



AMNICK

Smart Cities, Environment and Technologies Magazine

Volume 1



How **FinTech**
is Changing
the way we
invest

Solving the
problem of **food
waste** with
technology

**Privacy and
Safety** in
Artificial
Intelligence

SHARED WITH
6
MILLION
LINKEDIN MEMBERS!

+



50 MILLION
READERS



Amnick International Collaboration Team

Dear reader.

Welcome to our first Smart Cities, Environment and Technologies magazine – which is very much community based.

This community base extends from ordinary people to city leaders, tech companies, mayors, universities, members of IoT council, research establishments, govts, etc.

The purpose of this magazine is to champion the latest solutions and innovation across the world. And to encourage almost anyone to write for it from school children to CEO's of multi-nationals and governments. We also want to reach out to special groups – Women in technologies, young people, disabled, older generation all to have a voice and champion their needs, observations, and help shape better cities and living places.

The magazine has been designed by our very own e-work experience team comprising of unemployed, graduates, mums returning to work programme. And through this programme, they are hoping to launch their own Graphics Design support services for clients around the world.

We are so excited to share this magazine with 6m+ members of various LinkedIn groups as well as up to 4 million Facebook colleagues and twitter circulation. Add to these 50 million readers of Magzter publishing platform where this magazine is being added. As well as being distributed to our international partners, tech companies, city leaders, mayors and universities globally.

Our magazine distribution channel is enormous.

Should you wish to write for the next magazine please use our portal www.bpmm.co.uk it's really very easy.

And should you wish to advertise for our next journal out in May 2020 please contact us at info@amnick.com – closing date 30 April 2020.

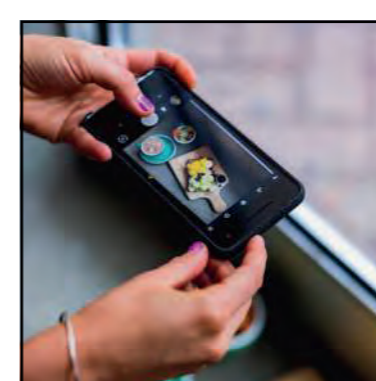
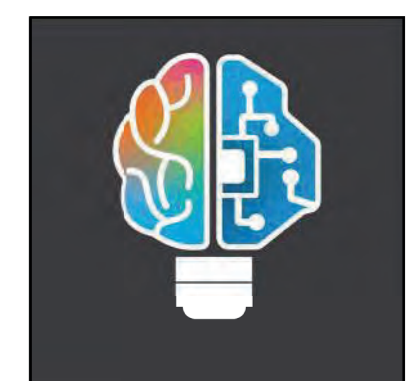
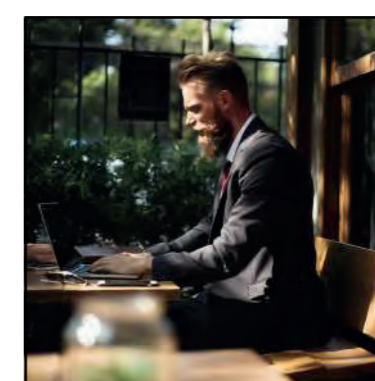
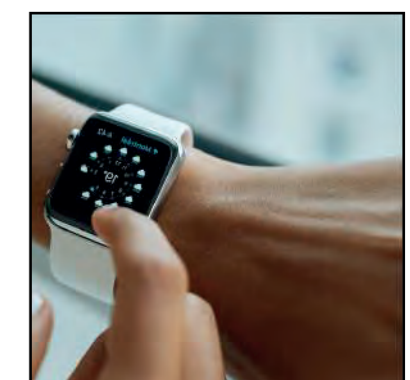
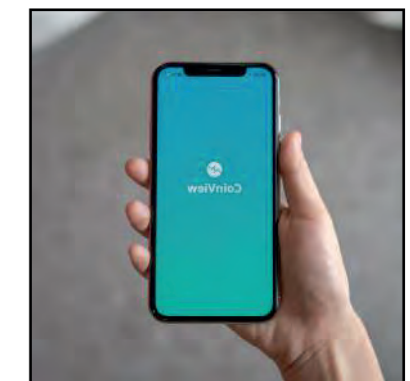
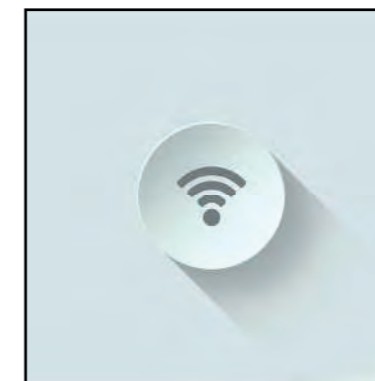
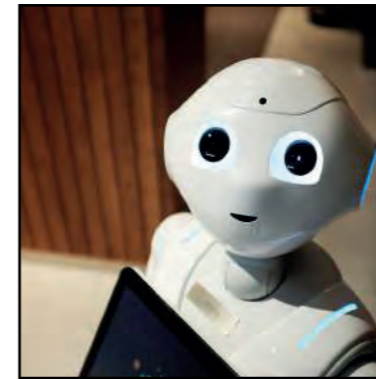
My thanks to my team for creating this excellent edition.

John David CEO and Founder
Amnick Social Enterprise



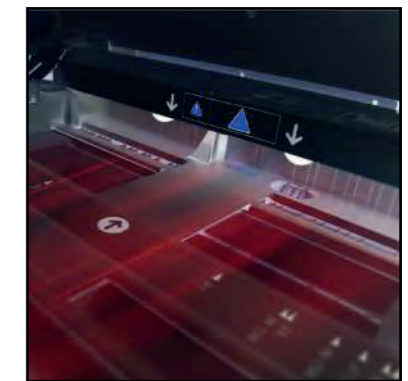
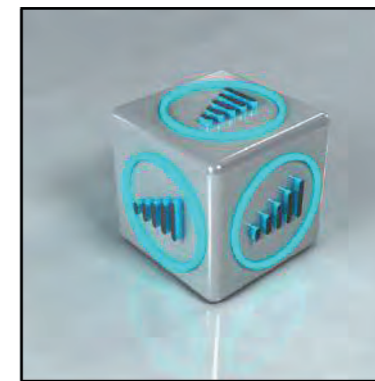
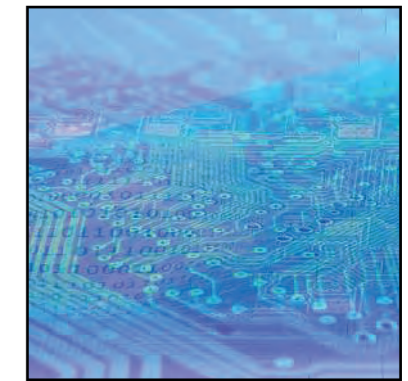
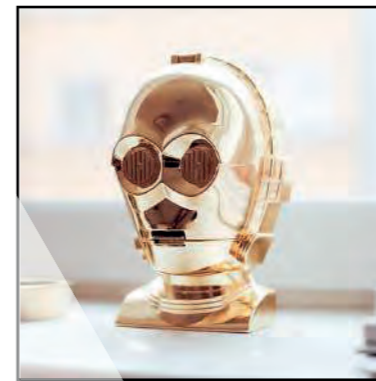
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How Amnick are fast tracking Smart Cities through international collaboration

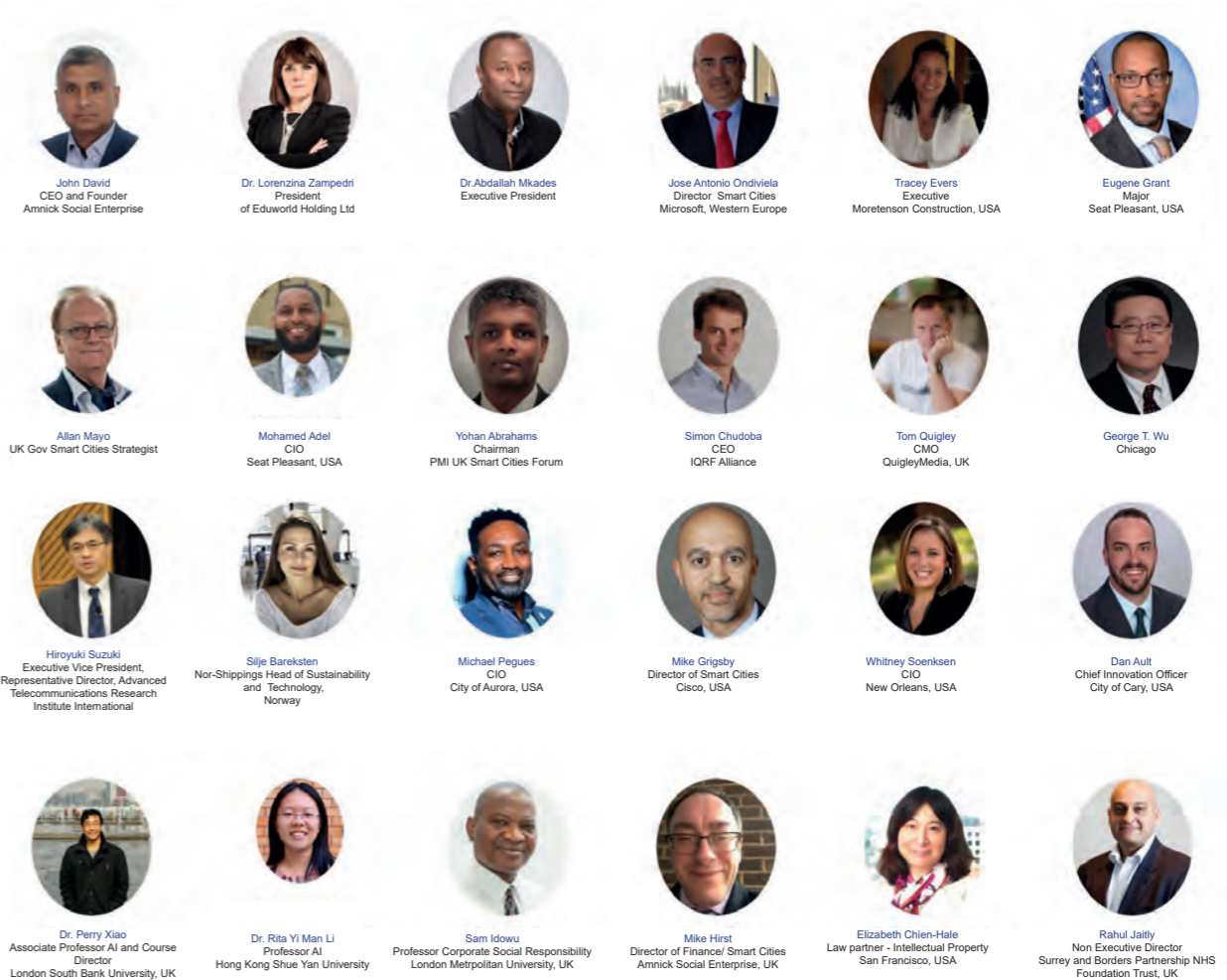


At Amnick we have started a programme some 10 months ago to see how we can answer the above. After discussions with the tech industry, govt. officials, Universities, City Leaders; I came to the assumption we needed the following ingredients to move things more quickly:

- Ideas
- Innovation
- Shared learning
- Technologies
- Education

To help pull this together, we have now formed a fully operational International Collaboration Team that is made up of City Leaders, Mayor, 110 Tech Companies, Universities and Municipalities from around the world.

OUR INTERNATIONAL COLLABORATIVE TEAM



The purpose of this Collaboration Team is:

To meet and discuss via video conferencing

Every
4
Months



This team is now also developing new Commercial model on how to sell its unique services, solutions and innovation via the Collaboration Team Commercial offer – this can be downloaded via <https://urlzs.com/u3PdZ>

Through our Commercial International Collaboration team we are now offering the following services >>

Buy and sell your solutions
Management consultancy
Programme Management
IP Management
Collaboration

Digital University
City Strategies
Tech solutions
Digital Transformation
Events across the world

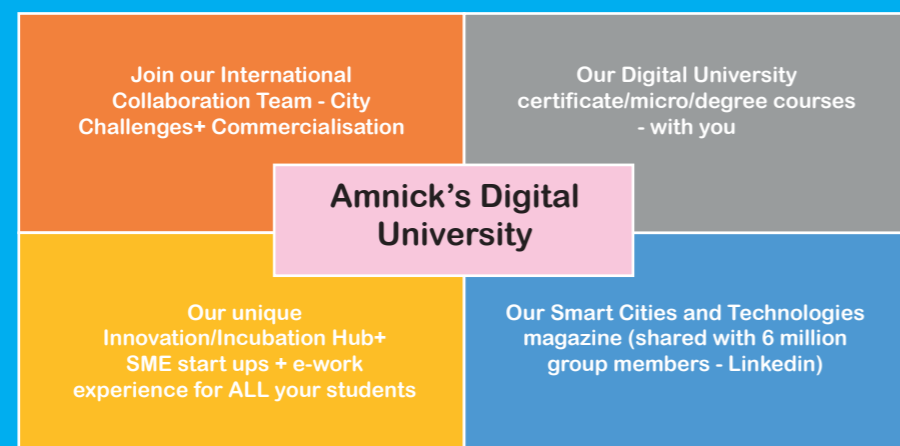
By working with this collaboration team. We have now established 4 key workstreams that support fast tracking Smart Cities. These are:

- Our Collaboration Team itself
<https://urlzs.com/XMscJ> -How to join
- Our new Digital University
- Our new Smart Cities Magazine (this one)
- Our Incubation/Innovation Hub for Students.

Our Digital University

We are recognising a massive shortage of people consisting Digital skills, on global levels. For this reason, we are working with our International Collaboration Team, 110 Tech companies as well as Universities from around the world to fast track and develop more people rapidly within the Technology sectors. We are developing our own 3 months based digital certificate (industry approved), where we provide 6 weeks of base training, together with 6 weeks of customisation to any industry area (Arts, Science, Humanities, Languages,

Technologies or Business areas – Finance, HR, Legal, Management etc). In addition to this, by working with our tech and industry partners we will be adding a 9-month industry placement to create our own unique Industry Approved micro degree within 12 months across Europe, UK, China and USA. We are looking for partnering organisations to contact us at info@amnick.com. This industrial placement is a win-win for both the student and placement company.



Our Smart Cities and Technologies magazine – this one
We are opening up an opportunity for random people to volunteer in Volume 2 of our Magazine, along with their Written Articles.
This edition will be coming out in April 2020, and the deadline for submissions is 10th February 2020.

We welcome articles on: Smart Cities, Digital Information, Municipalities, 5G, IoT, Block Chain, Crypto, Cloud/Securities, Artificial Intelligence, Developers, Women in Tech, Corporate Social Responsibility, Environmental Solutions, New media, Start Ups, Data, Industrial IoT, Children's Smart Cities



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Our new Innovation and Incubation Hub – with Brunel University Students



Our innovation and incubation Hub
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1. Students run their own company within Amnick - using our brand and your University
2. Students gain Digital work experience in their selected field of studies with us (3 months plus - up to 10 hours a week programme, from your own space and in your own time. With references and certificate
3. White labelling students products and services via our website

For more information in collaborating with us in any of the above – or if you have your own ideas. Please contact us at info@amnick.com Also see our website at www.amnick.com

CASE STUDY: ADOPTION OF ARTIFICIAL INTELLIGENCE IN BUSINESS



When asked about artificial intelligence, one would probably think that the question revolves around an evil supercomputer that has the characteristics of a robot, which could overtake the efficiency of the human brain. Artificial Intelligence (AI) has been significantly progressing to an extent that we use the concept in every day's activities. Currently, it has often applied in various business sectors such as Gmail, Netflix, Salesforce, and within the marketing industries. However, the progress of this technology has reached alarming levels, and there are suggestions that it will eventually encroach on human productivity and make different types

of jobs obsolete. According to data collected by Rajendra Akerkar, the marketing sector has been revolutionized by AI. For instance, the use of the algorithm is essentially necessary for the processing of data in order to optimize the most appropriate marketing strategies for the future generations. On the other hand, we ought to appreciate the contribution of AI in the business sectors because of its ability to streamline most of the business operations thus; encouraging people to effectively harness creativity, innovation, and intellectual abilities.

Companies such as Google, Amazon, Facebook, Netflix, and Apple have integrated AI in their business applications, with most of the adoption leading to a significant increase in "piloting" stages.



For instance, Amazon is primarily based on machine learning and intensive use of data regarding its products and services, Google is recognized worldwide for its intensive applications of AI in its business operations, while Facebook relies on the trillions of data points and behaviors in order to maximize the users' activities and advertisements engaged.



Netflix often depends on the piles of user data involving the movies and data, while Apple has mainstreamed interfaces since the advent of the Siri in 2013.



However, even though AI has been adopted in several business applications, most of its potentials to transform the enterprise sector are still under investigations and experiments. The lack of exposure around the suitability



for delivering the values of AI has affected the successful implementation within the business industries. Therefore, the business leaders ought to strategize on determining the strengths and weaknesses of AI in transforming the business sectors.



In addition, the biggest challenge to the adoption of AI in business applications is about inadequate skilled personnel. These applications require a particular set of skills, knowledge, and resources, which are currently not sufficient to merit the prevailing market demand.



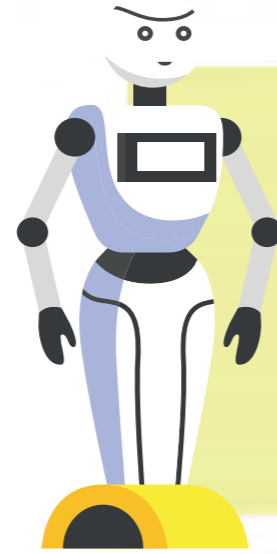
The leaders of the business sectors should strategize on how to provide training to individuals so that the gap could be fulfilled. Similarly, bringing AI into existence in business faces structural challenges, which encompasses the needs for research and development, in order to adopt this technology into the real business environment. Therefore, the business leaders should strategize on training skilled AI personnel while funding various research and development activities in the AI-related fields.

Written by:
Mohammad Shamim Hasan

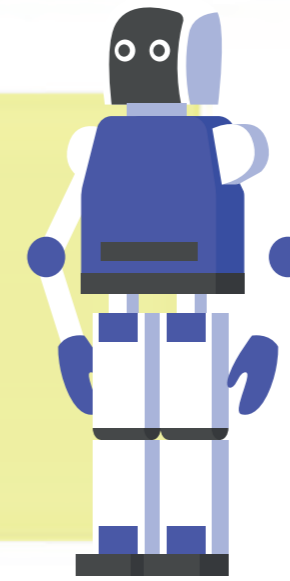
Bias-Free Artificial Intelligence

In order to enhance the effective building of unbiased Artificial Intelligence (AI), one should focus on using the machine learning tool called "word embedding." This machine learning tool would be effective in transforming the techniques through which computers interpret text and speech. According to the leaders of technological advancements, the next crucial procedure is developing a computer with machine-like properties for instance logic and common sense. This has already been successfully used in previous years to help the computers make sense of various languages, so the use of word embedded tools would be useful to build non-biased forms of AI.

