



**CANADIAN
TECHNOLOGY**
magazine

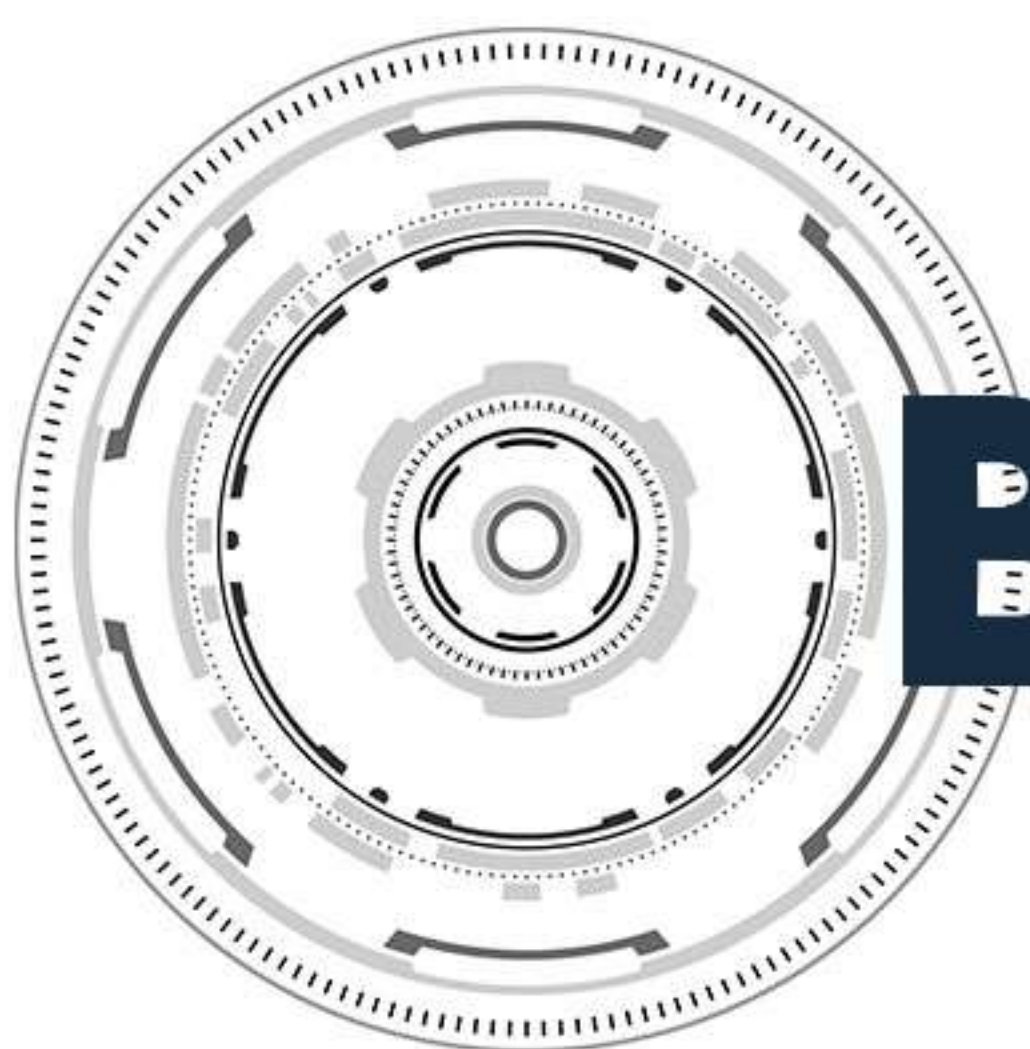
METaverse

WHAT IS THIS AND HOW
IS IT GOING TO CHANGE
OUR LIVES?

