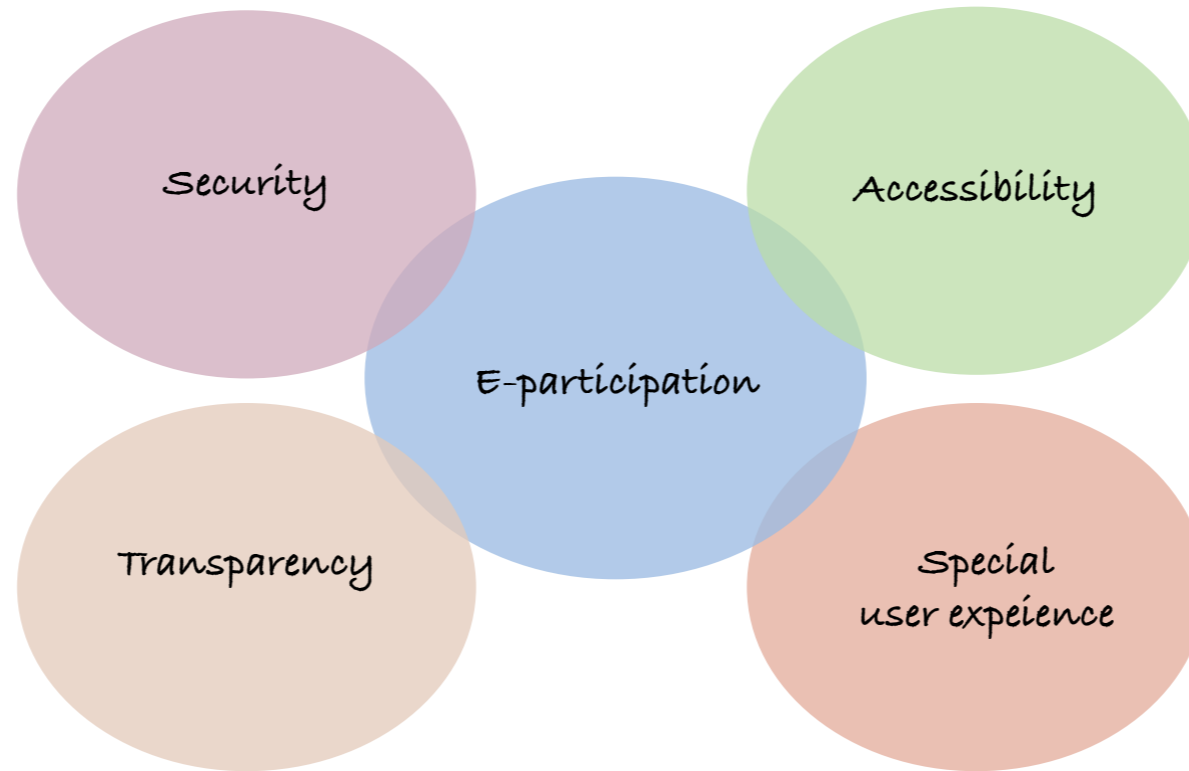
Germany has recently launched a new online citizen assembly project. Citizen assemblies are trying to reach a more diverse audience by selecting random citizens as participants. Another new and innovative place for smart city technologies in the GovTech field is the new Future City Incubator, run by the Berlin Innovation Agency, in Berlin.

Our own project, Vote Rookie, is one of 8 projects selected for the Future City Incubator program and aims to reach a new and younger audience: generation Zers. This generation is in many ways disregarded when it comes to political and civic participation and usually produces the lowest voter turnouts, relative to the population group's size.

Vote Rookie wants to help Berlin and other cities and communities understand which issues and challenges do young residents of the city actually care about. Our startup focusses on youth participation and aims to subdue the initial fear of the unknown which many young people experience when it comes to politics. Even though young people are heavily on social media platforms like TikTok, the opposite is true when it comes to civic participation. Vote Rookie brings city stakeholders closer together with Generation Zers. This will make Berlin and other communities more diverse, collaborative and open to the citys young inhabitants and their needs.

In general, a key success factor for drastically upgrading the old school world of democracy and politics in terms of inclusion is the creation of sustainable connections between platforms and their audiences.