On the other hand, some of the biases that could be acquired during the building of AI could be as a result of the acquisition by the algorithms. For example, when the algorithm was used to match American names with words, it was found out that it could match the European Americans with pleasant words like a gift and happy; while the African-Americans were associated with unpleasant words. Similarly, the AI system also behaves in the same manner of the algorithm. Therefore,



Since the world is already biased and the historical data too are biased, we should not be surprised that such type of machine learning tool is also biased



while using the algorithm, we can explicitly identify the situations when the algorithm is biased.

There are also chances of a machine tool called the "common crawl" to eliminate the biases. Sandra Wachter, a researcher in data ethics and algorithm at the University of Oxford, argues that since the world is already biased, and the historical data too are biased, so we should not be surprised that such type of machine learning tool is also biased. Instead of complaining that algorithm could present a threat of bias when building AI, we

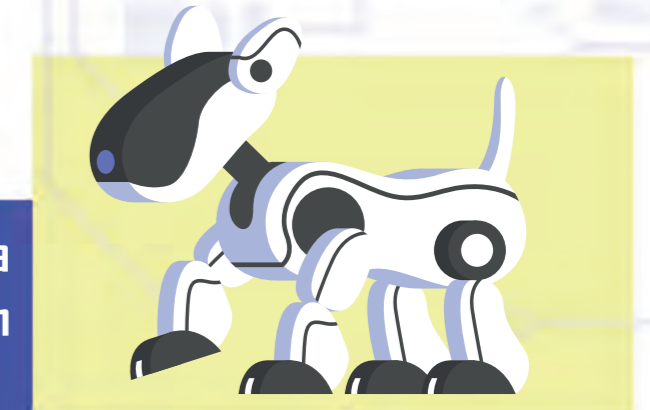
could potentially present the concern in common crawl (which is the most appropriate machine learning tool for this case).

She also suggests that it would be challenging to eliminate the inappropriate bias from the algorithm that is designed to facilitate human understanding of computer language without taking away their interpretation powers. Therefore, according to Sandra, we could have a principle of building AI systems, which detect the biased decision-making and correct such biases. As a result, there would be a need to establish an AI watchdog that would detect the biases and act on them.

There would be a need to establish an AI watchdog that would detect the biases and act on them

Even though this could be complicated, it is the responsibility of the society to implement such important issues without shying away from them.

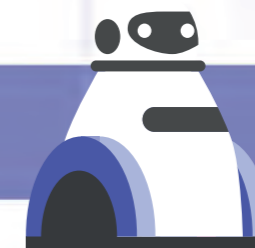
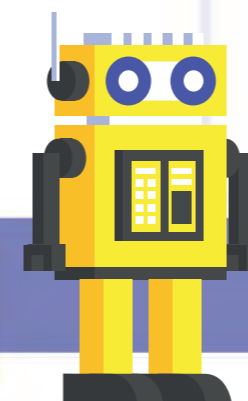
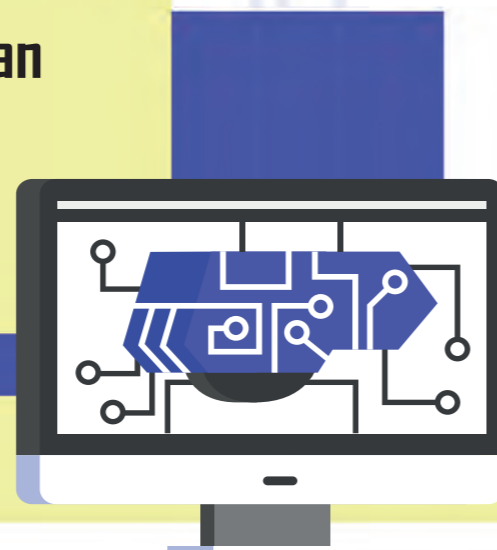
In conclusion, even though it would be complicated to build non-biased AI systems. Because of involving other technical matters, such as establishing a watchdog, society needs to adopt such techniques - as it is the most effective method of addressing the problem. I suggest that we should not shy away from implementing such significant solutions because of their complications, and instead bear the challenges in order to bring solutions even for future use.



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While using the algorithm, we can explicitly identify the situations when the algorithm is biased.



Written by
Mohammed Shamim Hasan

IMPACTS OF ON JOB MARKET

The concept of Artificial Intelligence (AI) - has brought various debates on its impact on jobs, and for the future development of global economies, as new technology affects between 60% and 70% of existing jobs. In the current societal set-ups, we often experience various transformations that are brought by technological advancement. The introduction of AI has resulted to several impacts such as understanding of human voice recognition, the invention of autonomous cars, military simulation, the invention of strategic game systems, and interpretation of different complex data.

There exists a fear that with the implementation of AI, there are chances that many people would lose their jobs. But does this threaten our future existence in the environment?

In order to enhance the effective building of unbiased AI, one should focus on using the machine learning tool called "word embedding." This machine learning tool would be effective in transforming the techniques through which computers interpret text and speech. According to the leaders of technological advancements, the next crucial procedure is developing a computer with machine-like properties for instance logic and common sense.

Previously, this has been successfully used to help computers make sense of various languages, so the use of word embedded tools would be useful to build non-biased forms of AI. To the economic experts' analysis, there is fear that the introduction of AI would take away jobs. People would either be marginalized in terms of job allocations or the jobs would be completely taken away from them. On the other hand, the World Bank research found out that approximately 70% of the job market in India is threatened by automation and the introduction of AI, as well as 77% of the job economy in China. Therefore, AI has the potential to reduce the number of jobs available for manual laborers.

This means that there would be enough funds to pay a higher amount of salaries for the workers. On balance, I believe that despite the fact that AI is a threat to the job market, it would also create more employment opportunities in society.

Even though AI reduces the number of employment opportunities, it also creates more opportunities. The introduction of such new technological advancements is instrumental in areas such as Big Data, Internet of Things (IoT), Cloud Computing, and Cybersecurity. Therefore, we should not lose hopes that we will be unemployed by accepting to implement the use of AI in various industries. Instead, we should be optimistic and get ready to recover from such short period of adjustments, and it has become instrumental in creating more job opportunities. Let us embrace AI because it would also improve the level of productivity in the industries thus; increasing the wages for the workers.

Written by: Mohammad Shamim Hasan
Designed by: Vaclav Kerkovsky

Since the introduction of such new technology would take away jobs from the public, there is a need to adapt to such changes so that everybody would feel accommodated in the new era. On the other hand, AI would speed up the industrial processes thus generating more profits.

Artificial Intelligence



Artificial Intelligence (AI) suffers great challenges of safety and security especially after Europe had passed the Data Protection Law. This has made data transfers between European countries and third world countries much more difficult.

The major issue with security and safety is brought by the algorithm, which keeps on improving daily through feasting on the available data. For instance, one would realize that the more algorithm often consumes the data, the more appropriate they get at spotting pattern.

However, speech patterns are essential for making it to bot to a particular sound just like the human being.

In addition, the introduction of visual patterns has been instrumental in the recognition of objects on the road through the autonomous car systems. Consequently, as the evolution of the algorithm takes place, the concept goes beyond the human understanding including those who created it.

As a result, the data often get combined with the other types of data in complex and mysterious ways. Such conditions are threats to security and safety which may fall

foul of European data protection laws.

Moreover, people often find it difficult to get rid of Big Data limitations, minimisation and retention because it involves various challenges.

The condition causes the challenge of transparency and the concept of consent, due to the fact that it is against the law requirements to consent about what you cannot understand.

Despite the fact that algorithm transparency could help us to understand how decisions are reached,

we cannot achieve such transparency in a machine learning system.

Since the software is not rule-based, the issue is even complicated especially when companies rely on using people's data to infer various concepts about them; particularly the sensitive personal data such as religious beliefs and sexuality and political affiliations.

These are the challenges concerning security and safety that are involved due to the progress of AI. This is because the progress of AI would cause significant improvements in our economic status.

Thus I would recommend the following solutions;

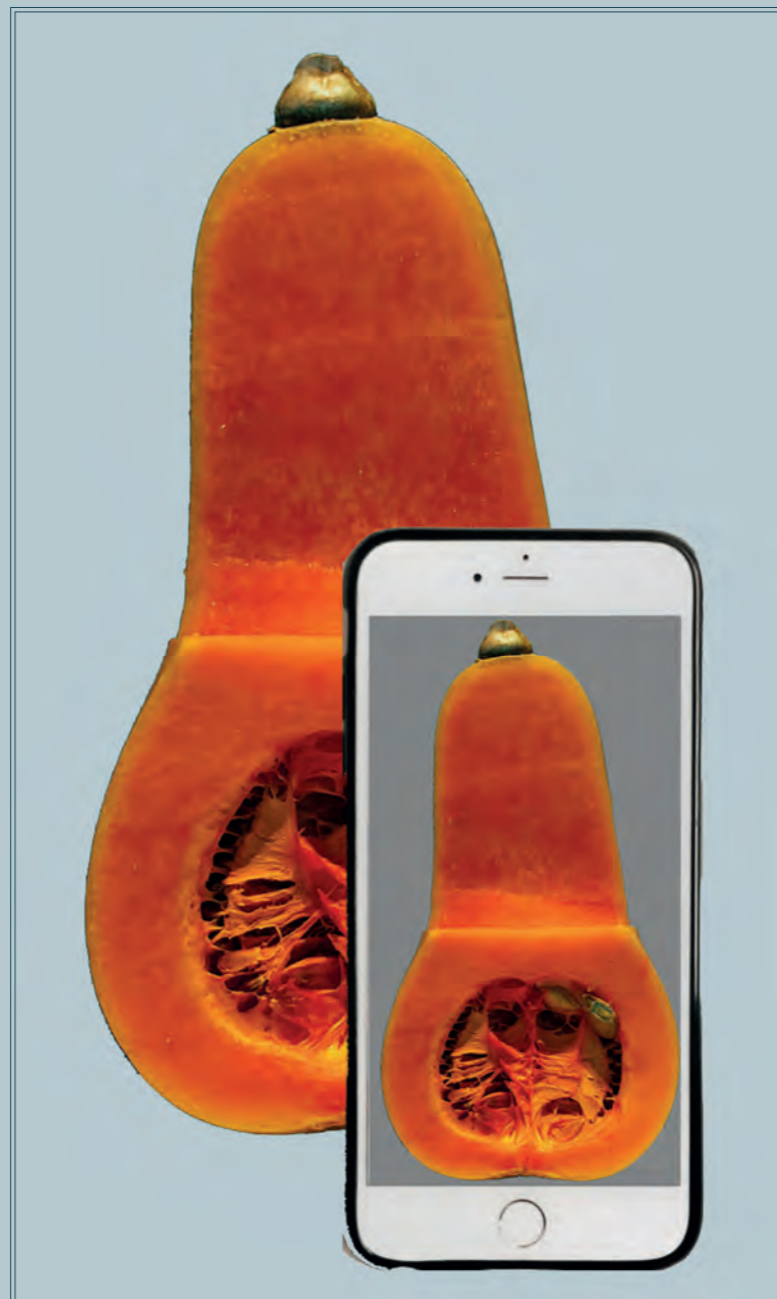
1. Companies should explicitly explain what they intend to use personal data for and strictly follow such intention not for any other objectives whenever they are collecting personal data.
2. Companies should minimize the quantity of data they gather and store it to a limited amount of data, which is necessary for such companies.
3. People should be informed by the companies about the data such companies hold and the purpose of holding them.
4. The companies should promise and get ready to alter or get rid of the collected personal data whenever necessary or requested by the source of the data.
5. The companies should be ready to explain the logic of the decision-making process whenever they decide to make automated decisions about the affected people.

In conclusion, since the issues of security and safety are one of the threats to the AI progress, therefore, we should learn how to protect AI from such threats.

Written by: [Mohammad Shamim Hasan](#)

SOLVING THE PROBLEM OF FOOD WASTE THROUGH TECHNOLOGY

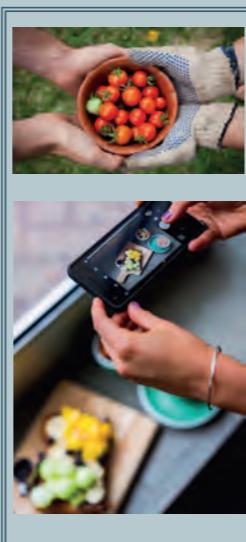
You are at it again. Staring with empty eyes at that block of cheddar with those little green spots. Once again you bought food you thought you were going to eat and there you are opening the bin and tossing it inside, with a part of you slightly cringing. It might make you feel better to know that you are not alone. Although it shouldn't. Across the world a third of all food that is produced gets thrown away. In the UK, the average family wastes 800 pounds of food every year, because it expires or simply because they don't like it.



“Tinder for food sharing”

Lucky for you, moms Tessa Clarke and Saasha Celestial-One decided to tackle head-on the problem of food waste. The pair, who define themselves as “two moms on a mission” created **Olio** a food app, just over three years ago. “Three and a half years ago I was living overseas and moving back to the UK. On my moving date, I had some food that I hadn't managed to eat and since I am a farmer's daughter I hate food waste and I wasn't going to do that. So, I took myself to the streets to find someone to share my food with” Tessa said. “I failed

and I thought that I was going to have to throw this food in the bin when there is probably someone within 100 metres of me who would love it” and simple as that, as something we all experience, the idea behind **Olio** started. It works like tinder for food sharing. Users can scroll through pictures of unwanted food, available in their areas, connect with their neighbours and collect anything from leftover cake from a big party, to unwanted tea bags for free or for a little charity donation.



In February 2015, **Olio** as a company was incorporated. The two started by doing some in-depth research to highlight the need for a food sharing service. Through market research and surveys, they discovered that one in three people are physically pained throwing away good food. Fast forward, Tessa and Saasha invited 12 of those people to share their leftover food with each other over Whatsapp. The feedback they received was astonishing. “When we debriefed the participants, they said **three things**:

- 1 “You have to build this”
- 2 “It needs to be slightly better than Whatsapp”
- 3 “How can we help?”



So the two moms kept working and in July 2015 the first version of the **Olio** app was launched. It was available just in five postcodes in North London. Within a year it was available across the UK and today **Olio** has more than 600,000 users across 32 countries.

We were two moms on a mission, we only had a certain amount of time to get some traction or go back and get proper jobs, so we had a very strong time pressure, but we expanded globally much quicker than anticipated because people were reaching out to us from all over the world saying “give us **Olio**” said Tessa. During its three years of existence, **Olio** has been granted 24 awards, including the Sustainable city award in the category ‘Managing Resources & Smart Technology’ and The Europas Award for ‘Hottest Tech for Good’ Awards are a wonderful and incredible honour but in reality, the most important thing is how much food we are sharing and saving every day and that is what

we keep our eyes on” said Tessa. **Olio** has also set up a deal with charities and shelters to cooperate. Some volunteers collect food and take it to their charities but in the opposite way some charities which receive excess food use **Olio** to redistribute it.

“While on paper, **Olio** is about reducing food waste, in practise, it is about community not charity, but inevitably because there is so much hunger in our society, when you are sharing across the community lots of people will benefit from it, but in a way that doesn't involve stigma.” Tessa said. It was not all easy. Launching a start-up proved to be challenging for both Tessa and Saasha at the beginning, when they tried to grow the **Olio** business, with no marketing budget or resources. As women, Tessa and Saasha experienced more difficulties than others to break into the world of Tech and entrepreneurship. Tessa said”



“ a billion people using **Olio** in ten years”

There are so few female role models which makes it harder to have the courage and conviction that you can actually do it, when you can't see much evidence other women are doing that". However, if you do have an idea don't let fear stop you pursuing it. Tessa describes the most rewarding aspect of working on **Olio** is the emails they get from users and the back end of the app where they can see all the saved food that has not been thrown away. "We get emails from users telling us how their children have been fed and they wouldn't have without **Olio**.

Volunteers tell us that we have changed their lives, giving them meaning and purpose. These personal stories are the most impactful" Tessa said. In a world where tech dominates our lives, apps like **Olio** are what is driving the smart city revolution, combining technology and social change and anyone can contribute. "I have never done anything entrepreneurial or started my own thing or could code but I knew this was something that the world needed.

We were committed to make it happen so we went out to find someone who could help us build the app" Tessa said.

The secret is to have a very clear mission and find a problem that effects enough people and needs solving. Tessa said "You have to dream big but start small and to have grit and resilience but also to be humble and learn quickly as you can about what is working" For the future, the "unshamedly ambitious" Tessa wants a billion people using **Olio** in ten years time. We are both extremely motivated to solve the problem of food waste, so we have always dreamt of hundreds of millions, if not billions, of people using **Olio**.The world needs it.That is what we are working towards," she said.

Written by Elena Cherubini



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The Emergence of Financial

TECHNOLOGY

The Guardians of people's' Finances.

Fintech is said to be one of the most promising industries. The revolution is driven by a wave of start-ups with new products and services, innovative businesses, and revenue models; changing finance for the better across the world. The digitization of services is becoming the norm in most industries and customers expect more flexibility and interactivity through digital platforms. The word Fintech, which translates to Financial Technology, denotes companies that combine financial services with modern and innovative technologies.

The financial services industry from inception has been built on trust, and the confidence of people to honour the liability they undertake. The effects of the 2008 financial crisis, where people lost their investments and jobs, led to the emergence of technology start-ups in the

financial domain. This was with the premise of operating with complete trust and transparency. These firms provide a range of financial services that were once almost exclusive to banks.

At the end of 2015, it was concluded by Forbes that "the banking industry is ripe for change with the rise of Fintech start-ups, the growing popularity of blockchain technology and the dominance of millennials". The industry is evolving and the ever-increasing need to prepare for cybersecurity threats remain top of mind, as banks continue evaluating new threats and potential fraud risks.

Why are Financial Services Firms making Venture Capital Investments with Fintech start-ups?

What's the incentive for financial institutions and banks to invest in Fintech? Is it to make early investments in companies in a growth sector or is it to not be left behind, and be part of the evaluation of an innovative IT sector dedicated to providing digital services to meet customer needs?

