THE INTERNET OF THINGS
What the future holds.

A WHITE PAPER BY NEBULA | OCTOBER 2016

nebula®
SIMPLIFYING HIGH PERFORMANCE

CONTACT US

WESTERN CAPE

Email: contactus@nebula.co.za

Tel: +27 21 555 3227; +27 21110 5100

Address: 22 Park Lane
Century City
Cape Town 7446

Postal: PO Box 227
Century City 7 446

GAUTENG

Email: contactus@nebula.co.za

Tel: +27 12 661 0400

Address: Unit 1001, 1st floor
267 West Street Building
267 West Avenue
Centurion 0157

Postal: Postnet Suite 43
Private Bag X108
Centurion 0046

LEGAL DISCLAIMER

TABLE OF CONTENTS

01 THE INTERNET OF THINGS

03 THE INTERNET OF THINGS IN TELECOMS

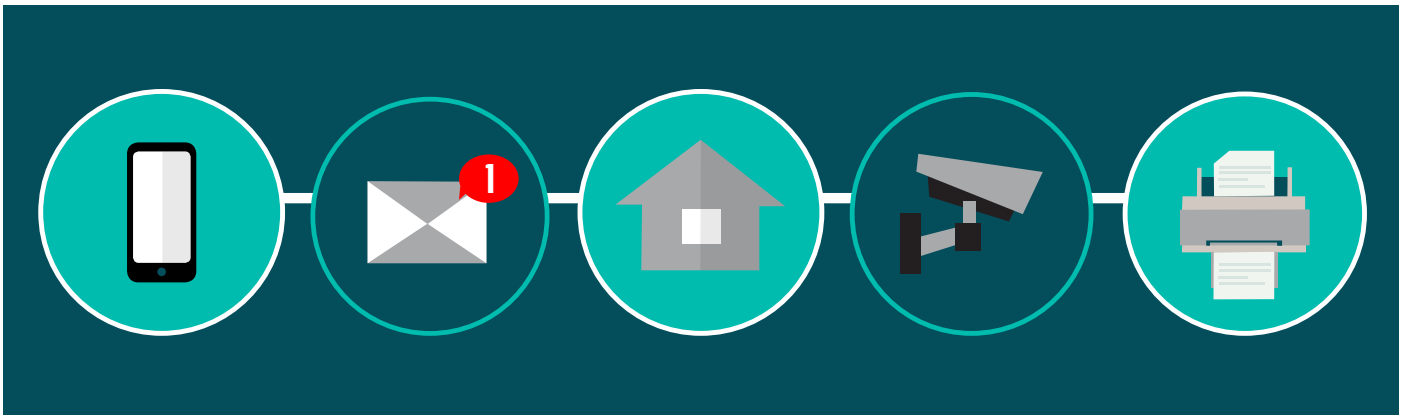
04 CHALLENGES AROUND IOT

05 THE HUMAN ELEMENT OF IOT

01 THE INTERNET OF THINGS

Billions of Connected Devices

As digitalisation becomes increasingly pervasive in every level of society, the number of connected devices has grown exponentially in recent years. There are currently several billion objects and devices connected to the internet, and this number is predicted to grow to the tens of billions in the next five years. As the number of connected devices increases, the mix of the types of devices is also increasing. As much as two thirds of connected 'things' are smart devices that can monitor, control, analyse, and optimise the world around them.



Unlimited Potential

The Internet of Things (IoT) enables the blending of the physical and digital realms. It is expanding the reach of information technology and unlocking a vast array of opportunities for growth, change, and disruption. The ability to digitally monitor and control things in the real world has created a surge of innovation in both business and consumer fields.There is a very broad range of uses for the IoT, from businesses tracking and monitoring physical assets, to consumers monitoring their health and fitness, or cities controlling traffic flow. It has the potential to fundamentally shift the way we interact with our surroundings.

A Data Goldmine

For businesses, the IoT can unlock a goldmine of data that can improve every aspect of how a business is run. Sensors can help get more out of physical assets, improving their performance and extending their lives.

Data-driven decision making also optimises the performance of systems and processes, increasing productivity, saving time, improving ROI, and reducing down-time. Digital capability and data analysis has become a key component of successful business strategy, and companies need to develop the ability to derive value from assets through a comprehensive IoT strategy.