Such connections can be created by platform operators, promoting a bottom-up approach, working closely to advise local and national governments about hot-button issues and public sentiments. Maintaining open work and communication channels between these different stakeholders would allow fostering a more inclusive and useful civic participation model.



Written by: Susanna Maier,
Amir Millo Gross

Designed by: Lena Privalenko

IP in the Age of Action

Another look at the role of IP in Building

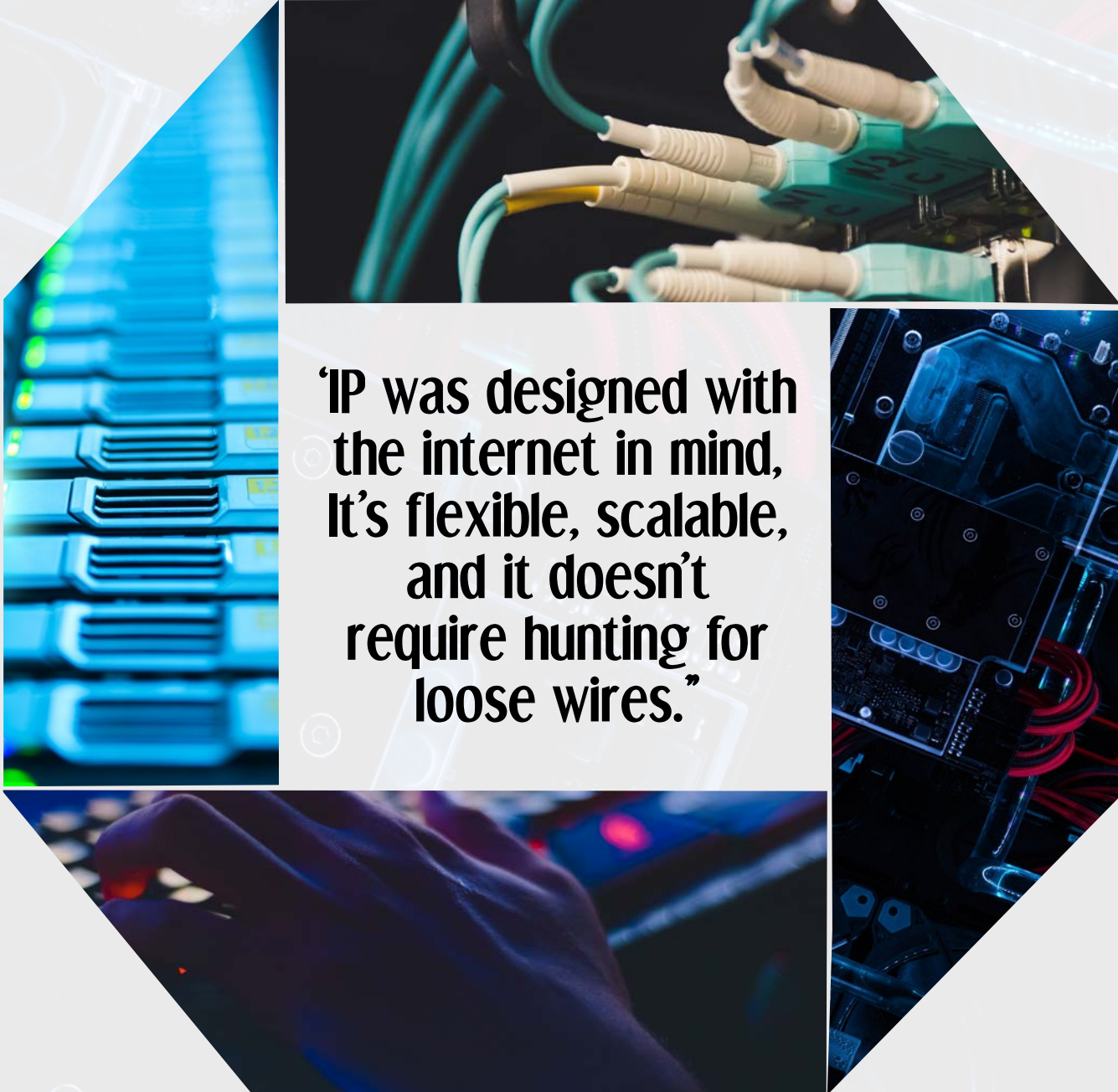
The Internet of Things (IoT) is here and has been for a while. Is now the time for building systems to move to IP? Realistically, MS/TP isn't disappearing anytime soon. There are plenty of buildings both new and old that currently run on MS/TP. While IP connectivity can deliver powerful data and computing at the edge, networking and IT proficiency are still quite new to the building industry. And the upfront cost of IP technology may give a lot of otherwise forward thinking folks some pause. So, why switch from MS/TP to IP?