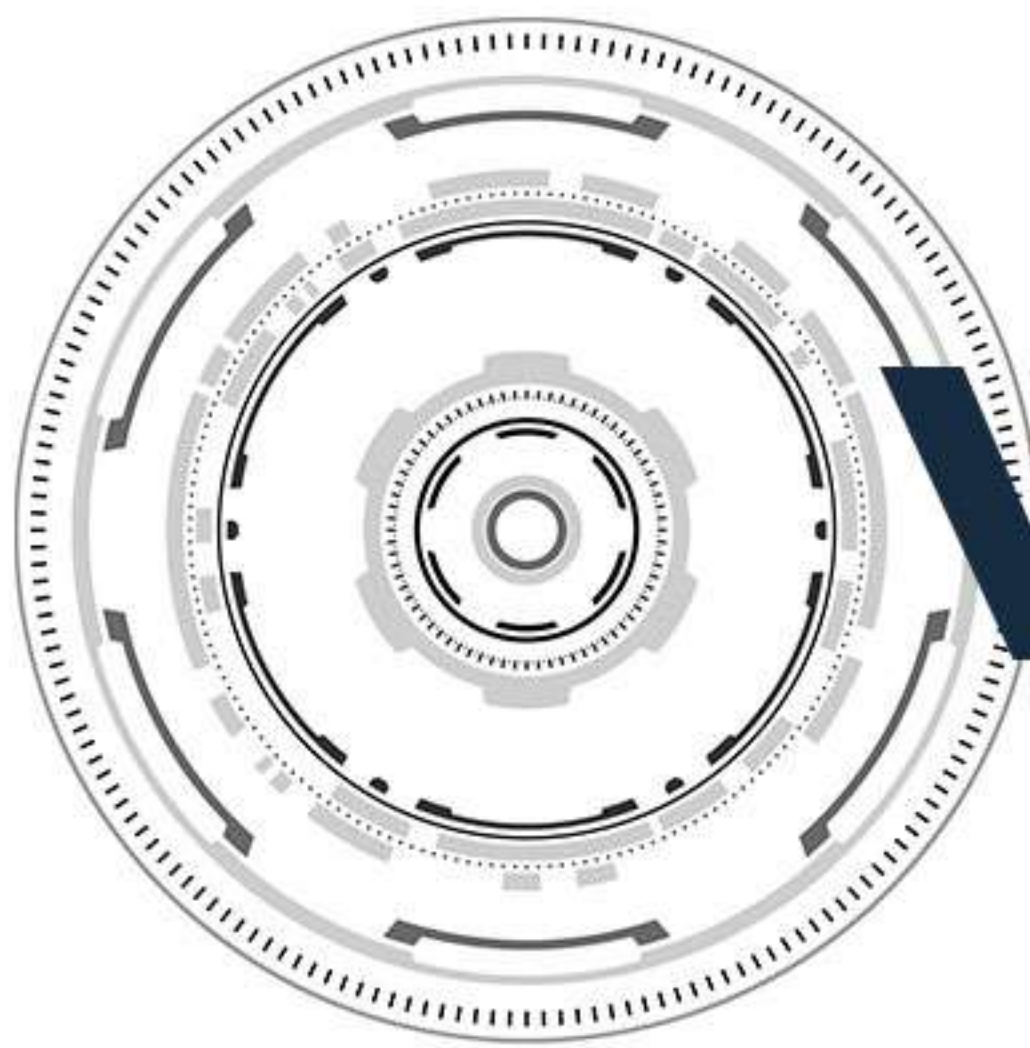
**THE INTERNET
OF THINGS (IOT)**

**THE IMPACT OF
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BUSINESS ACTIVITY**

**WHY CYBERSECURITY
IS SO IMPORTANT IN
TODAY'S SOCIETY?**



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NOTE FROM THE EDITOR

Some of our readers have already become familiar with what the future is bringing to our lives. Topics such as the meta-verse, cyber security and a host of creative ideas that were previously unattainable and only imaginable are now slowly becoming real enough to live and experience wherever we want, whenever we want.

In this new edition we will share topics where technology is not only influencing corporate life, but also the daily lives of each and every person. There's already talk about a hybrid future— a future where our reality is mixed with an augmented and virtual reality, one where decentralized information is generated through so-called non-fungible tokens and a new revolutionary “boom” to increase your income could stem from these very same NFTs.