Banking has undergone a structural shift, as IT solutions no longer need to be built in-house. While the complete replacement of the old banking systems is unlikely, banks cannot avoid investing in apps to meet customer demands. In addition to offering products and services in the banking sector, there are also Fintech's that distribute insurance and other financial instruments, or even provide third-party services.

Companies in the Fintech industry are divided into four major segments, which include: Financing, Asset management, Payments, as well as other fintech's (a loose assortment of companies performing other functions). The finance sector includes a Fintech aspect that ensures finances are available for both private individuals and businesses. This segment can

be further divided into Fintech's whose offerings are based on the participation of a large group of contributors (crowd-funding) and those offering services or credit without crowd participation (credit and factoring).

The asset management aspect includes fintech's that offer advice, disposal and management of assets, and aggregated indicators of personal wealth. This segment is sub-divided into further sub-segments, which include social trading (where investors can observe, discuss and copy investment strategies/portfolios of other members of a social network). The robo advice sub-segment refers to portfolio management systems, providing algorithm-based and automated investment advice, sometimes generally based on passive investing and diversification strategies. The investor's tolerance and preferred investment duration are considered.

Written By Comfort Bolanle Ajao

Personal Financial Management and the Emergence of FINT€CH

The Personal Financial Management (PFM) sub-segment comprises of fintech companies that offer private financial planning, particularly the administration and presentation of financial data using software or app-based services. PFM enables clients to visualize the assets they have deposited with different financial institutions, as well as loans borrowed from different lenders in one application.

To integrate the accounts of various providers into a PFM system, PFM's interface with the portals of financial institutions, which are frequently open-access, using application programming interface (API) technology.

Secondly, they are deposit brokers, which arrange daily or fixed-term deposits in other EU countries. They offer the opening of accounts, as well as management on a German website. Resulting from the EU wide deposit guarantee scheme (Directive 2014/49/EU), using this business model, it is possible to exploit interest rates from different countries.

The Payments segment is an umbrella term that applies to fintech's whose applications and services concern national and international payment transactions. Under this umbrella includes the blockchain and cryptocurrency sub-segment, which includes fintech's that offer virtual currencies as an alternative to typical fiat money.

Fintech encompasses technology that supports or enables banking and financial services.



There are also fintech companies offering innovative concepts for advising or managing assets that cannot be included in the social trading, robo-advice or PFM sub-segments.

These may be organized into two main groups; the online-based asset management in which human advisors actively interact with customers. Although, as with robo-advice, they also automate or partially automate many processes.

The other fintech's segment describes fintech businesses that cannot be classified by the other three traditional bank functions. Fintech's offering insurance or facilitating its acquisition are included in the transaction sub-segment, often InterTech's.



Fintech's of the search engines and comparison sites sub-segments enable the internet-based search and comparison of financial products or financial services. According to Center Forward Basics, as at 2017, there was 33% adoption of fintech world-wide and 46% was the average fintech adoption across emerging markets: Brazil, China, India, Mexico and South Africa.

50% of individuals globally employ the use of financial technology for transfers and payments, 24% use it for insurance, while 20% use it for savings and investments.

Research from Ernst and Young released this year in their fintech adoption index 2017 indicated that "on average one in three digitally active consumers now use two or more fintech services, making fintech usage significant enough to suggest that fintech has reached early mass adoption". This research also indicated that there is a hunger amongst consumers for new financial service benefits that utilize technology, such as mobile devices and cloud-based services.

“ On average 1 in 3 digitally active consumers now use 2 or more Fintech services. ”

Written by Comfort Bolanle Ajao

Low Cost, More Efficient, and Stabilized Systems

How FinTech is Changing the Way we Invest



FINTECH

The emergence of FinTech in this evolving technology era has brought about many advantages. Proponents of FinTech argue that the advances made by FinTech firms and entrepreneurs create more choice and options, resulting in more accessible financial markets for ordinary consumers - not just top income earners. Examples of expanded financial market access include investing, securing personal or business loans, and, very soon, obtaining a mortgage or purchasing insurance. The technology and data that FinTech uses make it easier to distribute information, advise, and offer more basic aspects of financial services including banking, investing, borrowing and saving to larger populations. They insist that because FinTech firms are using different data sets and considering other factors during the underwriting processes that traditional banks do not consider, consumers have great access to capital that grows the economy and creates jobs.

Also, FinTech has brought about better payments system, which can increase proficiency at collecting payments and issuing invoices. In terms of approval rate, many small business ventures are starting to use the alternative lenders like those involved in financial technology because it has the capacity to increase the rate of approval for finance; in some situations this process can be completed within 24 hours.

Greater convenience is another FinTech advantage, as the companies involved in financial technology make full use of mobile connectivity. This can significantly increase the number of people who can access this type of service and increase the efficiency/ convenience of transactions.

With consumers given the option to use smartphones and tablets to manage their finances, it is possible for a business to streamline its service and provide a better all-round customer experience. Much of the latest technology relies on robo-advice for guidance on finance, offering quick low-cost options to obtain advice on investments while managing risk.

Banks were concerned over the emergence of new technology that could cause disruption to their business. Therefore, many banks have designated a team to improve their in-house operations and to increase efficiency. Many of these startups are devoted specifically to fixing a certain problem and can focus their energy and resources accordingly, which gives them an advantage over their financial counterparts. But rather than viewing these new start-ups as competitors, banks have begun to collaborate and fund these FinTech companies in a bid to bolster their services. New technology can reach wider audiences, and start-ups can benefit from using the reach of banks and traditional financial services players to expand their market share.

In terms of advanced security, using the latest security methods is necessary to ensure more people are confident in using this type of financial service, which include: encryption, biometric data, and tokenization. FinTech also brings about better financial situations in businesses, with FinTech companies and the technology that they offer revolutionizing the way businesses run their finances. These innovative solutions can help provide much needed investment, offering cities access to improved cash flow and stabilized funding systems. **Bolanle Ajao**

DIGITAL TRANSFORMATION

Rarely in business or life, we are faced with something as powerful as digital transformation. The mere concept has shown the potential to change the way individuals live, work and govern one another. Digital transformation can be seen as the integration of digital technology into all areas of business, fundamentally changing how you operate and deliver value to customers. It is also a cultural change that requires organizations to continually change the status quo, experiment and get comfortable with failure. This often means walking away from long-standing business processes that companies were built upon in favour of relatively new practices that are still being defined. It transcends traditional roles like

marketing, sales and customer service. Rather, it begins and ends with how you think about and engage with customers. As society moves from paper to spreadsheets to smart applications for managing our business, there is the chance to re-imagine how business is done and how we engage with customers with digital technology present. For small businesses just getting started, there is no need to set up your business process and transform them later. Rather, you can future-proof your organization from inception. Building a 21st century business on stickies and handwritten ledgers is not sustainable anymore. Thinking, planning and building digitally sets you up to be agile, flexible and ready to grow.

WHAT IS THE DIFFERENCE BETWEEN DIGITIZATION, DIGITALIZATION AND DIGITAL TRANSFORMATION?

Digitization

This is the move from analog to digital. Not too long ago, business kept records on paper. Whether handwritten in ledgers or typed into documents, business data was analog. If you wanted to gather or share information, you dealt with physical documents (papers and binders; faxes). Then computers became mainstream and most businesses started converting all those physical documents to digital documents. This is called digitization. Finding and sharing information became much easier once it had been digitized, but the ways in which businesses used their new digital records largely mimicked the old analog methods. Digital data was exponentially more efficient for businesses, but business processes were still largely dependent around analog-era ideas about how to find, share and use information.

Digitalization

This is the process of using digitized information to make established ways of working simpler and more efficient in an organization. Digitalization is not about changing how you do business or creating new types of businesses, rather, about keeping on keeping on. As data is faster and better through digitalization, data is instantly accessible and not trapped in a file cabinet somewhere in a dusty archive. Think of customer service, whether in retail, field operations or a call centre. Digitalization changed service forever by making customer records easily and quickly retrievable via computer. The basic methodology of customer service did not change, but the process of fielding an inquiry, looking up relevant data and offering resolution became much more efficient. As digital technology evolved, people started generating ideas for using business technology in new ways and not just to do the old things faster. With new technologies, new things and new ways of doing them, were suddenly possible.

Digital transformation

This is changing the way business gets done and, in some cases, creating entirely new classes of businesses. With digital transformation, companies are taking a step back and revisiting everything they do, from internal systems to customer interactions both online and offline. Now, society is firmly entrenched in the digital age and businesses of all sorts are creating clever, effective and disruptive ways of leveraging technology, Netflix is a great example. It started out as a mail order service and disrupted the brick-and-mortar video rental business. The digital innovations made wide-scale video streaming possible. Today, Netflix takes on traditional broadcast and cable television networks and production studios all at once by offering a growing library of on-demand content at ultracompetitive prices. Digitization not only provided Netflix the opportunity to stream video content directly to customers, but also gain unprecedented insight into viewing habits and preferences. It uses the data to inform everything from the design of its user experience to the development of first-run shows and movies at in-house studios. That is digital transformation in action: taking advantage of the available technologies to inform how a business runs.

ELEMENTS OF DIGITAL TRANSFORMATION

Digital transformation entails come common elements, which include:

Business model

This involves changing your business model to adapt to technological change in your industry. For example, an advertising firm shifting to digital advertising platforms.

Data

Advancing the use of data to discover strategies, optimize operations, manage risk and improve decisions. For example, a restaurant chain that experiments with hundreds of new menu items at different locations to collect data and discover items that work unusually well to be launched across a region.

Self-service

Providing technologies that allow everyone in your organization to explore data, share knowledge and develop toolsets.

ADVANTAGES OF DIGITAL TRANSFORMATION

Transforms customer experience

The world's obsession with the latest technology, social media and apps revolve around a desire for an easier life. People want fast and valuable solutions to their problems. Resulting from this, the primary focus of digital transformation is to use cutting-edge technology to improve the customer experience. The organization at the forefront of digital revolution will earn much more authority, trust and respect from customers.

Drives data insights

One of the great benefits of going digital is the ability to track metrics and analyze the data that is gained during digital marketing efforts. More so, more to the point, using these insights allows businesses to optimize their strategies and processes for even better results. In businesses, two things matter the most- (cost and revenue). It is possible to make massive changes to both by integrating data-based insights into the company culture. Using data-driven insights to understand customers and feeds into business strategy enables hyper-personalization, relevancy, real-time feedback and agility.

Encourages collaboration across department

The thought of the entire organization making a massive digital transformation can be a daunting prospect for a workforce from leadership to entry-level employees. All processes and strategies, down to the core structure and company culture need to be addressed. However, in that, there is an opportunity for unity throughout the workforce. To maximise the chances of a successful switch, there needs to be strong communication. With encouragement, employees can break down age gaps and social divides to engage in conversation and learn together, Solid leadership at this point will improve the digital intelligence of the workforce.

DISADVANTAGES OF DIGITAL TRANSFORMATION

Data security

Digital technology means that vast amounts of data can be collected and stored. This can be private information concerning individuals or organizations. It can be very difficult to keep this data safe. Just a single breach can mean vast amounts of private information going into the hands of criminals, terrorists, foreign enemies of other malign entities.

Privacy concerns

It has become much harder to have personal privacy in the digital world and that is on top of the dangers of your personal data being stolen or sold. For instance, everybody has the ability to take photos and video footage on their mobile phone, then post it only. Digital cameras watch and record our movements in public places. Controlling your personal information is very difficult and sometimes impossible.

Job security

It used to be that you had to be physically present at a workplace to do a job, but now, many tasks are performed remotely via the internet. That means a third world worker in a low wage economy can undercut you and take your job. Increasingly, humans aren't needed at all for many tasks, as computers gradually replace them. Driving jobs for instance, will disappear soon, as vehicles become self-driven.

Written by **Bolanie Ajao**
Illustration **Jelena Privalenko**

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Can the Internet of Things Save Agriculture?

Agriculture is mankind's oldest profession. In India specifically, the second-most populous country of the world, 80 per cent of its population is engaged in agricultural work.

The main source of economy is agriculture; with its industries dependent on its products. Throughout the country, persistent crop failure is affecting livelihoods. One of the main reasons is reliance on manual-based, very traditional and un-scientific agriculture practices. India's agriculture is in a labour crisis due to the migration of village people to cities. Agricultural producers must embrace revolutionary strategies for producing food, increasing productivity and make sustainability a priority.

Globally, agricultural producers are faced with increasing pressure to meet the needs of a growing population. The future of agriculture is an intelligence system that can timely watch crop development. Unmanned Aerial Vehicles (UAV) have been in use since 1980 and their applications are expanding rapidly. There are various applications of drones; right from simple photography to military spy. One proposal is a drone fitted with a camera eye scheduled to record images of crops. For this to work, requires a user-friendly intelligence system with a knowledge-base to guide agriculturists. From captured images, the intelligence system would enable agriculturalists to take care of their crops through informed decisions on crop image analysis, thereby, increasing the productivity of agriculture.

Agricultural drones, as highly reliable state-of-the-art technology, will reduce labour time and

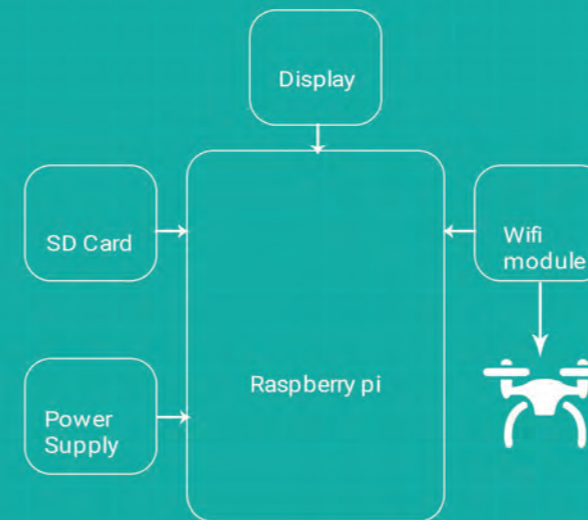
increase crop yields. An ability to fly means agricultural activity can be inspected using precise ground truth information from the beginning of any crop year. Crop management will be more efficient due to systematic monitoring. Accordingly, the production rate will increase rapidly with lesser consumption of energy. Moreover, analysing the results of the intelligence system will allow for adjustments and measurements on the distance from the terrain, calculate depth level, measure water stress level of crops, physiological features of crops and many more applications.

Proposed system

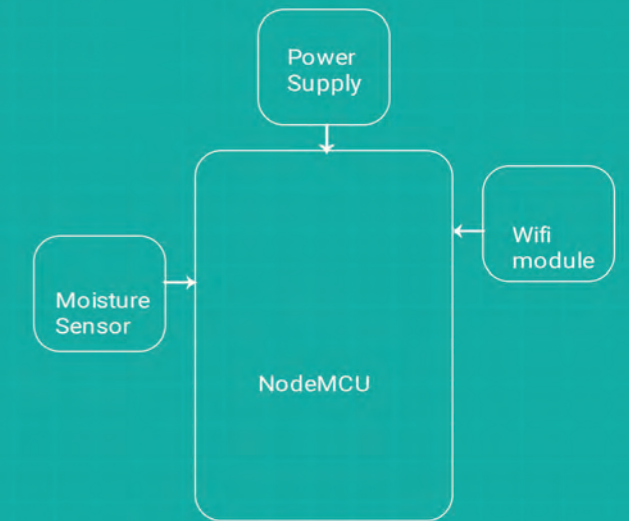
The main parameters for analysis by image processing are the number of green leaves and moisture content in the soil. The plant will be detected using the external camera eye fitted on the drone; interfaced with Raspberry Pi along with other sensors modules through Internet Of Things (IoT).

To detect the amount of green in a leaf requires the application of Android studio. Here PlantDoctorMaster-debug.apk file is created and copied in the handset where TH classify application is installed.

Now select the photo captured by the Drone and the image is stored in the Raspberry Pi and now



Fig(1) Green leaf detection



Fig(2) Soil moisture detection

diagnose the result of the selected image and we will get the confidence value.

Using the most efficient and compatible technology, a few proposed solutions have been mentioned which can be integrated with Raspberry Pi.

The Drone is connected through Wifi module to capture the images. Using Raspberry Pi it is possible to send the obtained converted digital equivalent of the parameters over the internet and OpenCV allows this to process the drone. The Raspberry pi is connected to the display through HDMI cable and the power supply is given to it. We use hard disk (SD card) for the storage.

To detect the moisture in the soil we use NodeMcu which is connected to the power supply through Wifi module and moisture sensor is connected to the board which is used to check the moisture content in the soil and to check the dry

land. Drones are regarded as an eye-opener for an industry under increasing pressure. As IoT becomes more commercialized, state-of-the-art conceptions will be integrated to develop agriculture drones, and in doing so, improve agricultural efficiency. In the near future, there will be drones interfaced with infrared cameras, sensors and GPS that can help farmers monitor and care for their crops. Drones that can go on auto missions rather than be manually controlled, drastically cutting down on the cost of monitoring crops. Drones that can detect and reduce the number of chemicals being released into the environment and reduce water wastage.



Ajit Singh
Assistant Professor
Patna Women's College
Bihar, India.

THE PROJECT REVOLUTION- HOW TO SUCCEED IN A PROJECT DRIVEN WORLD

AUTHOR ANTONIO NIETO-RODRIGUEZ
SHARES 4 PRINCIPLES AND TIPS FROM HIS NEW BOOK

“It is incumbent upon project leaders to create a purpose...”

Welcome Project managers, to project leadership. Access a free Duke Corporate Education and Strategy Execution recorded webinar with Antonio Nieto-Rodriguez on the project revolution.

1 Purpose Prioritizes Organizations are often considering hundreds of different ideas and projects. Purpose should be part of the selection formula, according to Antonio, as it creates a clear line of sight about how the project aligns to organizational priorities. “Organizations often judge projects based on business cases that are always presented in a positive light. They should still be part of the equation, but the purpose of the project engages stakeholders in a much more impactful way,” he said.

2 Formulate the Purpose by asking why Most project methodologies come from engineers and are focused on scope, time and costs. These are important, but can lead to decisions that ultimately aren't the key priorities from consumers' point of view. Antonio noted: “The purpose is connected to the end user and the value add that it brings to the organization. You are able to see this connection when you ask the question ‘why’ multiple times. This is the best alignment mechanism to organizational purpose.

3 Align the Individuals It can be challenging for everyone to interpret and align around a purpose. Antonio shared this point and I agree. That is why it is important to generate agreement on the big picture purpose of the project, but then allow for individuals to connect to it in their own way. Individuals approach their jobs with different motivations based on their own sense of meaning. This relates back to my Forbes column about connecting organizational to individual purpose.