From information to decisions

The Internet of Things is a network of connected devices, but it isn't connectivity just for the sake of it. The point of the IoT is to leverage data and analytics. Armed with that information, we can tune buildings to people's needs. If data isn't collected, analytics aren't shared, and the devices can't adapt to our wants and needs, there's no real point to all that connectivity. We're not just in the Information Age; we're in an age of doing something with that information. We're in an era of actions. MS/TP is great for a lot of buildings, but it simply doesn't support real-time analytics: data choke points are inevitable, connectivity is limited, and it does not meet IT best practices. If you want to leverage the power of data, install the most cutting-edge technology, or improve the quality and comfort of your buildings, IP is the way of the future. That's the direction the world is moving in, and if you do not start making the switch now, you'll fall far behind.

Ease of troubleshooting

MS/TP wasn't designed to scale for smart buildings full of devices. In all honesty, that's probably for the best. Troubleshooting MS/TP devices can be incredibly tedious and difficult. If one device isn't working correctly, it can affect all the others that are chained to it, like a string of lights when one bulb goes out. Fixing those problems requires physically checking devices, climbing around in ceilings and searching for where the wires are loose or improperly terminated. That often means putting in time after-hours so workers don't disrupt tenants. IP, on the other hand, was designed with the Internet in mind. It's flexible, scalable, and it doesn't require hunting for loose wires.



'IP was designed with the internet in mind, It's flexible, scalable, and it doesn't require hunting for loose wires.'

Expense vs. value

The reality is, IP devices are more expensive than MS/TP. This can be a major sticking point for some, as an IP controller can be up to twice the cost of an MS/TP controller, up to \$1,000 more. If upfront cost is an impediment, it may be harder to get buy-in on shifting to IP. There is a compromise on expense. The important thing to remember though, is that the values are very different.

IP might be more expensive upfront, but you reduce labor costs to install, deploy, commission, and service. You can troubleshoot remotely instead of needing a ladder to physically check devices. You can access common IT tools for troubleshooting, monitoring, and security. By collecting analytics, you can make the building more energy efficient and save money over the long term. It's not a direct, one-to-one comparison because the products provide totally different results. It's like comparing an analog and a VoIP phone on cost alone. One is more expensive than the other, but the products themselves carry very different values. It's important to note that more specifications require all connected and networked devices to use IP. Some building owners and specifiers demand IP-based systems for uniformity with the rest of IT systems and procedures.

Bridging the network gap

The adoption of IP technology also gets us out of our building automation silo. While it can be easier to work independently, it limits the capabilities and scope of impact the building automation team can have. The future of our buildings is not built on a division between IT and Operational Technology (OT). It involves teams with different pieces of knowledge collaborating to develop more comfortable, intelligent, efficient spaces: - truly smart buildings. That's only possible with the common ground of IP. IP devices and the new networking knowledge that comes with it might seem like this massive undertaking, but if you understand MS/TP then you can certainly learn IP. With greater understanding, we see more collaboration between IT and building automation experts that leads to better, smarter buildings.