These trends and more technological evolution options have made lovers of these areas increasingly aware of how to be part of this great technological revolution. In this new year, many companies will witness potential growth, as they are making the right decisions at the right time by adding to their operational and corporate strategies technology that will put them at a very highly competitive level, one that is quickly becoming difficult to reach for other companies that do not invest in this technology.

Enterprises like Biz Rescue pro are supporting these companies and their operations so that the impact of technology on their activities is positive and exponentially productive. On the other hand, companies such as retailers are applying highly efficient strategies to reach a target audience that already demands automated and simplified processes in their operations, thus, generating a magnificent customer journey and consequently a high level of sales. Welcome to a new addition of Canadian Technology Magazine, where we share the necessary tools for your personal and professional development focus on technology!



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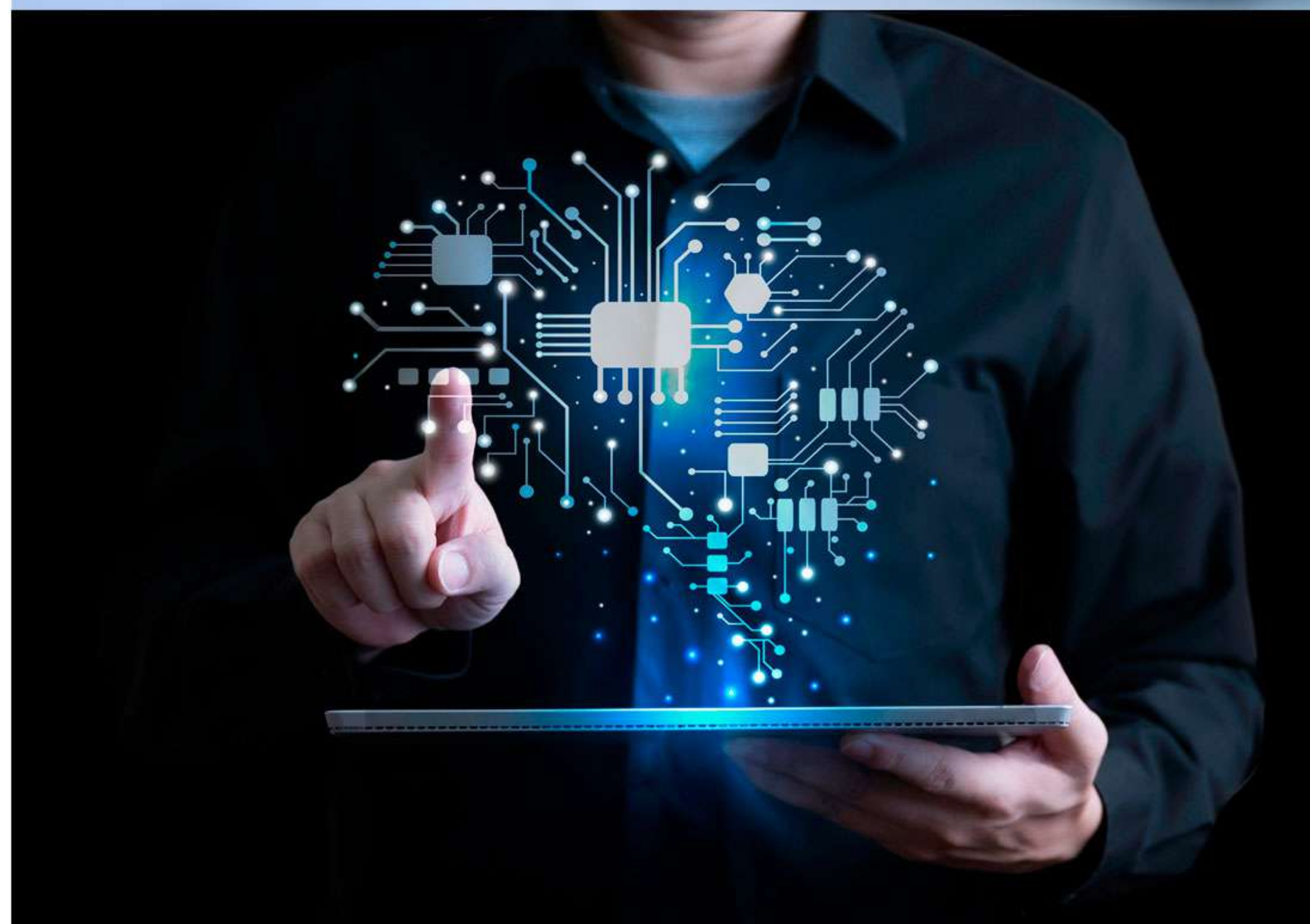
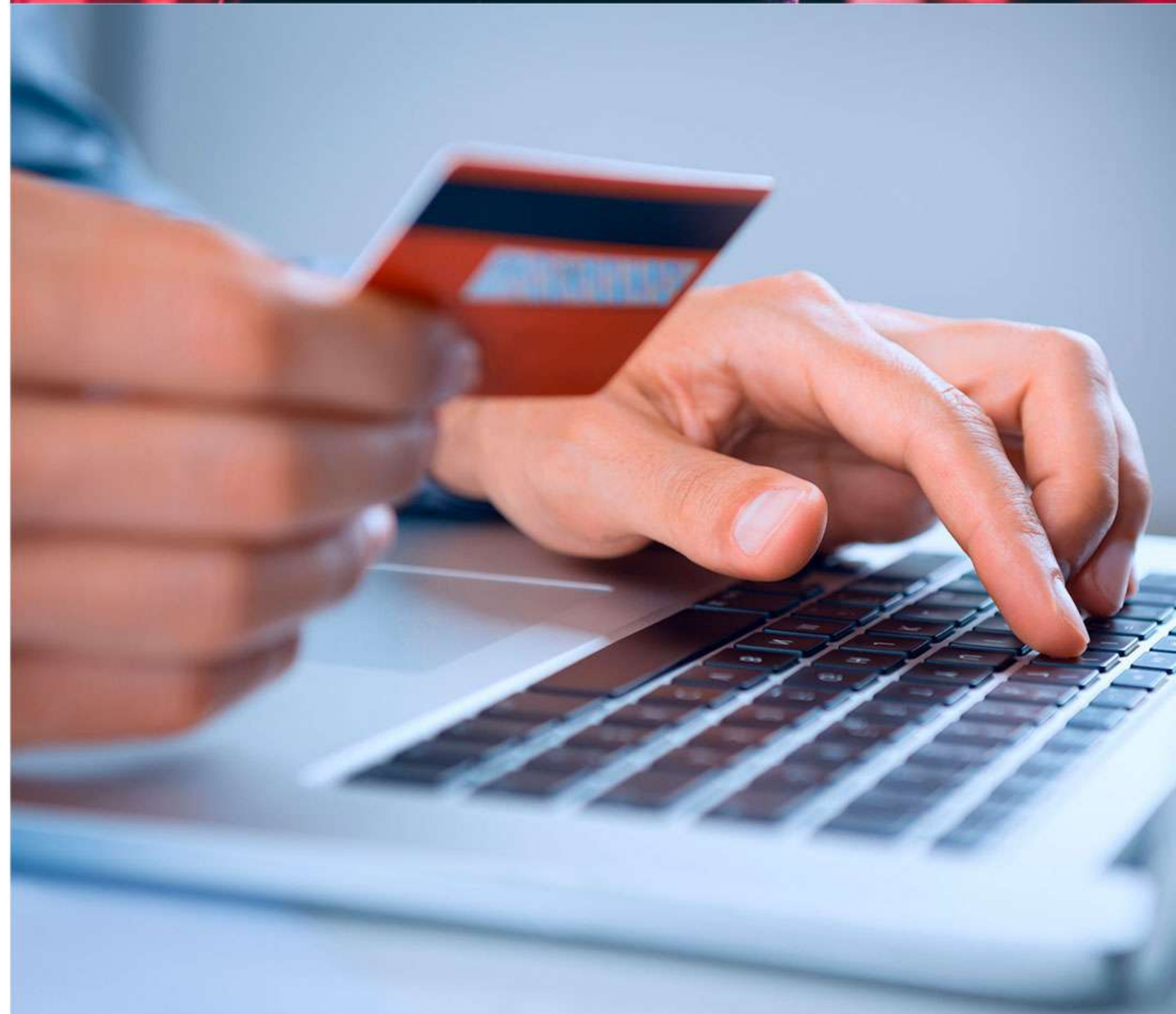
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WHY CYBERSECURITY IS SO IMPORTANT IN TODAY'S SOCIETY?