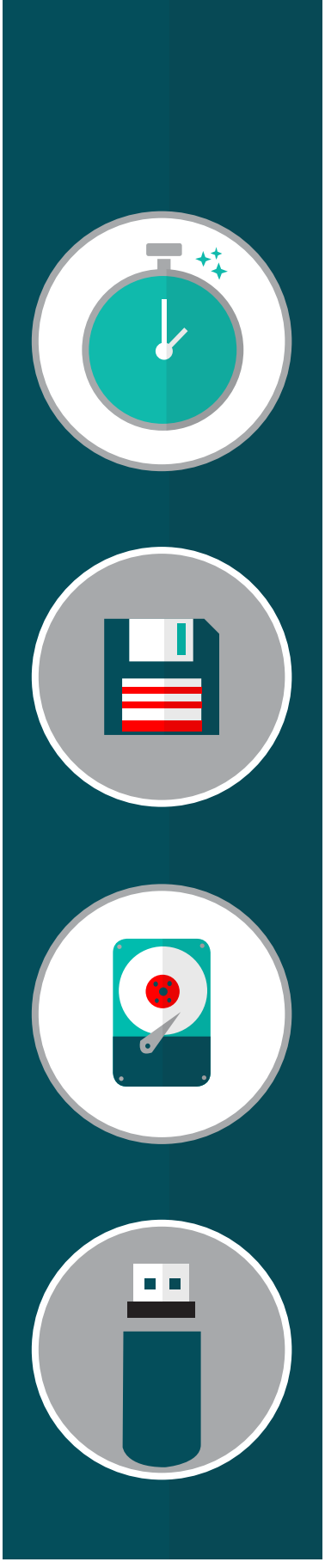
A Digital Disruptor

Digitalisation is one of the most disruptive forces currently occurring in business. New digital technologies such as IoT are being rolled out to create disruptive new business practices.

By creating new connections, and providing new sources of data and insight, the IoT can deliver value in new ways, across cost control, business process improvement, and customer engagement.

For example, IoT technology can fundamentally change how businesses provide a product or service. Traditionally businesses would create value by finding a customer need and manufacturing a product to fill it, with finished products competing on features and price.

With the advent of IoT, however, there are increasing opportunities to add ongoing value to products. New features and functionality can be pushed out through over-the-air updates. Companies can also track products in use, gathering insight on customer behaviour, and improving and updating their products accordingly.



02 THE INTERNET OF THINGS IN TELECOMS

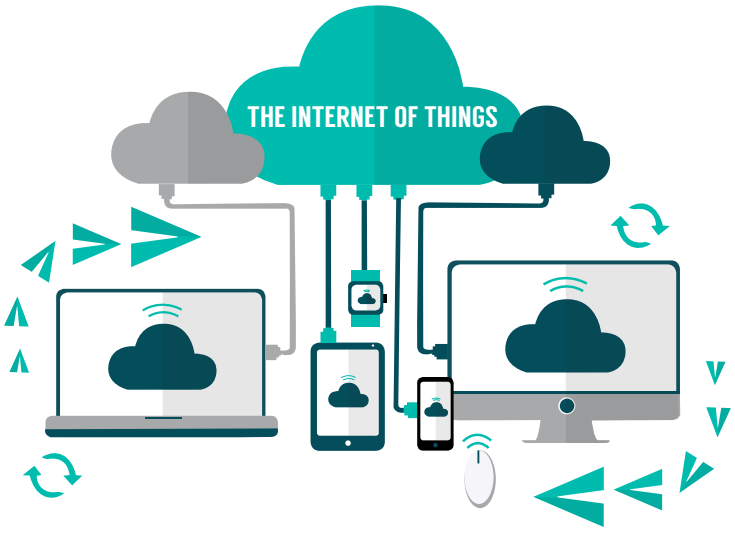
While most businesses have seen the advantages of IoT technologies in areas such as smart manufacturing or large asset tracking, there are also other, lesser considered areas and business ecosystems that can benefit from IoT implementations. One such example is the telecoms system in large businesses.