4 Project leadership needs to be embedded in purpose “It is incumbent upon project leaders to create a purpose that generates the optimal number of volunteers and the 10% extra discretionary effort that is key to success,” said Antonio. The problem is that organizational structures in place are not created to continually address projects. Employees often have a difficult time deciphering how a new project fits within their current operating structure. Purpose, in my experience, is the optimal way to create this buy-in. A person that is initially motivated by a project to accumulate power or prestige usually

disengages at some point. A person motivated by purpose usually will not (assuming the purpose doesn't change). My conversation with Antonio underscored an important point: purpose elevates everything to the human level, beyond task. It is a key to differentiating project leadership from mere management. You need project management skills, but without purpose, you can't move into project leadership, which is about inspiration, engagement and energy. There is also a clear link between purpose and creativity. It serves as a means to explore the “wild ideas part” of the project. By introducing a clear narrative on what you're there to do or whom you are

meant to serve, people feel more anchored and therefore freer to explore and use alternative thinking methods. Budget and outcomes are not enough; project teams need to increase performance and creativity. The time for project purpose as a core discipline has arrived.

There is usually motivation around purpose conversations at the project's outset. **Communication** is key to sustain the momentum. “Not everyone on the project team is together all the time or in the same place,” said Antonio. “Thus, communication is crucial. Project leaders probably need to spend 80% of their time communicating. There are also various speeds that take place during the duration of a project and effective communications keeps the team on track.”

SMART CITIES UK is pleased to announce the launch of a New National Engagement Programme.

Smart Cities UK has established itself as a Forum for learning amongst UK Cities and Towns whom seek to gain understanding on how to meet economic and social challenges. Established in 2015, the Conference has engaged with over one thousand regional leads, sharing guidance, expertise, information, knowledge and resources.

Smart Cities UK was established in 2014 and in 2016 we introduced the international awards which aim to encourage best-practice and recognize progress made on smart city development.

To date we have awarded over twenty organisations who have demonstrated impact when accelerating economic and social outcomes within a town, city or country. Since establishing the Smart Cities UK Conference, we have monitored the UK's progress on smart approaches to economic and social improvement. Although there has been a clear example of initiatives being implemented across the country there is still a significant gap in knowledge and understanding on defining a smart city especially amongst local authorities. In recent years the term 'smart cities' has been lost in translation. The economic cuts within cities & towns has further added to a stagnation in smart development with several local authorities shelving plans to take forward projects. A recent study conducted by ATG Access found that consumer

awareness of smart cities is minimal with twenty six per cent of those surveyed (one thousand) stating they found the "concept" of a smart city as worrying given the lack of available information.

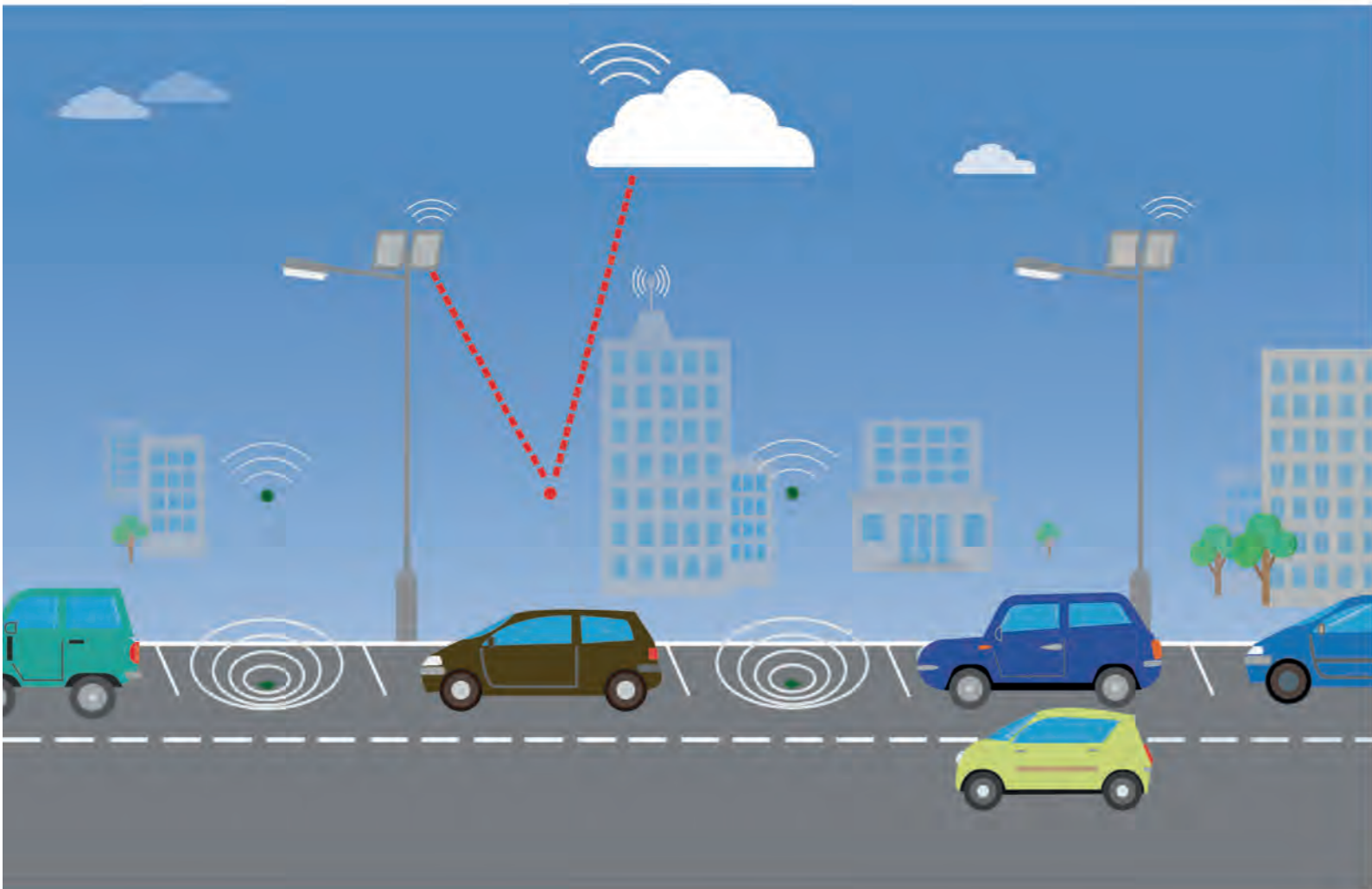
Our own research conducted annually prior and post conference has also identified similar patterns to that demonstrated in the recent survey highlighted above. We have heard from previous attendees, who represent local authorities, on the multitude of barriers to taking forward smart city projects and in some cases, we have heard local authorities cancelling plans. The main reason has been down to knowledge, skills, national leadership and funding to take forward projects which can tackle the pressure points many authorities face including housing, social care and transport. From a national

perspective, many of the bodies set-up to educate and develop smart city dialogue have in many cases failed to improve city & town outcomes. In many cases the smart city agenda has been technology led and thus the time for taking a more streamlined approach is now. As a forum for engagement, we at Smart Cities UK believe we have a strong position and duty to take forward a regional engagement programme which can not only capture regional challenges, but provide solutions whilst delivering skills, knowledge and guidance in which we can foster transformation. Although national challenges exist within the UK, we feel meeting the challenges region by region offers a more personal approach in which information can be digested clearly and concisely. Details on our new series across the UK can be found here <https://www.smartcityuk.com/roadshow-meeting-city-challenges>

Smart Cities UK
Author: Scott Buckler

Škoda Solves Car Parking Confusion with Smart Technology

CITIQ, a member of the IQRF Alliance, helps solve roads overload near Škoda Auto in Kvasiny



Škoda Auto employs more than 8,000 people in three shifts and most of them travel by cars there. Some of them use buses, part is motivated by the employer to use bikes, but most of them still use cars.

Surrounding villages - Kvasiny, Solnice, and Ještětice are extremely overloaded by employees transport and unwanted parking. There is no suitable place for the construction of parking lots in the area.

CITIQ has installed traffic flow detectors in adjacent villages to monitor both the traffic flow and the length and speed of vehicles. These data can be used to analyze traffic on roads in these municipalities. The electromagnetic field detectors are embedded in the roadway to sense all necessary data. Sensors are battery powered, and because the data is transmitted by the IQRF, ultra-low power technology, sensors work for many years. It is not necessary to dig out the sensors earlier than after 10 years. Thanks to IQRF, it is also possible to update the software wirelessly if needed. Two-way 20 kbps communication works well for this purpose.

All data are centrally collected into a cloud application where they are available for further analysis as well. They are displayed in a GIS application where comprehensive road usage information can be obtained in up to five minutes time slots.

To simplify transport on existing car parks, information signs showing actual occupancy should help, thus avoiding the confused entry and exit of cars that have not found a parking space. The parking signs in the car park near the car factory also obtain data on occupancy from EM detectors installed under parking spaces. These information help drivers to park easily and prevent the search for a parking space where it is no longer available.

To get information on the occupancy of about 2100 parking spaces, it was not necessary to install the parking sensor to all places, but the company solved it by a combination of traffic flow and parking sensors, with "big data" processing logic over these data. Traffic engineering data is available for the local municipality for a long time.

Written by IVONA SPURNÁ
Illustration JELENA PRIVALENKO



Detector operates wirelessly



Simple installation with minimal work



Long lifetime the battery



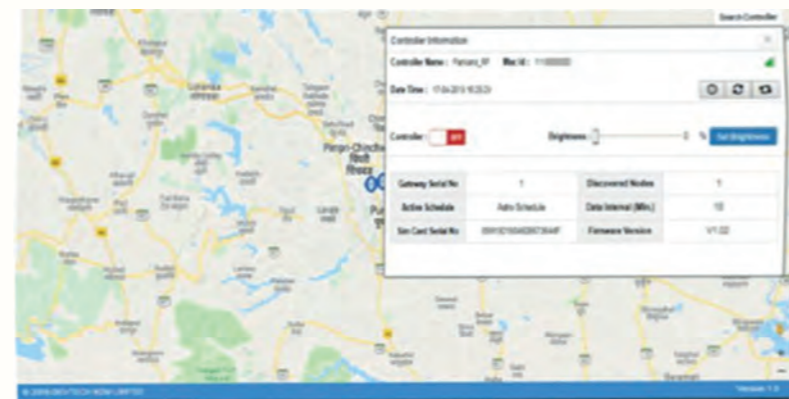
Data is collected to the cloud-based platform



Detectors are safely embedded under the surface in the parking space

Written by: Kiran Shingote

Devtech M2M launches RF (Radio Frequency) based individual lighting monitoring and control solution for ILM (Individual Light Monitoring)



RF (Radio Frequency) lighting monitoring & control solution for ILM (Individual Light Monitoring)

LCG6000 / LCG6000E - Individual Light Monitoring & Control RF devices

Devtech LCG6000 / LCG6000E is an iQRF mesh technology based RF device and an integral component of the 'Smart Street Lighting Solution' and a perfect choice for installers to automate their street lighting assets and take control and realize savings right from day one. The automation of the street lighting assets helps you to track and conserve energy and enables savings up to 30-50 percent. The module operates in the Sub-GHz RF (Radio Frequency) range of 433 MHz/860- 960 MHz worldwide ISM bands for international markets (USA/Europe/Australia/NZ). Devtech wireless LCG modules are agnostic and can be fitted to any lighting luminaire (HPS/MH/CMH/CDM-T, Induction, LED's, Plasma etc.) equipped with Ballast/Driver on homogeneous or heterogeneous lighting.

IOT5103 (IOT Gateway / Data Concentrator Unit)

Devtech 'IOT Gateway 5103' is a high performance M2M segment controller based on iQRF mesh technology which serves as a data concentrator or a gateway for a group of RF enabled Lighting Control Gear - LCG6000V/LCG6000E to connect with cloud based control Software through 2G/3G/4G cellular, GSM/GPRS, or Ethernet remote monitoring & controlling operations of streetlight assets from the off-site location. This lets you to save energy, improve operations and lower maintenance costs.

iStreet.network - Street Light Management Software

Devtech's iStreet.network is a remote Monitoring & Control Software, which Offers remote street lighting management solution that covers detailed individual lamp level management capabilities. This is the central management software that allows customized dimming schedules, automatic identification and report of lamp failures, real time monitoring

and control, automatic measurement of energy consumption, and much more. This is done in the open source environment to easy integration of any asset management systems (AMS).

About Devtech M2M

DEVTECH M2M is an India based advanced technology driven Products Company with current manufacturing located at the state of the art production facility in Pune, India. Our sales offices are in India, USA and Singapore.

DEVTECH M2M is an ISO 9001:2008 certified company and an undisputed leader for efficient lighting control and automation technology products and solutions. Our user base varies across the globe from Municipal corporations, infrastructure projects, oil & gas industry, process industry and various smart cities.

Name:
Snehal Parikh

Company:
Devtech M2M Limited

Country:
India

Are We Using the INTERNET CORRECTLY?

In this globalization era, the internet is becoming a “must” thing for everyone; whether you live in a rural area or an urban area. Many people crave this internet technology for communication, knowledge, dissemination of information and other related matters.

However, the internet technology is mostly found to be used for communication purposes. The mobile data technology, with the introduction of Social Media platforms vastly used by the present generation for non-productive purposes. About 75% of the modern generation are rooted to the Smartphones and spend a large part of their productive time in messaging or using services like “Tik-Tok” and other related services. It is alarming to note that productive time which is supposed to be used to gain extra knowledge through internet is wasted in these social media platforms.

All the countries in the world boast of internet penetration to 70% to 90%. This translates to, for every 100 persons, 70 to 90 persons are internet savvy. However, the powers that be, do not realise that the vast number of people do not really use the internet for the purpose that it was designed for. For example, in India, you can find that even housewives with limited knowledge on the internet, use the technology for the above purposes. Is this what we want from this important technology? The children who are 6-9 years old follow their mothers and use this “precious” technology for “Tik-Tok” and other related services. When these people meet their peers in schools, they introduce these services to them and these children spend their productive time wasting away their time for school work.



It is our fervent hope that the government authorities step up their efforts to educate the masses on the dangers of being addicted to these “unproductive” media and waste their time and money in the name of internet technology. Curbing these addictive media will enable the new generation to use the internet in a fruitful way. The ministry which is responsible for administering the internet should play pro-active roles in enabling their citizens to use the internet in a useful way. Let these masses know that there are a lot of gainful insights in internet, and use the hardware provided by their respective governments in gaining more knowledge. Let them know that the internet was the tool designed to boost K-economy. The respective governments should wake up and realise that there is a mismatch in hardware internet provision and gainful usage of the internet.

It is pertinent to note that, more research should be carried out by the researchers, in maximizing the internet usage, among the masses. We should not feel extremely happy to provide the hardware and expect them to gain valuable knowledge. We believe youth, especially university students to venture out and explain the benefits of gaining knowledge through the internet.

Author: Danendiranraj Nadaraj
Founder & CEO of FlashTech

Phone: +420 777 571 699
E-mail: alliance@iqrf.org
WWW: www.iqrfalliance.org

IQRF Alliance

Reliable wireless MESH networks for Smart Cities with IQRF®

IQRF Alliance is an open international IoT alliance (including design houses, manufacturers, cloud providers, telco operators, system integrators, research and innovation centers, technical high schools and universities) with the mission to **deliver #1 wireless IoT devices and solutions based on the IQRF Technology.**

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50 nA @ sleep
Years on AA battery
- UP / DOWN Fast link**
20 kb/s
Centralized maintenance
- SECURE**
AES-128 Encryption
Based on standards
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ALISON SORMANI

SOS: Plastic Emergency

Nowadays, plastic is a real problem for our planet. More people are becoming sensitive to this issue and as a result of this awareness, a climate strike took place around the world on March 15, 2019.

One of the topics during the strike was plastic pollution; its presence in the oceans, killing animals and destroying the marine ecosystem.

A first step into the future without plastic has been taken by Ekoplaza, the first supermarket with an aisle without plastic for more than 700 plastic-free products. The store opened in February 2018 in Amsterdam.

The packaging for these products are made by glass, cardboard, metal and a new packaging that looks like plastic but it can be decomposed at home, in 12 weeks in the food waste, because it is made by compostable biomaterials as plant cellulose, wood pulp, algae, grass, cornstarch, shrimp shells, etc. Ekoplaza has 74 stores

across Netherlands and the project was to open in every store an aisle without plastic as well.

The store created this project with “A plastic planet”. It is pro-business and to get the fastest results possible it works with media, industry, packaging suppliers, retails, schools, Government, the UN and NGOs. Sian Sutherland, co-founder of A Plastic Planet, said “There is absolutely no logic in wrapping something as fleeting as food in something as indestructible as plastic, plastic food and drink packaging remains useful for a matter of days yet remains a destructive presence on the earth for centuries afterwards.”

The Plastic Free Aisle campaign had more exposure and, as a result, more business

thanks to the UK Prime Minister Theresa May. She publicly supported APP’s project. In November 2018 Thornton Budgens, the first Britain supermarket with a plastic-free zone, opened in North London. The store offers more than 1.700 products without plastic, from vegetables, cheese and meat, to crisps. Andrew Thornton, the owner of Thornton Budgens, hopes that other supermarkets, such as Tesco and Sainsbury’s, will approach at a future without plastic as well. He also believes that supermarkets could change big producers (Coca-Cola, Pepsi, Heinz...) plastic packaging. He thinks it’s necessary to say that supermarkets are not going to buy their products until they sell them in plastic packaging. If everyone will use this approach it will be easiest to start the change.

But, even if A Plastic Free project is a big

step towards the future, there are many urgent issues that must be solved as soon as possible.

First of all this packaging does not decompose in the oceans and there is still the problem for our animals and ecosystem: larger plastic waste could suffocating an animal; small fragments, on the other hand, could be eaten by them. Because of this, 115 marine species are at risk, from mammalsto amphibians.

Another problem is the large amount of material used to produce this “plastic” packaging. A lot of food, as corn, tapioca, sugar, is produced and used just for synthesizing it into packets. This means there is not resource reduction.



There is absolutely no logic in wrapping something as fleeting as food in something as indestructible as plastic, plastic food and drink packaging remains useful for a matter of days yet remains a destructive presence on the earth for centuries afterwards.