BY OSCARY AMAYA



We live in a world that is becoming increasingly digitized, so it is essential that all companies have a strategic cybersecurity plan in place. In this way, they will be able to avoid possible attacks by cybercriminals as much as possible.

But what is cybersecurity? It is the practice of defending computers, servers, mobile devices, electronic systems, networks, and data from malicious attacks. It is also known as information technology security or electronic information security. The term is applied in different contexts, from business to mobile computing, and can be divided into some common categories:

Network security is the practice of protecting a computer network from intruders, whether they are targeted attackers or opportunistic malware.

Mobile App Security is a measure to secure applications from external threats like malware and other digital frauds that risk critical personal and financial information from hackers.

Operational security includes the processes and decisions for managing and protecting data resources. The permissions that users must access a network and the procedures that determine how and where data can be stored or shared fall into this category.

Disaster recovery and business continuity define how an organization responds to a cybersecurity incident or any other event that causes its operations to stop or data to be lost. Disaster recovery policies dictate how the organization restores its operations and information to return to the same operational capacity as before the event. Business continuity is the plan the organization turns to when it attempts to operate without certain resources.



Cybersecurity for companies is an issue of constant concern today because virtual attacks can be as catastrophic as a robbery or a fire. To prevent a cyber-attack, you need a powerful IT infrastructure (among other things) to help you detect and stop threats.

According to an AttackIQ survey of 577, IT and IT security professionals in the United States found that 53% of companies do not know if their cybersecurity tools work and are not completely confident that they prevent data breaches.

In view of this, many companies often ask for visibility into the actual functioning of a risk engine but could disclose the algorithm of a security product be a good decision?

Let's analyze a little more about its advantages and risks:

The main advantage is that providing visibility to a risk engine allows an organization to know exactly what it is buying and to test capabilities with a test. It also provides the buyer with a sense of control.