Written by: Kevin Callahan

Product Evangelist Alerton

Pook-Ping Yao

CEO at Optigo Networks

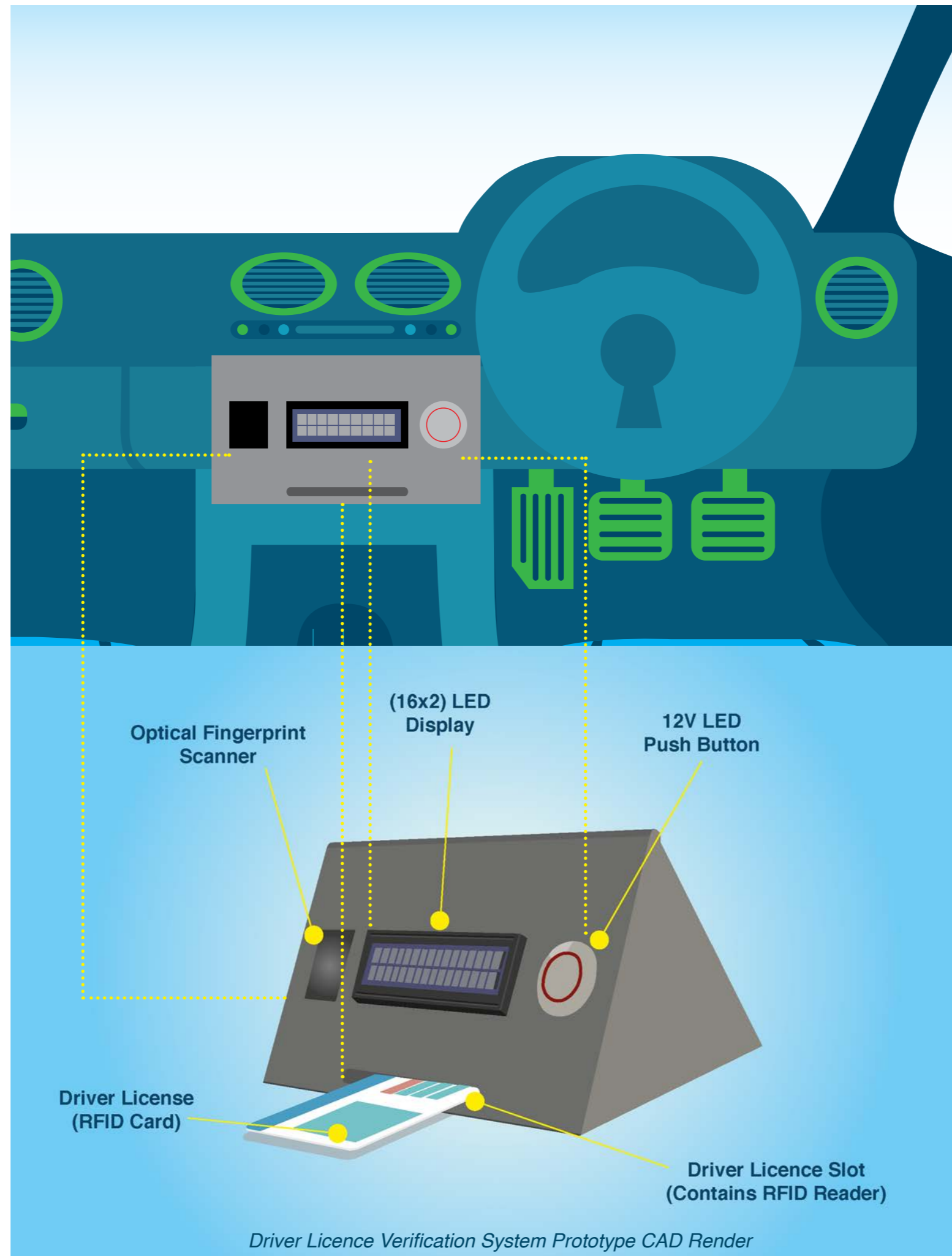
Designed by: Mie Sadaka

Driving Licence Integrated Vehicle Start/Ignition System

System Introduction:

The primary objective of the Driving Licence Integrated Vehicle Start/Ignition system is to prevent the operation of automobiles by members of the public who are not authorised to do so. Possible non-authorized vehicle operators include invalid, suspended or expired licence holders as well as minors of which are not of age to operate automobiles. A 2011 study done by the American Automobile Association for Traffic Safety found that 20% of all automobile accidents are caused by drivers without valid licences, giving an average death toll of 8,400 deaths per year in the United States of America as a result of unlicensed driving.

Driving Licences come in various forms, however some variants such as the Electronic Smart Card (EDL) or RFID variants already contain chips consisting of information regarding the licence holder, and licence authorisation details. This technology can be further implemented in automobiles to add a layer of security by implementing a system that verifies the validity of the licence before vehicle operation permission is granted to the driver. This alone, however, would not be sufficient in curbing unlicensed driver use as, in the case of stolen driver's licences. To prevent this and add an additional layer of security to the system, biometric information is also stored in the driver's licence to verify the identity of the licence holder, helping further secure the vehicle from unauthorised use.