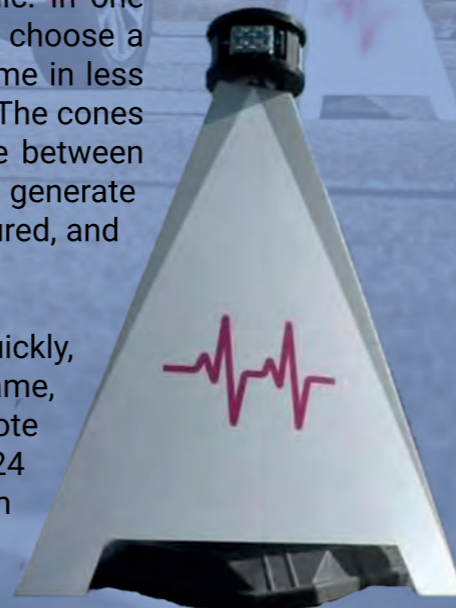
Test Your Driver's Reflex with Smart Cones



Would you like to know how a good driver you are, how fast you are able to react to stimuli and how exactly you can follow the set route? Do you plan to buy a new car and do you want to test its driving characteristics? Many world-famous car producers now have a solution of Selective Fidelity Simulation from Great Britain which designed the solution with smart cones. This company is a member of the IQRF Alliance. Discover Smart Cone Challenge!

Data transfer based on IQRF wireless technology is reliable and dynamic. In one game, up to 47 smart cones can be used. In the central application, you choose a driving scenario and the driver can start. You can set all cones in the game in less than half a second because delays due to data transmission are minimal. The cones are powered by battery. The green and blue lights on the cones indicate between which two cones should the driver drive now and after then. The game can generate millions of different routes. The accuracy and speed of car ride are measured, and finally, the driver receives his evaluation.

During the ride, the driver can test how to drive with the car, if the car reacts quickly, turns well, brakes and accelerates dynamically. This adrenaline-charged game, on one hand, will surely attract the driver, and on the other, it helps promote good-quality cars. The Smart Cone system is very successful, currently, 24 training sets are used all over the world. During the time when the system has been used, there is a fault on only two cones, and only because they were destroyed by vehicles.



Search for the **Smart Cone Challenge** on the web.

Beyond this area, it is easy to imagine the use of smart cones on roads and motorways where it is necessary to change the usual route of vehicles using mobile navigational elements due to building modifications on the roads or due to an unexpected event.



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THE BENEFIT OF TECHNOLOGY TO THE LIFE OF WOMEN IN MALAYSIA.

The development of technology is something that cannot be halted. The reason is, in the face of modernity and human behaviour that is never satisfied with what it already has. In the field of technology, society has gained infinite benefits, due to the innovations that have been implemented. Over centuries, many countries have turned their attention to the field of information technology by making the information technology industry as the engine of economic growth. Similarly in Malaysia, twenty years ago, the Prime Minister, 'Datuk Seri Dr. Mahathir Mohamad' announced

For an example, 'milk bottle technology' is incredibly facilitating women nowadays. Earlier, new born babies were directly breast fed from their mothers. This situation encouraged mothers to be with baby so that the baby could be breastfed. Thus, technological advancements have contributed to the production of milk bottles for mothers, letting them feed babies from milk

from mother's body, development of technology has now engendered a milk bottle similar to that of a mother. Not only that, the enhanced technological formula is also providing the squeezed milk to stay fresh for consecutive eight hours without getting cold. However, the production of breast pump & other advanced devices turns out to be the major advantage for working moms.

The next technological advantage, facilitating women's home life is the, 'home gadget technology'. Washing machine plays a vital role considering home based life. It is less time consuming for women to wash clothes with the help of a washing machine, in-

heat food without the hectic usage of pan and gas whereas; oven cooks food in minimum time, with the help of simple cooking utensils. Both microwave & oven are far less time consuming and user-friendly for women to work in the kitchen. Hence, with a compact work system of 8.00 am to 5.00 pm, excluding wasted hours due to traffic jams, technological advancements in home gadgets have attracted women to install these tools at their homes.

There are numerous technological contributions in Malaysia, such as paddy field technology, hydroponic tree planting in urban dwellings, propagation of preaching through communication technology, teaching and education systems in educational institutions, and technological advances in the medical system. In conclusion, technology has promoted consumers by providing convenience and profits to society. It is



Technology is a theoretical or physical application of knowledge derived from behavior and the environment to solve a problem and make it easier for people to do something

Technological advancements in home gadgets have attracted women to have these tools in their home

the Multimedia Super Corridor Project, on the 1st of August 1996. This shows how Malaysia is encouraging technological development to thrive, modern technological era.

Technology is a theoretical or physical application of knowledge, derived from behaviour and environment to solve conundrums and make it easier for people to do something. Hence, there are many technologies formed to facilitate women's daily lives. The technological provision provided, allows women to be more contented to carry out their routine activities as well as abate their emotional and physical distress. In addition, things have changed today, with many women doing double-duty, housekeeping and work.

bottles, while they can go to work at ease. Subsequently, technology continues to benefit from creation of more efficient, 'milk pumping tools' for mothers. This device lactate women use to extract milk from their breasts. A breast pump comes in manual forms too, powered by hand or foot movements or electrical devices powered by batteries or electricity from the grid. In fact, there are technologies improving quality of milk bottles, capable of carrying baby milk for up to six hours which makes it easier for mothers to travel. For babies to feel different when sucking a bottle of milk instead directly

stead by hands. Washing machine only requires women to press a few buttons, on the other hand; they can perform activities such as cooking, cleaning, etc. whilst the clothes are automatically washed and dried out within thirty minutes or so. This is because the new technology machines comes with a built-in cloth dryer. Hence, women simply need to fold and arrange the washed clothes directly into wardrobe.

Another home-based technology gadget is, 'microwaves and oven' for food preparation. Microwave technology serves to

also one of the imperative factors that exploit quality of human life, in today's world. Thus, technology makes it easier for humans to live an improved and systematic life.

Authors:
Ummu Sakinah Subri
 PhD Student, Industrial Management
 Universiti Pendidikan Sultan Idris, Perak.
 Malaysia
Sadia Farooqi
 Article Writer & Proofreader/Editor
 (Lahore, Pakistan)

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ALISON SORMANI

Sharing energy is caring

Startups are increasingly common nowadays. But what is a startup? A startup is a new company and the product or the service it provides can be innovative. It has a downloadable and repeatable business model and this allows a rapid growth and an equally fast internationalization. The most common types of financing are: capital investments by individual investors; the

startup finances itself with the banks, but this could slow down its growth.

A lot of new startups can make our cities smart with new ideas for the environment and security, for saving money etc. A new startup that could help our cities and citizens is LO3 Energy. It is a US based startup, in Brooklyn (NY), founded in 2012.

It has built a technology platform, named "Exergy", that is composed by hardware and software, to allow neighbors to sell and buy their locally produced energy. Basically, if you own solar panels (prosumers), you can sell your energy in excess directly to your neighbors using a mobile app.

Lawrence Orsini founded LO3 Energy in 2012 for a future of energy production and consumption that is sustainable, local, reliable, efficient and self-governing. His purpose became more important and necessary after the Hurricane Sandy, which hit New York City in October 2012. The hurricane left 800,000 citizens and companies without electricity for days, even the solar panel owners could not use their own energy because the photovoltaic panels that connected them to the utility grid had been shut off.

In 2016 LO3 did a Proof-Of-Concept. In other words, it tested the platform and the technology in President Street, in Brooklyn, called Brooklyn Microgrid project. This neighborhood was chosen because in one side of the street there were a lot of houses with solar panels and on the other side of the street there were many families willing to buy green energy. It was the perfect neighborhood.

The test showed two important results:

1. Smart meters were already able to record the electricity generated by solar panels, store data on the blockchain prototype and make the data accessible to prosumers and consumers;
2. Consumers were ready to pay a little bit more for their neighbor's electricity. After the proof-of-concept, LO3 Energy wanted to find a location for a live test of the business model and platform. After six months of researching, it found Brooklyn's Gowanus and Park Slope neighborhoods. By December 2017, 60 smart meters had already been installed in the neighborhood and 500 consumers had downloaded the app. Because of the Exergy business problem, for LO3 Energy would be untenable to follow other projects beyond the Brooklyn Microgrid project.

For this reason, going forward, LO3 will sell its platform to other communities or institutions interested in the project. New projects are already underway with different communities, to adopt Exergy and reduce carbon emission.



SECURITY issues & 5G

In our age where technology is steadily developing, the idea of a new 5G network has come up in innovators' minds and, day after day is becoming a fact. Samsung has recently launched its first mobile phone with 5G integrated, drawing an imaginary line between before and after. What do 5G offer though? First of all, bear in mind that we are not facing a simple upgrade of its predecessor; 5G network will be able to recognise a problem and perform the best solution to resolve it, unlike previous networks which required to take choices optimising parameters at the expense of others: for example, 5G will support the Internet of Things and all the Apps related to Industry 4.0. Unfortunately, this new generation of Internet connection is facing several problems. "Samsung Galaxy S10 5G", presented in South Korea on April 5th 2019, is the first device that offers this new type of network, intriguing many researchers and technology lovers. Although the huge step forward, the Company has faced a problem concerning its abilities, showed up during weeks after its launch. Some customers have complained, indeed, about the difficulty of moving from 5G to 4G network in areas where the first one can't be reached, a transition that should be spontaneous and unnoticed. Moreover, since 2018, many groups were formed to stop 5G development due to health concerns. For example, in April 2019, Brussels (in Belgium) blocked a 5G trial because of radiation fears and

the same happened in Geneva (Switzerland). Again, on April 23rd of the current year, British newspapers reported a piece of confidential information, discussed during an Nsc meeting. According to this, Huawei, the famous Chinese Company, will help in the realisation of a 5G network in Great Britain. The Government has denied that statement, claiming it has not taken a final decision on the 5G topic yet, and Gavin Williamson, Ministry of Defense, has been fired from his position by a furious Theresa May. John Suffolk Chief Security Officer for Huawei, shared his opinion on 5G and security issues. "If EU wants to grow up together as a group of Nations and generate welfare for their Companies and citizens, politicians must take a decision" he said, referring to the US, which would like to convince Europe not to support Huawei and its idea of developing 5G network because of its close relationship with Beijing; several Countries have already taken actions to restrict or eliminate the use of Chinese equipment in their respective 5G networks and, as a matter of fact, involving Huawei in 5G development would be dangerous according to the USA. On the other hand, Huawei is one of the most powerful competitors in the technology market, so they have clear reasons to debate on this topic. During a convention in Prague, Suffolk said: "If the US government wants, I am sure we can find a solution which can meet America's needs...".

Author: Elisa Suigo

What Exactly is a **5G** Network?

The Fifth Generation (5G) industry is set on a race to build the "Fiber in the Sky." This next generation mobile standard 5G technology is poised to disrupt and create a new platform that is more agile than previous 4G state-of-the-art technology; also known as the Long Term Evolution (LTE) networks. 5G is expected to debut across the globe in the next two years time. It is the newest in the continuum of all innovations in the "Wireless Technology". It promises to disrupt, if not complement, most of the significant industries with its lightning fast communication speeds.

5G mobile networking standards are determined by the 3rd Generation Partnership Project (3GPP). 3GPP set the guidelines for every company operating in cellular communications. The official name is 5G New Radio; used in the way LTE differentiated previous versions. Every new generation of wireless network delivers faster speeds and more functionality to our smartphones. 1G brought us the very first cell phones, 2G let us text for the first time, 3G brought us online and 4G delivered the speeds that we enjoy today. As more users come online wanting even more data, smartphones 4G networks have just about reached the limit of what they're capable of.

Mobile devices of next-gen 5G technology will be able to handle a thousand times more traffic than today's networks. 5G will be up to 10 times faster than 4G LTE; just imagine downloading an HD movie in under a second; or think five Gbps is enough to string fifty 4K movies from Netflix at the same time. 5G will be the foundation for virtual reality, autonomous driving, the Internet of Things, and stuff we can't even yet imagine.

What exactly is a 5G network? The truth is experts can't explain because they don't even know yet. Right now there are five brand new technologies emerging as a foundation of 5G – Millimeter Waves, Small Cells Networks, Massive MIMO, Beamforming and Full Duplex.

(More at <https://techutzpah.com/e-book-5g-the-fifth-generation-technology/>)

Smart Health Solutions Improving the Lives of People With Dementia

Author: Rahul Jaitly
(London, UK)

Surrey and Borders Partnership NHS Foundation Trust (SABP) is a leading provider of specialist mental health, drug and alcohol and learning disabilities services for people of all ages in Southern England, UK.

At SABP we are progressing, in partnership, an award-winning study that is using cutting edge technology to improve the quality of life for people with dementia living at home. TIHM (Technology Integrated Health Management) for dementia is a major NHS study that aims to:



- Improve the lives of people with dementia
- Support people with dementia to stay safe and well in their own homes
- Reduce hospital and care home admissions
- Relieve the stress on carers

The study uses a network of internet enabled devices installed in a person's home, in combination with artificial intelligence, to enable clinicians to remotely monitor their health round the clock. If the technology identifies a problem, an alert is triggered and followed up by a clinical monitoring team.

The study is funded by NHS England and the Office for Life Sciences and is a unique collaborative of partners from the health, voluntary and technology sectors with each partner offering expert guidance to specific areas of the project.

The study uses a network of internet enabled devices installed in a person's home... to enable clinicians to remotely monitor their health



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SMART CITY IN THE VISION OF ASIAN WOMEN & TECHNOLOGY ERA IN PAKISTAN

AUTHOR: SADIA FAROOQI

ARTICLE WRITER & PROOFREADER/EDITOR (LAHORE, PAKISTAN)

In today's world, the notion of understanding the criteria of 'Smart City' is quite ambiguous. 'Smart City (ICT)' has been urbanized mainly for the citizens in order to meet their demands. It uses distinct types of electronic Internet of Things (IoT) to collect data. This advanced technology tends to manage assets and resources, efficiently.

An improbable connection between 'Women & Technology' had been there since long but unfortunately, endured discouragement & not credited comprising gender discrimination.

Why, because Technology has always been determined as a Predominant Male industry, despite the progressive role & endeavors of women in Tech World.

The legendary names such as, 'Mark Zuckerberg and Steve Jobs' are recognized as the Masters of Modern Technology meanwhile; contribution of women isn't trivial either. For an example' Global firm such as: Google, Facebook, Apple etc. prefer hiring women 238% faster in comparison to men.



THIS PHOTO TAKEN ON JUNE 25, 2018 SHOWS A MEMBER OF TEAMLAB POSING AT THE TWO-YEAR-LONG EXHIBITION OF TEAMLAB, AT THE TEAMLAB PLANETS IN TOKYO. COLLECTIVE TEAMLAB, KNOWN INTERNATIONALLY FOR THEIR INNOVATIVE "DIGITAL ART" THAT COMBINES PROJECTIONS, SOUND AND CAREFULLY DESIGNED SPACES TO CREATE IMMERSIVE EXPERIENCES, LAUNCHED THE TEAMLAB PLANETS IN TOKYO ON JUNE 27. SOURCE: MARTIN BUREAU / AFP

Moreover, 20% of the Tech start-ups had been founded by women, across the world. Whereas, 7% of the world's richest tech billionaires are WOMEN. In 2014, 17.4% of CIOs in Fortune 500 companies were women and 6 of Fortune 15 companies have female CIOs. For more information, click here: <https://theundercoverrecruiter.com/role-women-tech/>

When it comes down to Smart Cities in Asia, Japan, China and Singapore usually pops up in our heads. According to the McKinsey report, Asia's population particularly 'Youth' and the next generation of professionals are more adaptable doing things digitally, already demanding a unified experience. The hi-tech-savvy younger generation is poised to play a vigorous role in altering major Asian cities into Smart Technology.

Young female generation isn't behind, enhancing the urban Smart Life Culture. The espousing levels of technology-led infrastructure, availability of smart applications, remote diagnosis of diseases and spanning from real-time public

transit information to Tele-medicine, is highly embraced by urban residents.

Singapore, New York and San Francisco are yet the top three global performers, meticulously followed by South Korean capital Seoul, mainland China cities Shenzhen, Beijing and Shanghai; where the number of Asian women is dramatically increasing, who are promoting big data and the very latest in technology. The photo captured below is the transparent example of positive contribution of Asian women, in building limelight future of 'Smart Asia'.

A rapid growing culture of urbanization has lead Pakistan in deploying new and latest technologies to better manage the entire urban centers, by delivering competent & efficient services to residents. Hence, Lahore is on track to become Pakistan's First Smart City. Whereas, Pakistan's women are equally participating and embracing the perception of Smart City to inflate profits & make life much easier.



A CHINESE WOMAN USES HER SMARTPHONE AS SHE SITS WITH TWO FRIENDS ON A STREET IN BEIJING. PHOTO: AFP

Sadaf: A Pakistani Woman Leading in Tech world earned her Master's Degree in Cloud-Dew Computing and has also been awarded the prestigious TechWomen Fellowship - (a program, enabling global TechWomen leaders to be engrossed in some of the most prestigious tech-driven U.S. companies).



Shedding her opinions upon women in the Tech World, Sadaf states:

I could see how the world had been changed by information technology and this fascinates me. I feel the way to break [the barriers] down is to demonstrate our true potential and the quality of our contribution to our fields. As of now I have hands-on experience in using all of these amazing emerging technologies, I am hoping to integrate the relevant ones in my work at EAI 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.

Alike Sadaf, there are other well-known Tech World women names in Pakistan such as, "Maria Umar - Founder of Women's Digital League (WDL), Sophia Husnain - telecommunication & innovative technologies, Fariha Akhtar - avid blogger", whose achievements spurs women to step forward and make their remarkable contribution in the development of Smart City. It has always been elusive for women to break-in and secure employment in Tech World. This predominant male field underestimated the gratitude of women as part of, Smart World. A negative social perception has always been a barrier in Pakistan for women to demonstrate their intellect. Bigoted Pakistani families forbid internet access for women & girls considering, sex-trafficking,

online harassment and cyber-stalking. Women should be given equivalent yardstick in each & every field. This is why; U.S. Department of State's Bureau of Educational and Cultural Affairs took the initiative into bringing together emerging women leaders under one roof of TechWomen. TechWomen accommodates women leaders from the fields of technology, science, engineering and mathematics (Africa), Middle East and South Asia along with their counterparts in the United State, to interchange & mentor programs. Thorough Access to internet, technology, networks, and resources is provided to all women participants, empowering their full potential. Such programs shall be encouraged across the world, to fortify the foundation of Smart City.

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FUTURE OF INTERNET OF THINGS

Author: Elisa Suigo

Internet of Things refers to all those physical products that become "intelligent" thanks to an Internet connection.

These are called "Smart objects" and we could categorize them by some properties or functions: their identification, connection and localization; and their ability to process data and interact with the external environment.