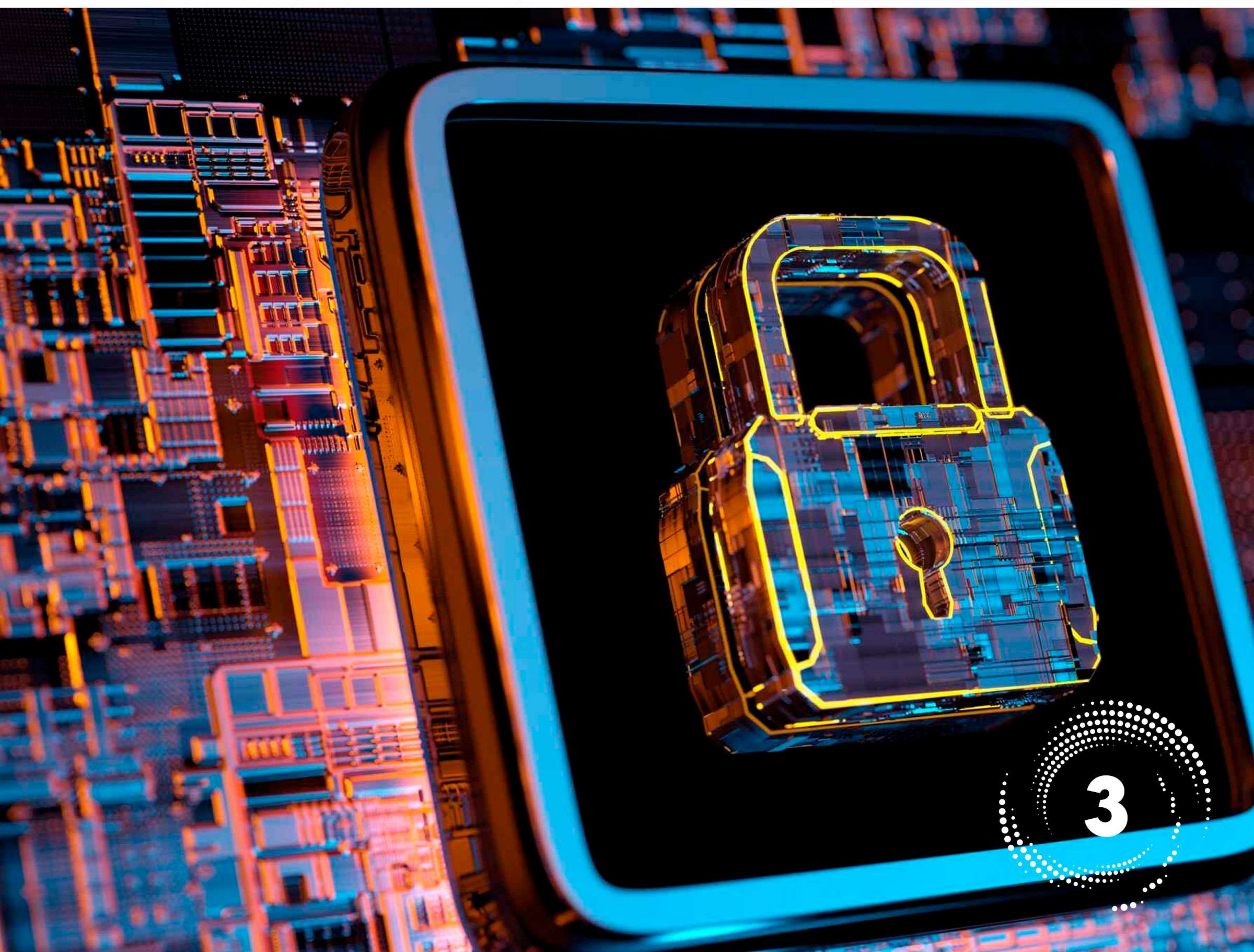
Some vendors allow customers to modify the parameters of their risk algorithm to adjust the results based on their specific needs. On the other hand, algorithms are difficult to explain, such as risk scores that are calculated using deep neural networks.

However, should we avoid deep learning and complicated algorithms for the sake of making risk engines easier to understand? We don't think so.

To the extent that organizations and companies understand how these suggestion systems work, using the basic information needed to gain the trust of customers, of course without revealing details that could be used by attackers to evade detection.

Therefore, when deciding between the visibility and secrecy of these security systems, the industry should lean towards disclosure, to the extent that it does not compromise the defensive posture of customers.

Knowledge is power and the better we understand how cybersecurity tools work, the better protected we will be.



METaverse, WHAT IS THIS AND HOW IS IT GOING TO CHANGE OUR LIVES?

BY ERIKA RODRIGUEZ





METaverse, WHAT IS THIS AND HOW IS IT GOING TO CHANGE OUR LIVES?

We can think of it in general terms as a virtual or digital world that we can access via the internet, where we can play, study, attend concerts, various events, work, and much more in the form of AVATARS! Remember the game Sims? Well, it's something like that, but much bigger. And which is the company that is mainly betting on this virtual world? Facebook, already known by its new name META, is betting all its cards to be a power in the metaverse. But not only them, but thousands of companies are also organizing their best strategies to be part of this strong trend.

The idea is basically to create a parallel and completely virtual universe, which we can access not only through virtual reality devices but also with augmented reality devices so that we can interact with each other inside it, and from the outside, with the content we have inside. That is, it is not only about being immersed in this virtual world as something like a video game, but also much more than that. It is the creation of hybrid space between a virtual world and the real world.