System Prototype:

Based on the above information, a system prototype was created using the Arduino platform. The system consisted of the following: RFID Read/Write Board, Multiple RFID Cards, Fingerprint Sensor, Arduino Uno 16x2 LCD, Relay Switch, and Start Button.

Using the Arduino IDE software, a programme was created with multiple steps to verify a driver's validity and identity. Once initialized, the system asks the driver to scan their driver's licence (RFID TAG) on the RFID Reader. Information pertaining to the licence and licence holder is read and accessed by the system. Areas accessed are the licence's validity, the driver's age, licence suspension, etc. Following a successful licence verification, the driver is requested to biometrically verify his/her identity via an optical fingerprint sensor. The image captured is compared to that stored within the RFID Card. If the comparison yields a resemblance of 75% or above, the system will grant the driver permission to operate the vehicle, symbolised by the lighting up of the vehicles "START" button.

Conclusion:

Although a prototype, the proposed system has the potential to lower the number of road accidents and ultimately the number of automobile related deaths by preventing unlicensed automobile operation. An innovation that will undoubtedly bring about greater peace of mind to all road users such as pedestrians, cyclists and other automobile operators.

References:

Adtsea.org. (2011). Unlicensed to Kill. [online] Available at: <https://www.adtsea.org/webfiles/fnitools/documents/aaa-unlicensed-to-kill.pdf> [Accessed 7th Feb. 2020].
USClaims.(2018).Unlicensed Drivers Responsible for 20 Percent of All Car Accidents. [online] Available at: <https://www.usclaims.com/non-licensed-drivers-responsible-for-20-percent->

Written by: Mayamiko Kalilani

Internee at Technocentric Solutions Sdn. Bhd. Malaysia. (B.Eng. (Hons) in Mechatronics Engineering, Asia Pacific Univesity, Kuala Lumpur)

Designed by: Stuart Kinnear

Email Security



"A single spear-phishing email carrying a slightly altered malware can bypass multi-million-dollar enterprise security solutions...and thereby compromising the entire network"

Experts know that the question is not if, but when, your company or municipality will be hit with a successful hack that bypasses your current cyber-security system. Attempts are taking place every day and if you have avoided them so far, the hackers will do their utmost to gain access to your business. The best way to avoid hacks is to build a trusted network of contacts.

According to the International City/County Management Association, a quarter of local governments reported experiencing attacks, as often as once an hour. Hackers are finding municipalities a soft target and are continually fine-tuning the constant phishing attacks by slightly altering their malware to bypass highly sophisticated security software.

To make life easier and to lower costs, cities, towns, and counties have moved to provide online services. This movement to allow residents to pay water bills, taxes, and receive other online municipal services, allows hackers to more easily gain access to coveted assets.

While the recent multi-million-dollar ransom hits in Atlanta and Baltimore made the news, there have been many smaller attacks that go nearly unnoticed, like the small town in NH that lost over \$600K in wire transfers based on bogus emails from hackers. Understandably, when a successful hack does take place, reporting that they have vulnerabilities takes second place to just paying the ransom.

Diligence needs to be of utmost importance to stay ahead of people and governments who are continually trying to create chaos and have access to your funds. Local governments' number 1 priority is not to ensure cyber-security for their technology, but their need to be extra cautious is growing, due to hackers seeing local municipalities as soft targets for their attacks.

While ransomware is still the main purpose of hacks, foreign governments have been attempting to penetrate the 911 systems of many local communities, with mixed results to date. Once entry is made, metro systems, traffic lights, employee and resident data are all vulnerable.

So, when you think about how to make your technology more secure, your first step is to tackle the main entry point for cyber criminals to do damage. Email is an indispensable tool for both businesses and local governments. It provides for the efficient operation of any organization or personal correspondence. As the key doorway into your business, your network, and your personal affairs, it is indispensable. Unfortunately, it also serves as the



primary entrance point for cyber criminals. According to James Scott, from the Institute for Critical Infrastructure Institute, "A single spear-phishing email carrying a slightly altered malware can bypass multi-million-dollar enterprise security solutions and thereby compromising the entire network".

Phishing accounts for 90% of data breaches and plays a key role in 93% of cyber attacks. What are your chances of getting hit? Well, considering that 76% of businesses report being a victim of a phishing attack in the last year, and about 1 in every 100 emails is malicious, your chances are high and growing.