It's quite common, in 2019, owning a "Smart" product from Internet of Things' (IoT) world. People usually buy it just out of curiosity, because they'd like to know what they can do with it. For example, Echo is an intelligent device, created by Amazon in 2015, that can interact with his owner anytime. By using a simple vocal recognition, Echo can reproduce music or audiobooks, set alarms with specific ring tones, create a list of events and offers many more activities that people can discover at any moment.

Lots of products are made with the same features and not only families are fascinated by IoT.

Day after day, its market is growing, funded by Countries and companies which want to take advantage of its potential.



The Forrester analysts say we will probably see the beginning of a new IoT market; this will monitor the ever-expanding range of smart products and the networks and platforms that facilitate their creation.

IoT America is a company that intends to make the Internet of things known in rural America. Every day, they develop new solutions to make the management of activities easier, for example, by reducing waiting times.

IoT America shows, in real-time, the data concerning the most critical operations, supported by a constant help of their team. They're working in several areas including, among the most:

- agriculture management;
- livestock management;
- enterprise management;
- smart towns.



International Data Corporation (IDC) has recently drafted a guide which promotes new IoT solutions: this "Worldwide Semi-annual Internet of Things Spending Guide" studies IoT opportunities for Countries and industries and is followed by many all over the world; \$ 241 billion will be invested only in Europe by 2022.

Germany understands the importance of IoT more than anybody else in Europe, investing in new projects with an estimated cost of \$ 35 billion this year. Following France and Great Britain with \$ 25 billion each.

Businesses are learning how much the Internet of things can be useful, especially when integrated with other technologies. Milan Kalal, Program Manager of IDC, said «Beyond IoT applications in the areas of edge, wireless, cybersecurity and

edge-to-cloud, it is necessary to know how to seize cases, to find a short period and to develop a real innovation strategy for Companies» In Geneva (Switzerland), an IoT Innovation Lab has been recently opened by Hewlett Packard Enterprise (Hpe). The main purpose is to increase the global network and find more solutions for companies that want to economize vast amounts of data.

This is the fourth Hpe Innovation Lab around the world. People can create, develop and test IoT solutions to help companies reach business objectives. The Lab includes different areas, called "Edge Experience Zone", which allow clients to interact directly and digitally with "Smart" products in their natural environments. This trial will help them notice and evaluate all opportunities to achieve their business goals. "Hpe Pointnext" for example, offers a solution that allows the automatic and proper exposure of weaknesses in ultimate products in the high-tech industry, by using analytics and machine learning. But multiple areas are going to make a profit from "Smart" devices. Manufacturing industries, for example, will be able to get several benefits thanks to their digital properties.

To name a few, preventing delays, improving production processes and managing schedule. According to some market analyzes, the use of IoT devices within manufacturing industries is expected to double between 2017 and 2020.

The healthcare area is becoming one of the most advanced regarding IoT technology; in 2019, 87% of healthcare organizations will introduce "Smart" objects within their environment, and only 64% will monitor patients.

Unfortunately, there is a huge problem that threatens IoT: security. Indeed, an enormous amount of connected objects have been affected by hackers attacks, cybercriminals and malware. Although these issues are one of the main concerns, benefits outweigh risks, and IoT innovation keeps going on.



DIGITALIZATION OF SUPPLY-CHAIN MANAGEMENT SYSTEMS TOWARDS SMART CITY SCHEMES

**Authors: Awais Farooqi (Sr. IoT Engineer)
Robbie Pang (Managing Director)
Inchz. IoT Sdn. Bhd - Malaysia**

The concept of "smart city" originated from the "smart planet" proposed by IBM. Cities that are committed to improving people's lives with the help of digital technology and big data are smart cities. Both developed and developing countries in the world are competing to inject technology into all aspects of their daily operations in some cities. It is difficult for almost every country to manage the influx of citizens in urban areas. So by adopting data sharing and analysis, artificial intelligence, and of course thousands of sensors, cities are getting smarter. Municipal companies are adopting new technologies to save operating costs and maximize the efficiency of existing assets. IoT technology being fundamental for a Smart City, and with the help of IoT technology, operations such as water management, power supply, sanitation, urban transportation, solid waste management, e-government, IT connectivity and public transportation systems are being modernized.

What is the Internet Of Things? So far, the Internet of Things does not have a standard definition. But to put it in simple words, the Internet of Things is a network of things that are interconnected to each other and communicate with each other. All items that are connected are monitoring the condition of the surrounding environment and then transmit through various wired or wireless networks reliably. The AI and ML features in the Internet of Things help processing the information received from each connected gadget. In addition, the data is sent to the user

or used to determine further actions, such as adjusting the device. Varieties of "smart processing" to create value-added services, such as smart home, smart healthcare, smart transportation, smart energy saving and smart retail applications, thus bringing more convenient and intelligent life to the people.

According to IDC, the global Internet of Things will reach 8.9 trillion US dollars by 2020. By 2013-2020, the annual compound growth rate of IoT facilities will reach 17.5%, and there will be more than 50 billion smart networking devices in the world. Therefore, the Internet of Things is regarded as the largest technology opportunity after the mobile Internet.

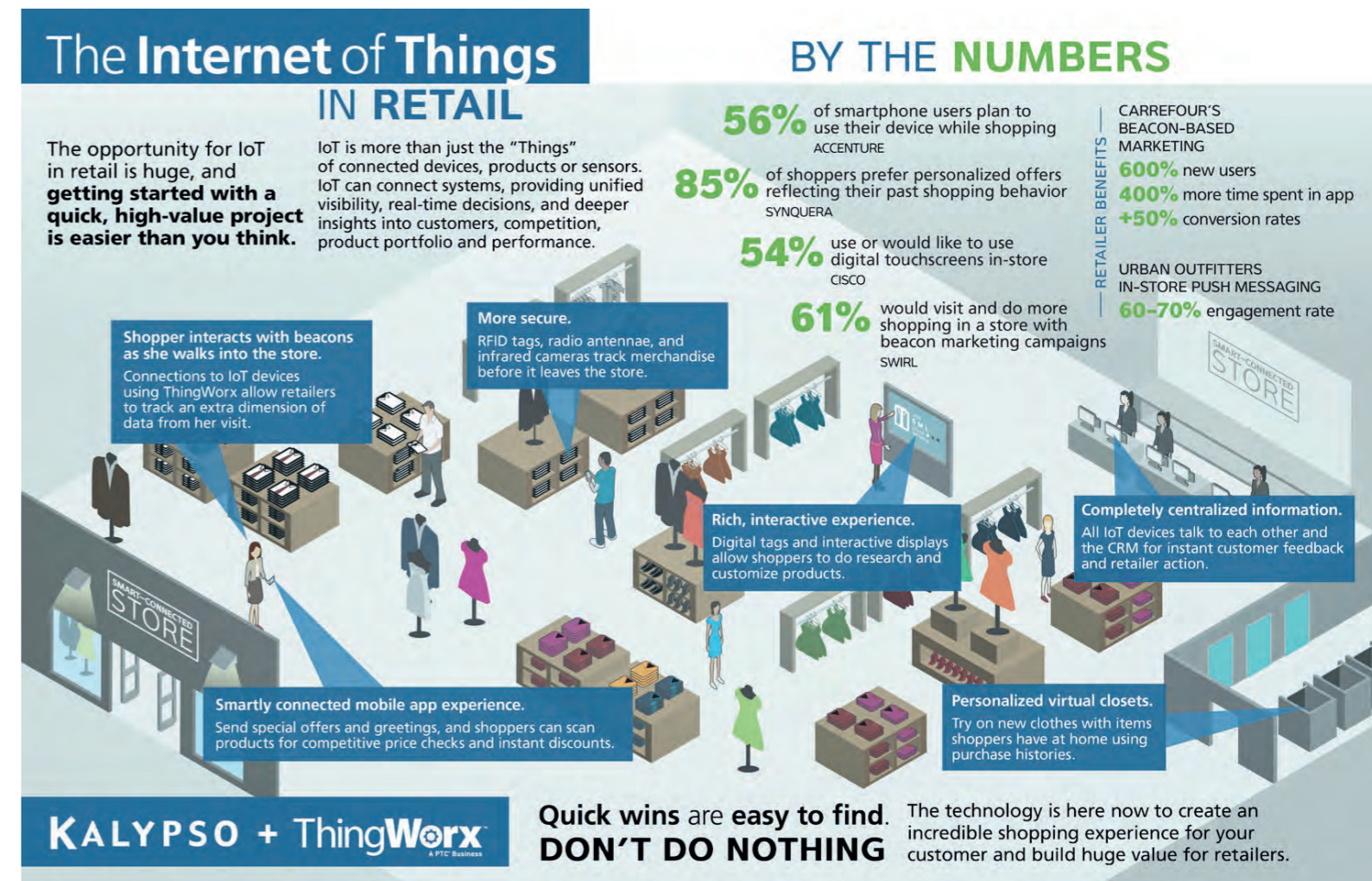
IoT is a major element and it is transforming businesses rapidly in terms of operational efficiencies and creating vast revenue opportunities plus new field of jobs for the future, for example Data Scientist or Data Engineers perhaps a full set of job skills is created and is one of the most needed skills required in current generation for smart future would include the knowledge of automation, data science & analytical skills, and hardware & software development; such skilled person to be known as 'IoT Engineer'.

So, in this article we will look at different prospects and solutions with most advancements and changes that is shifting the traditional business market into the development and implementation of SMART City technologies around you.

Running a Smart Retail Store

Tracking of products by RFID-tags is just a basic process of supply chain management systems, but at present day it is advanced by gaining an edge of the competitors' products data alongside by building your own brand. One proposed solution is by combining RFID-tagged products with closed-circuit TV camera that can monitor customer movements and behaviour. The connected stores can trace the customer

behaviours that how they roam around the store while shopping, perhaps creating a customer behaviour data line known as 'Buying Behaviour'. This information would help the retailers to provide user specific deals, planning dynamic pricing and streamlining operations. One such solution proposed by kalypso is given as:



Source: <http://viewpoints.io/entry/infographic-the-internet-of-things-in-retail>



While keeping people's personal information safe is a growing concern, face recognition might enable targeted advertising even in the absence of carrying an electronic device

(Credit: Clickz)



to read more: <http://tiny.cc/4jqcqz>

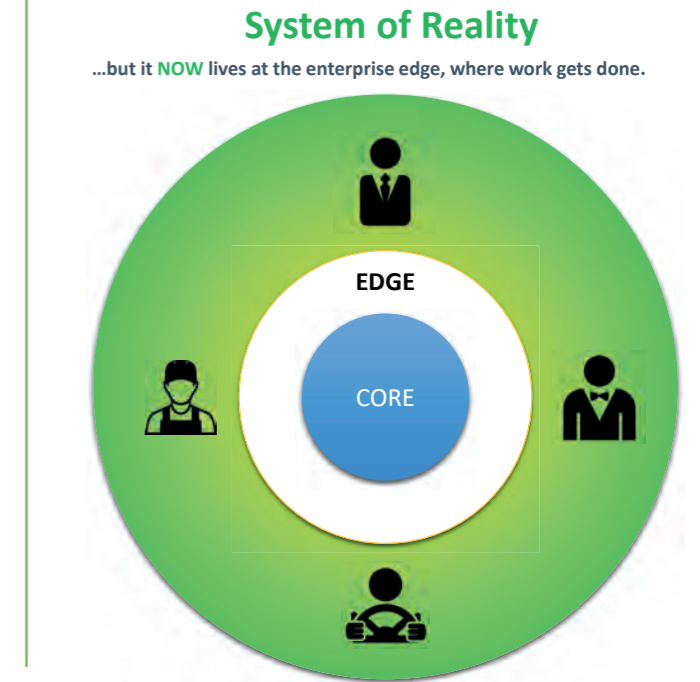
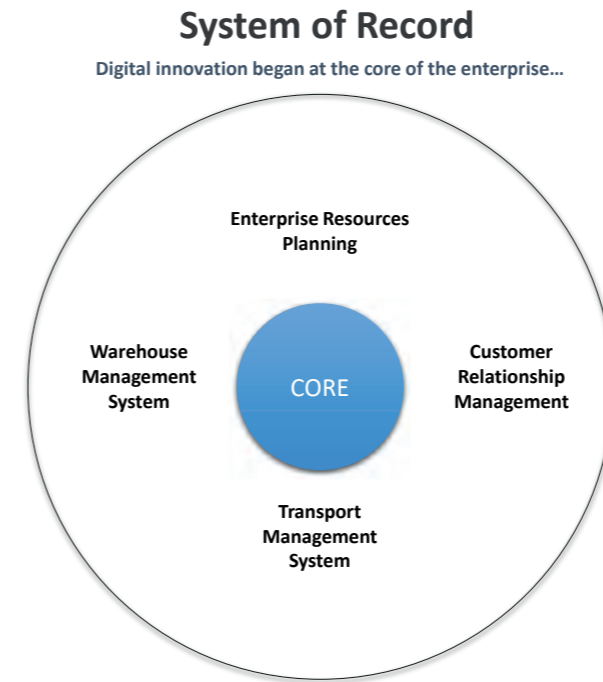
However, the good point of Smart Retail Shops is the captured shopper-centric movement data that would help to streamline overall retail operations by making appropriate arrangement of stock and manpower, hence enhancing business performance and creating opportunities.

Inchz IoT Sdn. Bhd. (Inchz IoT), one of the leading IoT Solution company in Malaysia, whom being recognized as the advanced solution partner in the region by Zebra Technologies. With the vision to synergize technologies into daily life in creating a highly efficient working & living environment, to date, the company has successfully implemented various strategic, high-profile projects in multinationals and government entities, such as the fully automated cash processing centre of Bank Negara Malaysia (Central Bank of Malaysia), IoT Smart Factory for Toray Group (one of the largest conglomerates from Japan), Industry 4.0 Manufacturing for Gamuda Group (one of the largest construction company in Malaysia), Retail 3.0 for Maxis (one

of the largest telco in Malaysia), among others.

In a nutshell, Inchz IoT is focusing on transforming the conventional "system of record" into the "system of reality" especially in the supply chain and demand chain industries. Conventionally since early 90's, ERP or PC based application system has been widely adopted by most companies in "recording" the business transaction by keyboard typing, and then consolidating the data for monthly reporting afterward. However, with the increasing demand for efficiency and real time information for data analytics and decision making, the "system of reality" has been highly demanded to reflect the timely updates of the business status right at the moment a transaction / action is being performed.

Inchz IoT has been continuously improving their solution and system implementation approach. A smart middleware has been developed to simplify the integration of advance IoT work flows to the existing backend system of their clients.



One of the interesting solutions that Inchz-IoT is working on currently is to provide a customer behaviour analytics to a 24-7 operation convenient store in Malaysia. The system analyses customer behaviour via camera recognition on their age, gender, movement pathway preference and time spent on specific items. On the other hand, all the temperature sensitive products storage freezers are being monitored with AI BLE beacons to ensure immediate alert triggering to the PIC when

the temperature gone abnormal. The system is integrated with RFID tag of every products and connected to generate shopper-centric analytical data. These data would help the retailer to better plan for product & promotion offering, replenishment planning, product prioritization, merchandize placement optimization, inventory shrinkage reduction, electricity consumption optimization being environmentally friendly, as well as to achieve Smart Store title.

HARDWARE PORTFOLIO



here's an idea,



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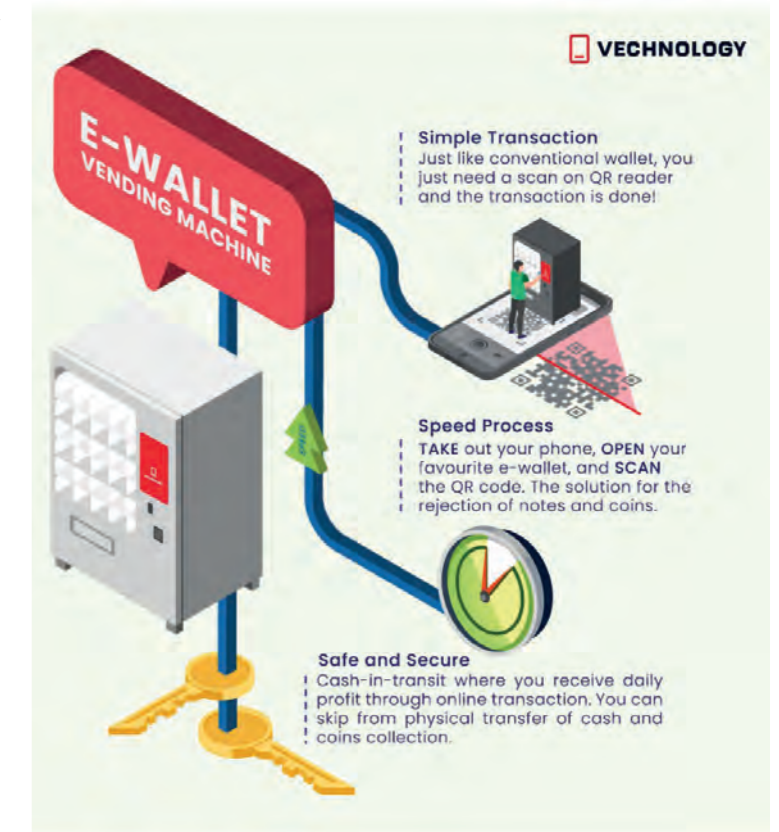
THE FUTURE RETAILS WITH SMART VENDING MACHINES

Vending machines are commonly pictured as a refrigerator-sized machine that dispenses items such as snacks and beverages with the payment charged by coins or banknotes. However, you might need to change your perception with the ordinary dispenser type, you grew up with.

Today's smart vending technology is evolving rapidly that offers greater functionality. With the advancements in digitization era, vending machines have emerged as a low-cost yet a convenient option, turning the entire store into box-sized vending machine. Soon, these machines in a Smart City concept might takeover the merchant stores without human oversight. Multiple industries in the retailing business are no longer aiming solely to supermarket or hypermarket, but they are able to expand another new line without physical stores. In other words, savvy retailers are capitalizing on this shift who utilise the vending machines to develop their own automated retail platform.

The Smart Vending Machine is Impacting the Retail Industry

The market size of FMCG is expected to hold a significant share in the global market with USD 15,361.80 billion by 2025 (from Global Opportunity Analysis and Industry Forecast, 2018 - 2025). Meanwhile, Graphic Research new growth forecast report stated that the Asia Pacific market size of smart vending machine estimated to gross USD 10 billion by 2025. The driving of digital era thereby giving a positive impact towards smart vending market. Smart vending machines as a total solution for retail industry who are always finding ways to increase the customer purchase experience by providing them a two-way interact purchase procedure yet faster and efficient payment experience.