A very clear example will be to see augmented reality signs while walking down the street showing advertising, directions, information on how to buy an object we see on the way, etc. We will be able to put on our headsets and go to work meetings from our couch. Can you imagine having a ping pong match with a friend or family member who is not physically present, but is ready to play against you in another country? The metaverse will make this possible.

The key to this metaverse is that it can be totally immersive, or at least much more than the current virtual reality. We will have glasses that will possibly be like the current ones to immerse us in it, but also sensors that will register our physical movements so that our avatar inside this metaverse will do exactly the same. In the metaverse, our body language will be of great importance so that the rest of the people we are interacting with inside it can understand how we feel.



Therefore, the devices we use in this metaverse will be able to interpret our facial expressions so that our avatar can recreate us in the best possible way.

Cybersecurity for companies is an issue of constant concern today because virtual attacks can be as catastrophic as a robbery or a fire. To prevent a cyber-attack, you need a powerful IT infrastructure (among other things) to help you detect and stop threats.

In this virtual world, you will be able to buy things in the same way you buy in the real world. This includes clothing, accessories, land and property, and anything else you can think of. These products for sale will be NFTs (link to our summer NFTs article) and your payment method will be cryptocurrencies. Of course, buying and selling them is a phenomenon that is gaining momentum as it is considered a very efficient way to diversify investments and economic income. If you learn to invest in them and to

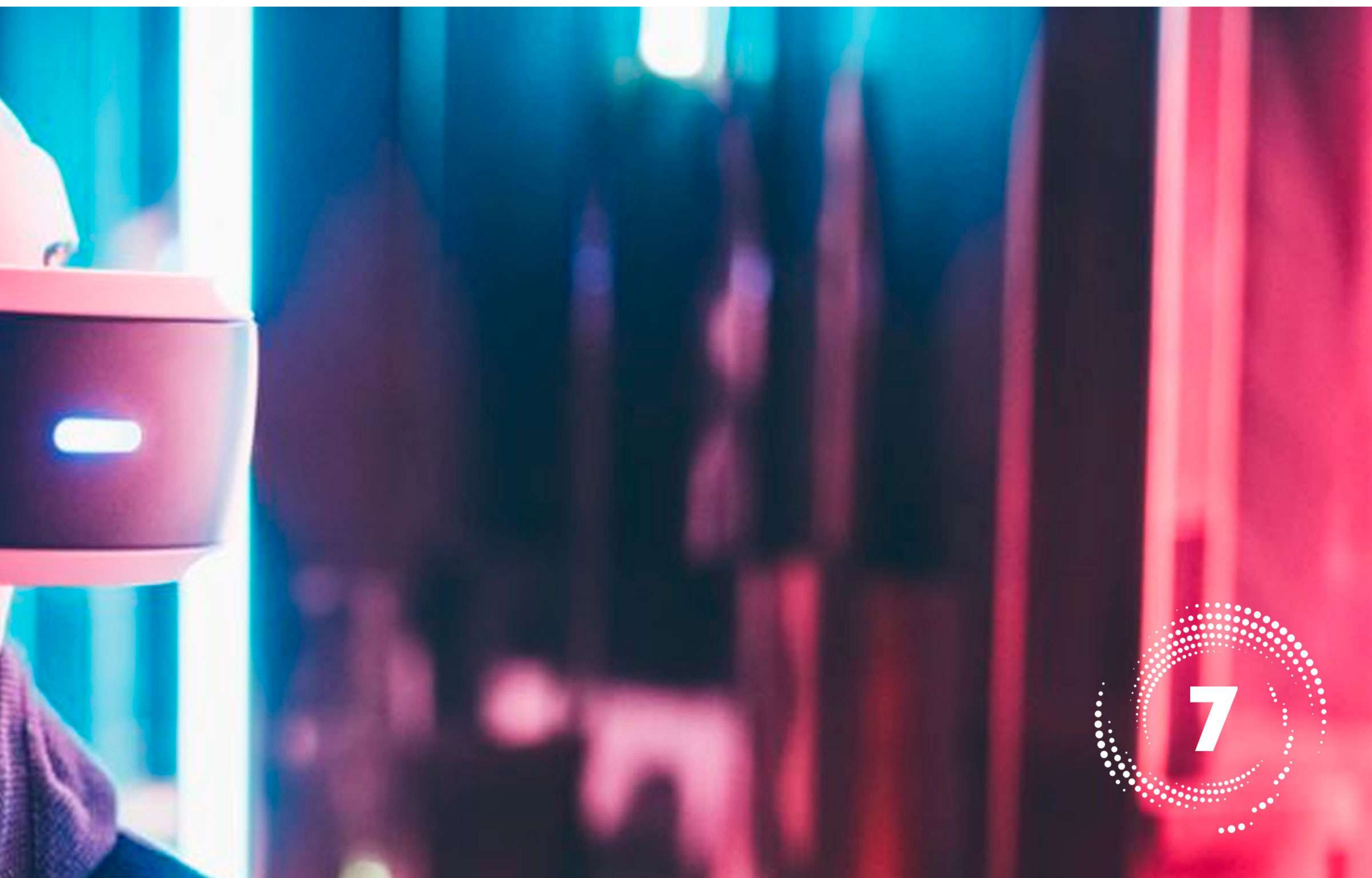
identify the projects that are trending towards growth, it could be a great opportunity for anyone involved in this. You will be able to buy clothes for your Avatar, as you would buy clothes for yourself in the real world, get your tickets for concerts that will happen in the metaverse, and attend from anywhere in the world, this means that you will also be able to visit cities and places where you have not been before.