Phishing attempts increased by 65% in the last year and tactics and sophistication continue to evolve. Ransomware increased by 195% over the last 6 months. Of the phishing attempts that reach a user's inbox, 45% are impersonating someone they know and 95% of successful attacks are spear-phishing.

Mimecast reports 18% to 60% of email impersonation attacks were not detected by security providers. Your goal should be to identify, with certainty, emails that meet your criteria for validity. Spoofing, cousin emails, account hacks, network infiltration, and unknown or undiscovered forms of spear phishing all need to be prevented to ensure each and every email is authentic.

As a Consultant with over 40-years of experience, I see customers asking me for input regarding how they can prevent cyber-crime. To date, I have found two companies that offer a solution to address this issue. One is a Mid-east company and the second, a more robust and better-priced solution, is Cloudphish, a US-based outfit that was founded by a Senior Software Design Engineer whose spouse



worked for a company that got slammed by a hacker, via email.

According to the company website, www.cloudphish.com, this is how it works:

- Cloudphish uses Blockchain Email Authentication and creates an Email Validation Layer
- Users and organizations define trusted contacts with whom they can safely correspond.
- Multi-factor authentication allows users to register the Cloudphish Extension to various devices.
- Each email sent creates a smart contract recording evidence of the email to the blockchain as a tracking ID, device, session, and timestamp. No content from the email is ever read or stored.
- Emails are validated using the user's trusted network and smart contract ledger transaction.

Cloudphish seamlessly integrates with your Gmail or Outlook mailbox and provides active validation feedback on each message you read. The software does not impact existing email network infrastructure and device-specific implementation further reduces the risk of a breach. The strict guidelines dictating what identifies a valid email ensures validity cannot be counterfeit.

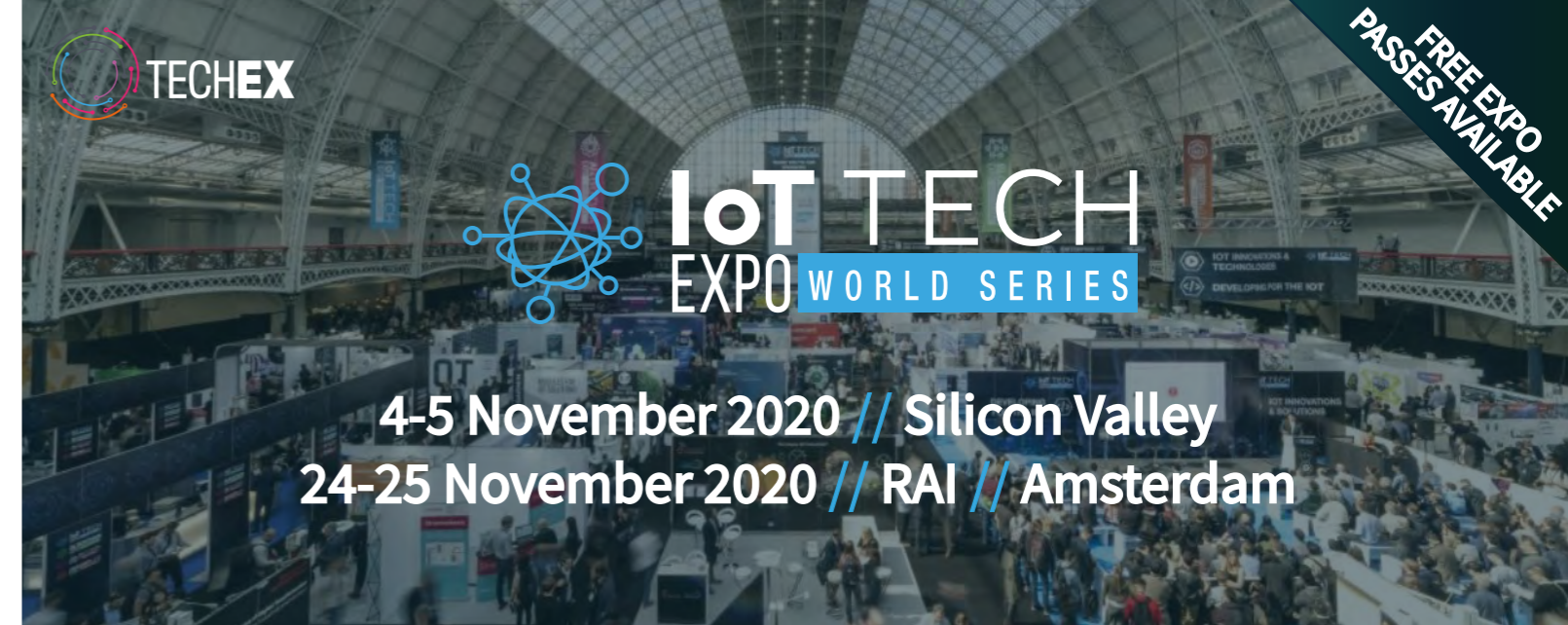
The solution does not prevent any email from reaching all user's inbox but provides them with the information necessary to make an intelligent determination. Users and organizations can set the domain and email level control over who makes up their trusted network and is eligible to send a valid email. Customers pay per user/month and the software is priced right.