Internet of Things (IoT) System for Vending Machines to Replace Retail Stores

Indeed, vending machine replacing retail stores sounds crazy. People might think there is a lot of products needed the flexibility of humans to explain and promote. A machine will never replace human intelligence! The truth that cannot be neglected. However, IoT systems have enabled vending machines to engage the shoppers like never before. This is a welcome step in the evolution of the industry in the development of Smart Cities.

The Smart Vending Machines are Managing:

Interactive multimedia screen display

Provides more interactive retail experience to customers in terms of sounds and graphic interaction, ensure the process of purchase going smooth without human interruption.

Cashless with multiple payment method

Flexible payment method which are not restricted to only coins and notes. The consumers are able to purchase the selected items with multiple cashless payments, 5 times faster than the cash transaction.

Digital Signage

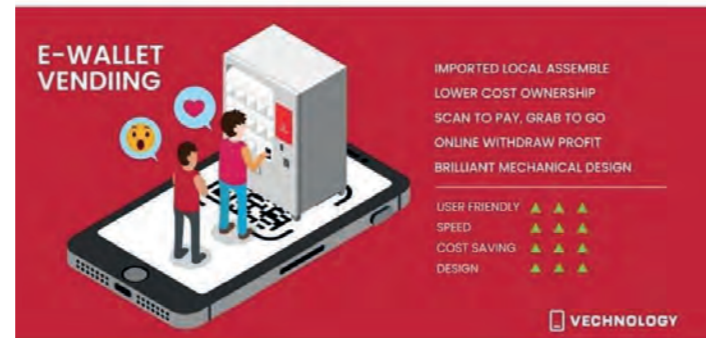
IoT vending machine can be a marketing platform to add and remove the marketing videos on the display screen, looping for 24 hours. Additional advertising revenue generated by retailers with the revolutionary on-screen ads.

Facial Recognition for Customer Analysis

Customer analytics is achieved by people counting, multi-camera footage analytic and MAG (mood, age, gender) analysis technologies. It can effectively recognise each consumer's preference and buying transaction history when he/she re-purchases an item from the same machine next time with product recommendation. That information is useful as big data savvy.

Cloud monitoring system

You can save time from updating prices based on demand, product information etc from vending machine. Long distance control to add, remove or edit the details anytime and anywhere is not a problem anymore. In a nutshell, intelligent vending machines offers endless opportunities for retail industry not only maximize the profitability, but also take care for the most innovative supply chain technology in extending retail arms in distributing the consumer-packaged goods not less than 10 years from now, bringing the products closer to consumers.



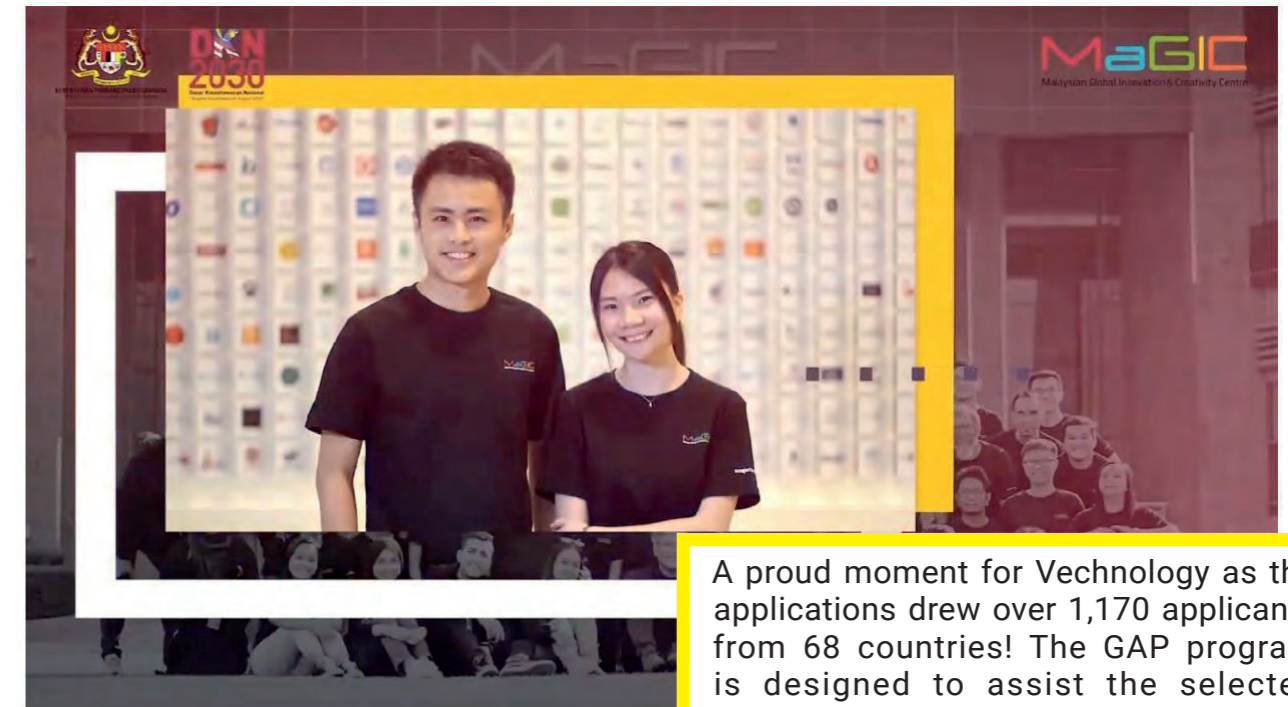
Vechnology is one such company in Malaysia that provide smart vending machine technology. It was started 4 years ago with a mission to become a smart vending machine producer, and in September 2019 Vechnology had been selected as a top 30 Startup in the Malaysian Global Innovation and Creativity Centre (MaGIC) in a Global Accelerator Programme (GAP) Cohort 03.

WHY Vechnology Prominent as Top 30



Since established in 2015, Vechnology continuously offered superior quality vending machine to fulfill various expectation dynamic range of business from commercial to industrial clients. Today, Vechnology is leading the smart vending industry in Malaysia with its proprietary technology:

- Unified ewallet QR reverse scan payment system
- VE-ProUX (IoT Vending machine prouser experience)
- VE-Cloud (Vending machine cloud monitoring system)
- Mechanical Engineering Design



(from left: Managing Director Lance Ong, Chief Operating Officer Evelyn Foo)

A proud moment for Vechnology as the applications drew over 1,170 applicants from 68 countries! The GAP program is designed to assist the selected companies to further strengthen their position in the business industry. Vechnology jump out from comfort zone, actively involved in the vending research and development with global vision to keep on expanding beyond Malaysia to Southeast Asia. With the upcoming innovative technologies and own-build smart vending machines, Vechnology determined to provide the most in-demand and innovative vending technology solution options from Malaysia to beyond Asia!

Authors Ebby Boon Marketing Executive
Lance Ong Managing Director



BRUNEL UNIVERSITY STUDENTS INNOVATION AND DESIGN PRODUCTS

from Connor, Trevyn and Kyle



Portable Energy Converter
Portable power from heat

BY CONNOR MUSOKE-JONES

“you'll be in charge of at least one of your most important energy needs”

The environment has been becoming more and more of a focus for people over the last few years. We are bombarded social media statistics and shock horror clips showing the effect we are having on our planet. We want to do something but unfortunately for most of us, its hard to know where to start... It all seems to be a bit too big, complex and confusing and there seems to be little we can do that doesn't drastically change our lifestyles or double the weekly shopping bill.

When it comes to power and electricity this is especially true. We could install solar panels and wind turbines, but for most of us we either can't afford it, don't have the space or just don't know enough.

Maybe going for the 100% self-sustaining lifestyle is a bit too big of a leap straight away. So, how about we start smaller, more "do-able" but still important. Charging our smartphones; these modern miracles have become an extra appendage for us and 70% of us say it's the most import device we own and never turn it off..ever! Even though our phones have become more important that ever before they seem to be harder and harder to keep charged, forcing most of us to carry around chargers and batter packs.

This is where the Portable Energy Converter (PEC) can step in; a small portable device that can turn ANY heat around you into electricity to charge your phone. You can think of it like a portable battery pack you never have to remember to charge. When your getting low on power just put the PEC near something warm, cup of tea, radiator, forehead when your stressed out, your only limit is your imagination. Sounds pretty good. Sound like an easy way to get free, clean electricity, because that's what it is. It's not going to be powering your house, but it can keep your phone charged as much as you need whenever you need.

It's really hard to be 100% self-sustaining but at least with the Portable Energy Converter you can be sure you'll be in charge of at least one of your most important energy needs, your beloved smartphone. Unfortunately, the PEC is not yet available to buy, but if your interested in it you can go to www.cm-j.design/portable-power to find out some more and get in touch with this interesting new project.

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Knot: A Wearable Personal Safety Patch

Trevyn Rayner-Canham

When under attack, we may fight, flee or freeze. In such a situation we may not have the presence of mind or physical prowess to reach for and effectively activate a security device, such as an attack alarm or to phone for help. The Knot patch is a discrete personal safety device comprising of a hypoallergenic polyurethane material imprinted with a silver ink electrical circuit. Incorporated into this circuit are three biosensors that measure the wearer's Electrodermal activity, heart rate and skin blood flow levels. These sensors can detect when the wearer is under extreme duress and as such, the patch will send an alert to pre-selected emergency contacts via a wireless GSM (Global System for Mobile communications) module. The recipients of the phone alert are then provided with the wearer's GPS location and can track their whereabouts.

The Knot patch is ordered via the Knot website and arrives together with a wireless charging hub and thirty disposable adhesive backings. The Knot App accompanies the use of the patch, from which the wearer may set their functional preferences for the patch and disable any 'false alarm' activations. With the Knot patch, you can stay safe by staying connected.



VAST

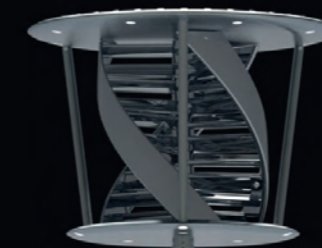
By Kyle May
@KRMDesigns



VAST (Verticle Axis Street Turbine) incorporates Solar Panels, a Vertical Axis Wind Turbine and low-emission LED's, into a redesigned streetlighting concept, with an aesthetic structure to generate electricity for the national grid.

What it does:

VAST utilises the commonality of the lamp post and repurposes the structure; it includes two renewable energy sources - creating electricity for the national grid and reducing fossil fuel demands- from an efficient streetlight, ensuring continued public safety.



Low-emission Super-Bright LED's have been positioned on the underside of both horizontal plates to maximise the coverage area that the streetlight affects. For future developments, there will be a micro-controller to dim or turn off the top plates' LED's. This will limit energy wastage during the quiet hours of night without completely turning off the entire streetlight.

My inspiration

Streetlights currently have only one use, creating light around busy areas, to create a safe environment for vehicles and pedestrians. With 7.5 million streetlights positioned across the United Kingdom, currently being updated to 30 Watt low-emission light bulb, using, on average, 12.5 Watts per hour, per day across the year. VAST uses the advantages offered by the height of various lamp post structures, increases a streetlight's versatility, and improves the performance of both types of renewable energy sources to produce green electricity all across the country, benefitting every individual.

How it works?

As previously mentioned, the generated electricity from the renewable energy sources will go straight into the national grid, so not to affect the performance of the streetlight system. Removing: the requirements for any energy storage systems, any safety repercussions by not having enough stored electricity at night, and the total redesign of the lamp post's structure to accommodate the new concept. There is an array of small solar panels positioned on the top of the assembly for greater access to sunlight, creating most of the electricity. These are paired with a Vertical Axis Wind Turbine, for better performance in lower winds, to maximise the amount of energy being generated. The generator for the turbine will also be positioned within the new assembly.

How is it different?

The overall concept is not new, with many different impressions already being available. However, the majority emphasize on the function, and not on the form of the overall renewable energy system; introducing products that perform well, but are also eyesores, limiting the appeal of the new device. Some other 'green-energy' streetlights only utilise one renewable energy source to create the power needed. This concept tries to focus on both form and function due to the: vast scale of commonality and amount of human interaction streetlights have throughout cities, towns, and roads across the United Kingdom.

Furthermore, the concept also focusses on creating a modulated configuration, to improve the installation, repair, replacement and future upgrading process, using small, individual parts, which are lighter and cheaper to manufacture, and handle; rather than large complex components, that require additional costings. It aims to create a sustainable, yet cost effective Product Service System; as well as maximising the Products, but also the individual component's lifecycle.



New Hope for Skin Conditions with Smart Sensing Technology



Dr Perry Xiao, Associate Professor and Course Director at the School of Engineering, London South Bank University, UK has developed novel infrared and electronic sensing technologies for biomedical applications. Through Biox Systems Ltd., UK - a university spin-off company, has successfully transferred two research technologies to commercial products - AquaFlux and Epsilon. AquaFlux is for trans-epidermal

water loss measurements, and Epsilon is for skin hydration imaging measurements. AquaFlux and Epsilon are state-of-the-art skin measurement instruments, which are used in more than 200 organizations worldwide, including universities, research institutes, hospitals and the world's leading cosmetic/pharmaceutical companies such as Unilever, P&G, L'Oreal, Philips, GSK, Gillette, Johnson & Johnson, and Pfizer etc.

Work is in progress to develop a miniaturised version of the instruments, so that they can be used by patients at home to assess the skin condition. Work is also in progress to develop new measurement instruments and to utilise artificial intelligence into the instruments. "Smart" sensing technology will make possible automatic detection of certain conditions; perhaps even skin disease and skin cancer detection.



SMART SOLUTIONS TEACHES HOW TO VENTILATE PROPERLY TO MAINTAIN A LOW LEVEL OF CO2 IN SCHOOLS AND KINDERGARTENS.

RehiveTech, a spin-off of the Brno Technical University and member of the IQRF Alliance, installed its smart indoor air quality monitoring system in several schools and kindergartens in Brno, and the results were very interesting.

At the beginning of the project, an analysis of the environment has shown that CO2 levels in school rooms were gradually increasing, that usually occurs in a not well ventilated room that is inhabited by people. Unfortunately, higher levels of CO2 gas cause drowsiness, headache, and a lack of concentration. Standard level of CO2 in a room should not exceed 1500 ppm hygienic limit as set by a decree.

As per the figure above, the deployed system consisted of a CO2 sensor (A) that provided data via the IoT system (B) to the central application where the data was evaluated. The control commands were regularly sent back, influencing the color of the light, which was in the form of a likable cloud (C) present in a class. The light signaled how healthy the environment was by changing colors. Children and staff were given instructions on how to react in any color state and how to maintain the CO2 level low by only adjusting proper ventilation.

Three months later, the experimental CO2 monitoring system was shutdown based on the measurements, surprisingly showed that the local staff had learned to control their indoor air themselves and no unacceptably high levels of CO2 were measured.

However, the system can also recommend not to open windows based on weather forecast data or ambient air data.

RehiveTech, a member of IQRF Alliance, develops this system also for offices where within a single AuroraHub system it is possible not only to measure the air quality but also to solve the security of rooms, attendance, and mandatory staff breaks, e.g. with smart bracelets including the necessary documentation.

More at www.aurorahub.io

Author: Ivona Spurna



E-Governance

In 1999, the UK government's Cabinet Office released a publication titled Modernising Government. A number of issues were identified for people who used public services such as:

- People had to give the same information more than once to different – or even the same – organisations.
- There was often no obvious person to help those most in need to find their way around the system.
- There was a lack of integrated information to enable service providers to give a full picture of what help might be available.
- There was minimal use of new technology. Most government departments had a website, but few allowed people to fill in forms online. And government websites were not well linked to other relevant sites.

Therefore, the UK government recognised a need to modernise and part of this modernisation was the provision of services online. For the public this means that services would be available from a distance, twenty-four hours a day. They may also be cheaper, faster and possibly easier. A deadline of 2008 was set for all services excluding those that couldn't be delivered electronically and those services for which there would be no significant demand.

'a modern digital infrastructure, combined with a secure but open access approach to public re-useable data, which enables citizens to access the information they need, when they need it'

'a recognition that service delivery is improved by being citizen centric: this involves placing the citizen's needs at the forefront, sharing management information to provide a coherent service, rather than operating in a multiplicity of service silos (for example, sharing changes of address more effectively), and offering internet service delivery where possible (at a fraction of the face to face cost)'

Since then the UK, and many governments across the world, have moved to the use of information communication technologies (ICTs) to transform the delivery of information and services to the public and to transform how the public accesses to that information. However, implementing an e-government is very complex and there are many issues to consider such as:

- Will the implementation of an e-government justify the expenditure?
- Is the expertise available to implement and run a large scale ICT project?
- How is a project to be managed during implementation and the running stage?
- Will the public want to use e-government systems and how easy will they find it in an online environment where there is no human help?
- How can services be adapted for online delivery and how can interoperability (where old legacy systems have to work with new technology) be ensured?

E-governance is also relevant to the Smart City context. The 2013 Smart Cities Background paper by the UK government's Department for Business, Innovation and Skills identified six attributes of a Smart City, in particular two of which were:



An e-government website shouldn't only provide information on static web pages but it should also be transactional. There should be a two ways flow of information between users and the website. Making information and services available on a large complex scale like this requires the use of databases, in particular relational databases.

When creating databases designers have followed an analytical process to ascertain what data is relevant and how it is used. During this stage entities are identified. Entities are the things that data will be stored about. Entities can be tangible (such as a person) or intangible (such as a tax payment transaction). Also, the relevant attributes of each entity (such as name, address etc) are identified. When the relational database is created from this, it is structured in such a way so as to eliminate 'data redundancy'. Data redundancy is where

the value of an attribute for a particular entity is stored more than once in the system. For example, if a person's address changes and it is stored numerous times in the system, it can lead to data inconsistencies if they are not all changed. Ideally, the value should only be stored once so when it is updated this will be reflected in the all the information the database provides. This issue is important to consider, especially in a large and complex e-government website.

The relational database is a collection of tables (one for each entity identified). Custom views of stored data are made for users depending on the situation. The data that a government worker can access is different from that of member of the public. SQL (Structured Query Language) is used to query the database for the relevant information and perform updates on the data.

The year 2000 Cabinet Office publication E-Government: a Strategic Framework for Public Services in the Information Age stated that:

“The strategy envisages that services will be accessed by multiple technologies, including websites accessible from PC’s, kiosks, mobile phones and digital TV, and call and contact centres.”

The UK government has set up an initiative called e-GIF (e-Government Interoperability Framework). This a compulsory set of standards for the public sector that define the way data should be structured and accessed. The use of XML is a big part of this.