The telecoms environment within a large enterprise is composed of a multitude of connected devices and networks, which are collecting, exchanging and storing different types of information and feeding it to different places. By sorting through this complexity and collecting, aggregating, and analysing all the associated data, IoT applications enable features such as telecoms and mobility management to be scaled by orders of magnitude.

As businesses and employees become increasingly mobile, many companies also have a growing number of devices that need to be monitored, tracked, and managed. By collecting data on all connected devices within a company, it is possible to gain a deeper view of the telecoms environment. This includes a full breakdown of device usage, voice and data packages, roaming, uptime, and more. Implementing an IoT-based digital telecoms management solution can provide a company with a level of insight into its telecoms environment that is impossible with an analogue system.

An IoT application that tracks and monitors all connected telecoms devices in a business will give a clear view of the entire ecosystem and enable the business to optimise their telecoms environment.

With an IoT enabled application, all data is stored in a central location, making it easier to collect, access, and view the information the system is generating.



This can enable:

- More advanced data analytics and processing so that more meaningful insights can be drawn from the data
- More accurate cost and usage forecasting and reduced wastage
- Better information tracking and visibility
- Automated audits of the entire telecoms ecosystem
- Better information security in accordance with internal governance and compliance requirements

03 CHALLENGES AROUND IOT

Collecting data: Data formatting and interoperability

IoT systems are able to collect vast amounts of disparate data from a number of different types of sources. This data is then collected into a central location. At this point the data is often in a number of different formats. The data must therefore be normalised and rationalised so that it can be successfully retrieved, read, and understood.

Storing data: security and trust

With the sheer amount of data that is collected by IoT applications and devices, one of the major concerns around IoT technology is that of security and privacy. The collecting, storing, sharing, and analysing of data can create major security risks if not properly protected.

All data that is collected through IoT systems must be adequately safeguarded from malicious third parties to ensure that the personal data of users, or other business critical information, is not exposed.There is therefore a burden of responsibility on any company collecting personal data to do so in a responsible way. This includes complying with any industry or government regulations and legislation, such as POPI or PCI, as well as internal security policies.

Using data: visualisation and analysis

One of the key components of IoT initiatives in business is how the data is read and analysed once it has been gathered. This requires not only advanced data visualisation capabilities, but also the right internal skills to correctly read and analyse the data. When correctly interpreted, the data collected through the IoT applications should be able to support key business decisions and help to optimise all internal business processes, increasing productivity, and enabling differentiation.

04 THE HUMAN ELEMENT OF IOT

The Human Element of IoT

When looking at how to unlock the value of IoT in business, one must not lose sight of the human element. While the IoT can supply vast amounts of data, when seeking to find the value and insight in this data, it is still up to the people using it how it should be implemented, utilised, and analysed.

As increasingly complex business systems are controlled, monitored, and analysed through IoT applications, it is important to put increasing thought into how, when, and where these systems will be rolled-out. Skills must be developed both internally, and through partnerships, that enable interaction with these complex systems.

User interfaces must also be optimised for simplicity and responsiveness.

It is not enough to just implement IoT systems, it must be possible to extract value out of them to support key business decisions.

Conclusion: Finding the Right Balance

IoT systems and applications have the potential to disrupt and transform many businesses. The IoT is all about increasing digitalisation by gathering large amounts of data in order to track, analyse, and optimise every aspect of business, life, and broader society.

IoT technology allows businesses to take repetitive, but non-routine tasks, and explore how they can be automated.

It also enables greater data gathering around costs, processes, and customer engagement, leading to greater efficiency and effectiveness in all aspects of the business.

By analysing the data gathered by IoT systems it is possible for business leaders to gain greater insights into the business and make more informed decisions around strategy, disruption, and new business models.

For an effective IoT implementation, companies need to figure out the best mix of humans and machines in the workforce, and to pay special attention to the point where machines hand over to people.

FOR MORE INFORMATION |

To find out more about **OneView™**, please send an email to **ContactUs@Nebula.ca.za** with “OneView” in the subject line, and a Nebula staff member will contact you.

You can also visit any of these platforms for more information and latest company news.


www.nebula.co.za


Nebula


@onenebula


Nebula Telecommunication