Businesses and municipalities pay from 99 cents for under 500 users to 79 cents for over 2,000 users. More info can be found at www.cloudphish.com. Cloudphish offers webinars for live demos and to answer questions. They also will provide a free 60-day enterprise license for any local government entity.

Written by: **Joe Matthews**

Data Centre Consultant

Designed by: **Lena Privalenko**



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Tech-CARES Campaign

The COVID-19 pandemic represents one of the greatest global crises in the 21st century. Supply chains have been disrupted, millions of workers unemployed, and businesses are at high risk. Historically, small businesses have been global drivers for economic growth and create millions of jobs each year. Sadly, half of small businesses are closed due to the pandemic and many will never open again. To help to restart economic activity, small businesses need to jump start.

For many small businesses, they not only have to fight for financial survival, but they must protect against cyber-attacks that have spiked in number and complexity as hackers and hostile parties take advantage of the chaos from the pandemic. These include ransomware, insider threats, and phishing attacks. While the majority of attacks as reported in the news focus on hospitals and research facilities, small businesses are vulnerable as well.

There is much that must be done to help small businesses overcome cybersecurity challenges. Cybersecurity defenses must be fortified to protect against present and future threats. Staff need to be trained to recognize and respond to incidents. Data must be encrypted and protected. Systems and websites need to be upgraded and monitored.

Small business also must be in compliance with data privacy regulations such as the General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA). Most small businesses lack the staff or resources, they need help. In March 2020, the United States passed the Coronavirus Aid, Relief, and Economic Security (CARES) Act to provide emergency funds and stabilize the economy.

To help small businesses, a large coalition of nonprofit organizations joined the Tech-CARES (CARES) campaign, organized by Adaptable Security (ADA), a nonprofit composed of C-suite professionals and seasoned technologists. The Tech-CARES campaign is committed to supporting small businesses and nonprofits to stay in business and better serve customers safely by adopting technologies and navigating grants "To survive intact through and beyond



COVID-19, we need to help small businesses and nonprofits survive and pivot," said Lan Jenson, ADA Founder & CEO, and Co-Chair, Cybersecurity and Privacy Advisory Committee (CPAC) for Smart Secure Cities and Communities Challenge sponsored by National Institute of Standards and Technology (NIST) GCTC. "CARES complements governments and business associations while they are in overdrive with a bottom-up, technology-enabling approach.

We provide compassion and trusted expertise to help our communities survive and thrive into the future."Cybersecurity is everyone's responsibility and small businesses need help. Small businesses are critical if the global economy is to restart and get back to normal. The flow of goods and services must be restored, people need to work, bills need to be paid, and trade must flourish once more. The fires of industry need fuel and small businesses are that fuel, but they cannot do it alone.

Small businesses need community support to fortify their cyber defenses and to protect them from cyber-attacks. We can all do our share as part of the global community no matter who we are or where we are. Together we can make a difference. We are going to live on and we are going to survive this pandemic. Volunteers are invited to email Ada@AdaptableSecurity.org or by nominating their favorite restaurants and other businesses and nonprofits for assistance on the campaign's website [https:// AdaptableSecurity.org/Tech-CARES](https://AdaptableSecurity.org/Tech-CARES).

Written by: Nathan Chung

Designed by: Toby Boyd



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This magazine has been designed with passion by the Graphic Design team, part of the Work Experience Programme.