HTML is a language commonly used to display web pages. However, it only works for computer web browsers. In XML, the content is kept separate from the presentation (which depends on the displaying platform) and so either can be changed without affecting the other which isn’t the case with HTML. XML is also widely used to overcome ‘bottom-up’ (ie. where existing infrastructure is used in creating a new system) legacy problems. Different systems can be made to work together using XML.

As well as text and numbers databases can store different types of data such as pictures, sounds and, increasingly, biometric data for identification. Biometric data is increasingly embedded into passport, driving licence and other identity documents. It is derived from distinctive body features and converted in a digital form. For all identification systems there must be authentic data known to belong an individual and reliable methods of comparing data to decide if it’s from the same person. There are many ethical, social and political issues surrounding the use and storage of biometric data.

For e-governance to be successful it must be embraced by the public. For this reason usability and accessibility must be considered. Usability design is an iterative process where a prototype is tried, evaluate and modified over and over again using a sample group of people to represent the type of people who will use

the final service. This is the Human Centred Design (HCD) approach and it is applied to both public users and those who operate and maintain the system.

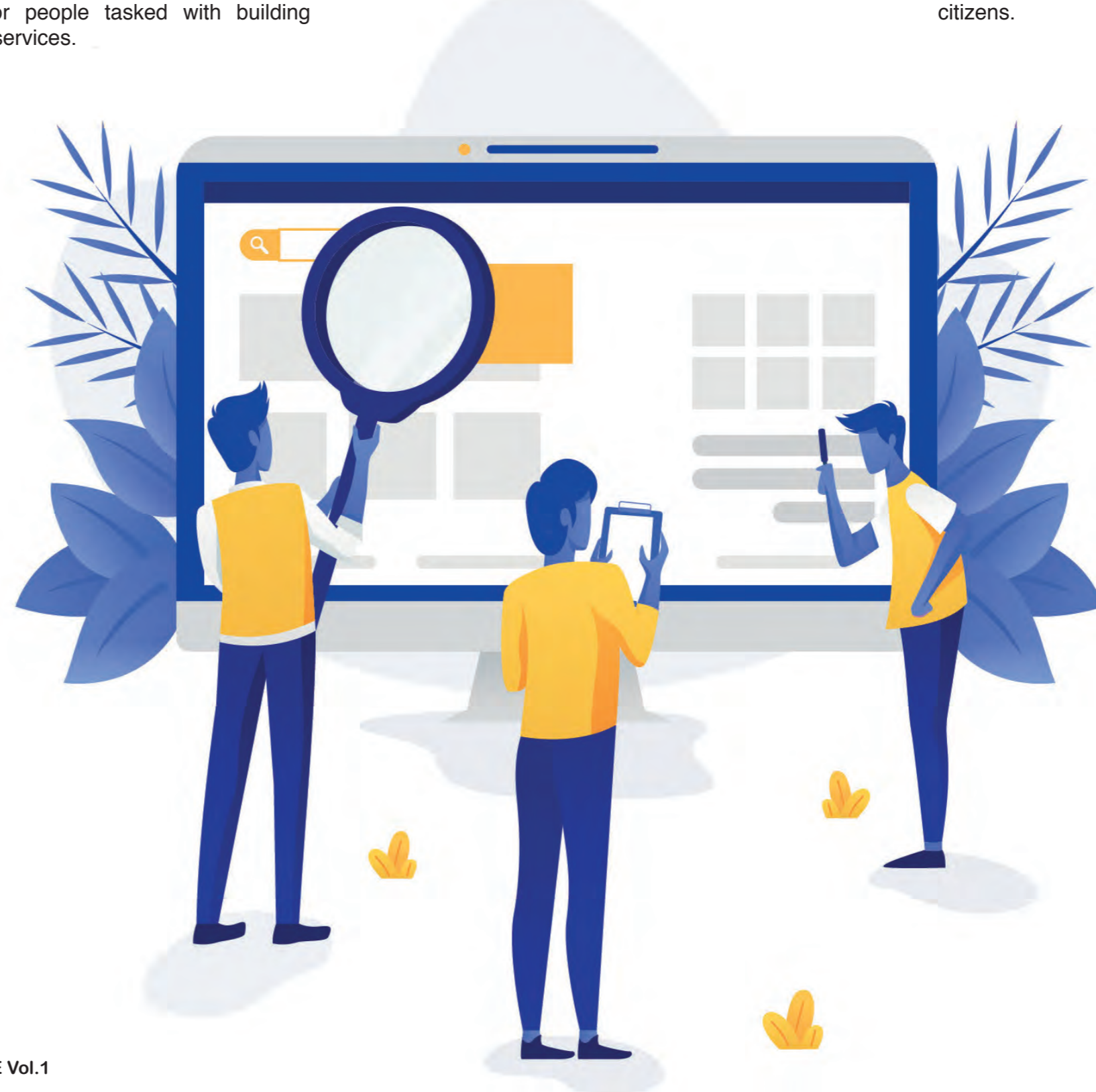
Accessibility considers how well a service is adapted to the diverse abilities of all potential users. In the case of disabled people this is a legal requirement. In 2011, the Cabinet Office created a unit called the Government Digital Service (GDS). With a focus on end user needs, they have produced the Government Service Design Manual which provides guidelines for people tasked with building government services.

In most cases government has a central component that deals with things such as passing laws, collecting taxes etc. (exceptions exist for Wales, Scotland and Northern Ireland). There is also the local component that deals with things such as refuse collection and planning permission. E-governance is a matter for both central and local authorities working collaboratively. In order to be a success it requires more than just technical solutions. It also depends on overcoming organisational and cultural differences between central and local government.

Finally, it could be argued that e-governance in the UK should further evolve. Inherent to a strong democracy is for the ability of its people to scrutinise government. From this point of view the use of ICT in e-government should be more than just a way for government to, for example collect taxes efficiently, but allow for citizens to engage in democratic processes, especially in a citizen centric Smart City. The need for this is reflected in the rise of ‘e-activism’. An example of this is websites such as mySociety.org which aims to make online democracy tools available for UK citizens.

Written by Bhavesh Ahir

Illustration 1 by - Freepik
Illustration 2 by - Freepik





Blockchain

Understanding the technique behind the **Blockchain** might be not everyone's cup of tea so we will leave this to IT geeks and algorithms' lovers. But using your imagination and dreaming of how the future will benefit from this technology is much simpler and fun.

What actually is Blockchain?

Blockchain is a **revolutionary technology** and a brilliant invention: it is a public, shared and coded log which will lead to a new era of the Internet, potentially, changing the entire world, from finance to media, from energy to bureaucracy.



The concept, dating from 1991, was originally bound to launch the digital currency (**the Bitcoin**) around 2008, but actually, there are many more interesting and revolutionary uses. The subject is relatively new and therefore, regarded with a mix of suspicion and fascination by the business world. First of all, when we talk about Blockchain, the question is: **what is a block?**

Every block is just a **piece of record** that keeps track of transactions together with the participants, the date, the time the transaction has taken place and its money value; it is fundamental to say that each block also contains a unique code called hash for each to be distinguished from others. In concrete terms, this can be a ticket for a concert or a table reservation in a restaurant, just simple daily operations. And the Blockchain is a register to record, store, and safeguard these operations. The mechanism is easy: once the transaction has taken place, it will be **verified by thousands of computers** spread around the world, and finally stored in one unit called block. **And what is the chain then?** It is just a set of multiple **blocks stored together**. Will everyone be able to access my bank payments or to see the last instalment of my mortgage, then? Not at all. Anonymity is guaranteed via a complex cryptography system: **the person's identity is hidden** and represented only by its public address.

Why is this so revolutionary? Once recorded, the block can't be altered in its parts without altering the previous and the following blocks, as this would require the consensus of the network majority, almost technically impossible to achieve. Which leaves **no room for hackers to corrupt the system**. Basically, Blockchain finds a solution to a very simple IT issue: the duplication and falsification of information, because the record totally **unfalsifiable** and this is the real revolution!

Safe, anonymous, automated, easy to access, immutable, and free. But, most of all **decentralised**. And the advantages are multiple. **There's no authority**: the Blockchain, indeed, is not stored in one single location, so the record it keeps are truly public, transparent and easily verifiable.

The decentralisation is strictly related to security: the system is less hackable and if one block is damaged the other ones will keep working in the same way. Also, should the whole system shut down at some point, it would never lose all the information as Google would do because the data are sprinkled through all the chains. But, having said that, what will happen to **the transaction middle man?** If there's no central authority, paradigm-shifting news is that **we won't need any intermediary**. And we'll see increasing automation of many jobs as bank or institutions jobs, and as a result of that, a fading of their power and prestige.



There will be no need of those men, who were supposed to act as a third part for security reason, to verify and coordinate all those data: we won't need a banker every time we need to pay someone. So, if you think about **Uber**, we call a taxi by sending one request to the company, which sends a car to you and takes a part of the fare for the service. But when people will easily and directly connect to drivers, **this structure which lays down the conditions of the service won't be needed anymore**.

Revolutionary (few technologies has reached the same interest so far) and fearsome at the same time, with a long way to go, and the clear potential to transform and convert entire industries.

By Roberto Liggi,
United Kingdom

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



Hilary Barclay - Team Leader

The expression "You get out of it what you put in" encapsulates the Amnick Social Enterprise Programme for me. I was able to dedicate at least 10 hours a week, which I feel was necessary to give constructive feedback on the graphic teams work and to act upon the feedback I received for my work. I progressed to team leader in the programme which was great to see the team and myself grow in skills and confidence. The key to a successful team is good open communication. [behance.net/hilarybarc55a6](https://www.behance.net/hilarybarc55a6) ,[behance.net/hilarybarcefc7](https://www.behance.net/hilarybarcefc7)



Jelena Privalenko

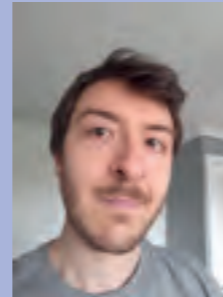
I found the work experience rewarding and stimulating. At times, the creative process was challenging but the team feedback more than compensated for the initial difficulty. Examples of the collective design have helped me to develop, adjust to the process and improve my design skills. Working on Amnick Social Enterprise Programme has been a positive experience and helped me to expand my portfolio.

[behance.net/jplondon67fab9](https://www.behance.net/jplondon67fab9)

Stuart Kinnear - Deputy leader

The experience was fun, challenging and rewarding which has helped me develop my skills involving magazine layouts. It has also given me better insight into researching different articles, images and designs and use them more effectively. I also enjoyed working with the team by giving constructive feedback and helpful advice on each project as well as willingly taking their feedback into account.

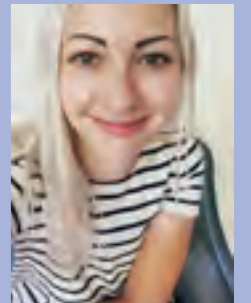
Stuartk126@hotmail.com



Santa Evertovska-Kirsteine

A result oriented person, who works successfully, responsibly and to high standards. To get the job done, using creativity, innovative mind-set and such programs as Adobe Illustrator, Photoshop, and InDesign. Passionate about photography, travelling, ongoing learning and meeting new challenges.

santa.kisteine@gmail.com



Rhiannon Griffiths - Deputy leader

It has been a great experience working with the graphics design team on this magazine. It's different working online than in person and being able to share ideas and feedback with people anywhere with different ideas has helped me grow as a designer and improve my portfolio. The process has been hard at times but it's always rewarding and has helped me grow in confidence in my work as well.

rhigriffiths@hotmail.com



Lauren Critchley

Working on the smart cities magazine has been an invaluable experience. Having an online platform has allowed designers to join the team from anywhere, a feature that is not present on location restricted work experiences. Feedback and structure are key to the program. Ensuring constructive feedback allows the team to make progress in a timely manner. We've worked together to create interesting layout designs that are both professional and easy to digest.

laurencritchley@yahoo.com <https://lauren-critchley-design.squarespace.com/>

Vaclav Kerkovsky

It has been a great experience working on the magazine with a team of graphic designers. It made me think about the whole process of graphic designers. Our weekly Skype meetings where we discuss our work are very useful. Feedback from my colleagues made me think about the project from different sides. I have used Indesign for the first time and I learnt a lot. I would recommend Amnick work experience to everyone who does not know where to start.

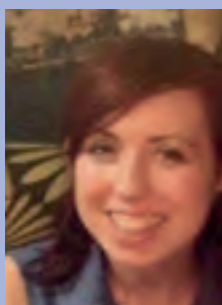
Vasek.kerka@gmail.com



Megan Chiossi

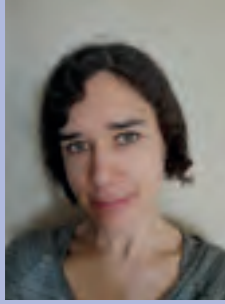
Designing the magazine with the graphic design team has been a great experience. I have now experienced how to work with a team in a real life brief and it has helped me gain skills and grow in confidence as a graphic designer. The way we give and receive feedback lets me see my design through various points of view and it helps to improve it as well. It's been challenging not being able to do meetings face to face but it has advanced my communication skills. I'm very happy with Amnick as it's allowing me to gain experience and further develop my portfolio

Chiossim.myportfolio.com/chiossi.m@outlook.it



Toni Reed

I found the experience both fun and very rewarding. I've always struggled with the earlier stages of the design process such as inspiration and layout. However throughout the project we were guided on the different stages such as research and sketches. The feedback is very useful and kept me on the right path. I feel this has helped me improve my designs at work and is a nice addition to the portfolio. onyxdoodles@outlook.com



Cathleen Meakin

I have enjoyed the experience of working remotely on this Smart Cities magazine, with individuals from many different walks of life and locations. I have learnt a lot, from receiving feedback throughout the week and weekly meetings, while also being able to view others progress and ideas, constantly evolving and changing. It's been a great way of communicating each other's project progress and there's always support available, guiding you in the right direction. You put work into the project and you get so much more out of the experience.

hi_cmeakin@yahoo.com

Mie Sadaka



Working with Amnick graphic design team has been a pleasure and a great experience. I have gained so much knowledge and ideas about magazine design from the team members. I feel that this has helped me improve on my design and management skills when meeting deadlines. Receiving constructive feedback from the team members on my work has been very helpful especially being new to designing magazines. Working with Amnick remotely has enabled me to build a portfolio as well as gain valuable experience. This experience has also given me an insight into what graphic designers do on a daily basis. My overall experience with Amnick has been very pleasant and I would recommend it to anyone.

mie.sdk94@gmail.com



Peter Ayeni

I am passionate about using Technology and Design for Social Good. He holds a Diploma in Computing from Informatics Education Singapore, BBA in IT Security from SMC Switzerland and Executive Education in Business & Entrepreneurship at Kellogg Business School. A Fellow of the DO School and Mandela Washington Fellow, winner of the Union Bank Centenary Innovation Challenge and a lifelong learner.

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Special thanks

To Inyene Udom (Executive Team Leader/Mentor – to the work experience graphic design team (who created this magazine).

To the brilliant deputy editors who helped with the editorial functions – amazing guys.



Inyene Udom - Executive Team Leader

I have a background in Graphic design and project management. After enjoying 10 years of career as a graphic designer in the creative industry, I had a career break to raise a young family. I needed help to return to work, that motivated me to join Amnick Social Enterprise Work Experience Programme, which gave me a fantastic opportunity to work on different design projects.

Then, an opportunity comes my way as an executive team leader. I enjoyed the diversity of the team. Getting to know each person, their personalities, soft skills and talent help me improve the design concept, develop a project process and recommend tools that were efficient and easy to use in delivering each project with high quality within the deadline.

<https://www.linkedin.com/in/inyleneudom/>

Aaron Daniel - Ex Deputy Editor

Our special thanks to Aaron Daniel for starting out as Deputy Editor for this magazine. Aaron's hard work, enthusiasm and efforts got us started - thank you Aaron



Awais Farooqi - Deputy Editor

I am currently doing PhD in Electrical Engineering at UiTM-Malaysia, my research is focused on Implementing Artificial Intelligence and Machine Learning in Renewable Energy Power Systems. At present I am working as Sr. IoT Engineer at Inchz-IoT Sdn. Bhd. (Malaysia), mainly focusing on achieving Industry 4.0 oriented goals by providing industrial IoT solutions to clients mostly involved in industrial automation and up-gradation of older version of machine to bring them into smart world of communication. I am also a consultant to Vechnology (Malaysia), providing smart vending machine design services and solutions. I am the founder of a startup, Technocentric Solutions Sdn. Bhd. (Malaysia) with an aim to provide full-fledged research & development and green & smart manufacturing facilities technologies in Malaysia that can communicate with the advanced machinery and robotic technology kneaders by using smart information technology tools.

awaisfarooqi@hotmail.com



Emmanuel Odunlade - Deputy Editor

Hardware design Engineer, IoT Architect and Entrepreneur, I am an IoT Consultant at Hinge Systems; an engineering firm focused on the design of custom IoT Solutions around Energy/Utility management, remote sensing, and Industrial IoT. Before Hinge systems, I Cofounded Dev's District Nigeria, and led the engineering team, overseeing the design and development of several solutions ranging from IoT based smart devices to military grade hardware. I was also at the heart of the engineering team at several organizations including VNTS and Frontdoors alongside consultancy roles at ABE Engineering (IIoT), Stacksonly and Instatrolley. As an entrepreneur, I am interested in the development of solutions that leverage on IOT to solve problems that are peculiar to developing countries and has worked on several game changing projects, receiving diverse awards like the Access banks prize for innovation in 2016, and made it to the top 100 innovators in Africa List at IPA 2017.

An avid speaker, I have been opportuned to speak at conferences including the LiveWorx'17 in Boston where I spoke on "Brownfield IoT development", and the African Space Generation Workshop 2017, where I spoke about "Solving Afrocentric Problems using space technologies and IoT".

Writing started for me as a hobby but has since grown to become one of the major things I spend my time on with over 450 published articles for different Blogs and magazines like Circuit Digest (india), and Electronics Lab(Greece).

emmaodunlade@gmail.com

Sadia Farooqi - Deputy Editor



It has been an honourable didactic journey with SC-Magazine, as a member of Deputy Editorial Team. The entire Magazine's theme illuminates advance era of Tech-World, boosting up Tech-prosperous States into becoming a cumulative part of Smart Cities.

I have been into Writing since, 2012. My career initiated as an Article Writer, Proofread/editor & SEO Content Strategist in collaboration with an International firm as a Blogger. I've also functioned in an International Newspaper as a News Translator, connecting readers habitually from London.

I pursued my Writing Career in association with Fiverr website. I also operated as a Marketing & Advertising Strategist, in Technocentric Solutions Sdn. Bh (Malaysia).

Email ID: sadiafarooqi@gmail.com

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