Lena Privalenko Magazine Coordinator

Amnick City pulse magazine is a product of teamwork. This project was an interesting collaboration with creative colleagues, allowing each other to contribute and guide each other in the right direction. City Pulse magazine appeals to a readership that is increasingly getting its content on screen helps me develop my design and illustration skills to match my resume.

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Email: jplondon67@gmail.com

Rhiannon Griffiths

I have enjoyed working with the team on this project and getting to improve my graphic design skills and improve my designs while working with deadlines and a fast turnaround time for individual designs. The work experience program has helped me gain confidence in my design skills as well as find new ways to work with the Adobe Creative Cloud Suite. It can sometimes be challenging but working as a team with helpful feedback and learning from others and their different points of view has helped in heading towards working as a graphic designer.

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Toby Boyd

For me working with Amnick has been a rewarding experience. I found interacting with the team to be insightful as they were friendly and gave useful advice when designing the article and working on the magazine taught me a lot that I did not know prior to my work experience. Designing articles was challenging as I did not have much experience in that particular area of expertise. However thanks to feedback from the team I have been able to improve my work and gain a better understanding of graphic design topics such as text formatting and colour coordination. The knowledge which I have gained will help me in the future whether I'm working on a new project or finding a job.

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Boglarka Szoke

I've had a great time working with Amnick eWork graphic design team. We've come together to share our ideas to build the City Pulse Magazine. It's been a fun, challenging and rewarding experience. It's helped me to improve my creative skills, thinking and develop my portfolio. The constructive feedback from each other lets us see our ideas from different angles. I would recommend it to everyone who is looking for a positive first experience.

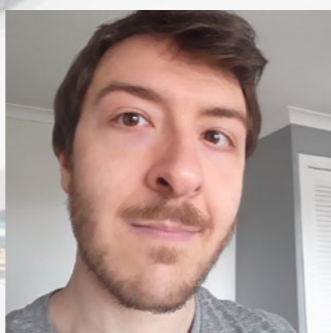
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Stuart Kinnear

Working on this magazine has been a fun, challenging and rewarding endeavor which has allowed me to experiment with different forms of media and design methods. I have also had good experience in making big changes to my designs in short time-periods using my colleague's comments and suggestions and being able to offer constructive criticism of my own to my colleague's work. This project has also given me the opportunity of advert design for magazines by turning a simple template into something eye-catching.

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Mie Sadaka

Working with Amnick has been a great experience for me. I became more familiar with designing magazine articles and found the design process that the team and I have followed very useful in building my design ideas for the article. I was able to share with the team different thoughts and design ideas that I have researched. Being able to work with the team has also helped me improve my design skills through receiving constructive feedback. Working on this project has been a rewarding experience and it has given me valuable skills and knowledge which I believe will help me with future projects.

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Peter Ayeni

I am passionate about using Technology & Design for Social Good. I hold a BBA in IT Security from SMC, Switzerland. When I moved to the UK in 2019 working with Amnick gave me the opportunity to gain the relevant first UK experience I needed. I was able to collaborate with amazing team members and learn how to break down brief to create professional designs.

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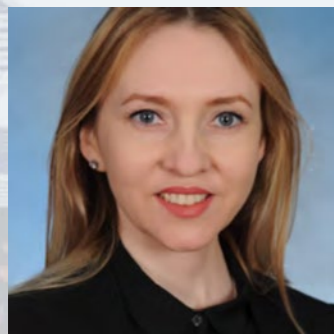
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Julia Chiperi Business Development Manager

Given talent, accumulated work experience and knowledge are valuable bonuses when it comes to employments or personal business. But what makes us truly special and define our value is the attitude, the desire to progress, learn, change and grow. People who joined our programme may have had undiscovered talent, limited experience and knowledge, but having the right attitude, the desire to learn, change and grow they made the whole process an enjoyable experience for everyone, achieving amazing results in a short period of time. And this is what makes our graphic design team truly special!

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Special thanks to **Adrian Tatum, Sadia and Awais Farooqi** for their assistance and contribution in helping create this magazine, through editing, interviewing and providing valuable advices.



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Designed by: Boglarka Szoke

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If you have news on solutions, innovations, challenges within the area of Smart Cities, Environment and Technologies, then we are inviting you to write about it and share it through this magazine to:

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