Many investors in NFTs (yes, there are already many!), are buying several collectible assets, for example, the BORED APES, VERSOV SNEAKERS, the CRYPTOPUNKS, in fact, one of them was sold for \$533 million dollars, but not all cost so much, there are several options and many of them could multiply their price in incredible amounts in the not too distant future, that is why it is important to know each project well and know about these investments to make it something very profitable.

One of the investors who has already put his focus on NFTs is Gary Vee, one of the most successful entrepreneurs today.

And just talking about business, this reality will be 100% part of digital marketing because through NFTs, brands will be able to create what makes any company successful: brand experiences with the consumer, brand positioning in a strategic and creative way, interactions with consumers in a more friendly and effective way, purchase journey will be memorable and easier, no matter where the customer is.

The metaverse and NFT technology is here to stay, is your company ready to align to this new reality? Are you ready to live in a hybrid world where virtual reality will also be part of our real world?



TRAIN YOUR MIND



FIND
THE ANSWERS
HERE



T	C	U	P	A	I	C	B	N	M	L	Q	O	C
Y	D	C	M	E	T	A	V	E	R	S	E	U	O
I	Y	M	R	C	S	G	C	S	K	B	E	V	N
K	P	O	C	A	U	T	O	M	A	T	I	O	N
E	C	B	Q	A	P	C	N	O	U	P	T	B	E
U	U	I	W	C	P	V	C	B	I	M	P	K	C
B	R	L	I	V	O	U	C	T	W	B	C	L	T
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W	M	A	C	N	T	C	V	R	C	Y	V	M	V
V	Q	P	O	N	C	T	N	G	L	T	S	R	I
B	U	P	F	I	C	O	C	R	O	P	C	U	T
N	C	Y	B	E	R	S	E	C	U	R	I	T	Y
M	V	J	K	M	C	W	C	T	D	C	M	C	P
E	R	Y	L	V	G	B	H	G	T	C	B	L	R
N	F	T	S	W	S	K	I	C	R	V	D	C	D

HINTS

ACROSS

- 2. A VIRTUAL WORLD
- 4. PROCESS THAT REDUCE HUMAN INTERVENTION
- 7. KEEPS YOUR DIGITAL INFORMATION SAFE
- 8. CRYPTOCURRENCY PHENOMENOM

DOWN

- 1. DEVICES RELY ON A NETWORK TO TRANSFER DATA
- 3. IT IS USED ON YOUR PHONE
- 5. INFORMATION TECHNOLOGY SERVICE
- 6. THE MOST USED DIGITAL STORAGE FOR DATA



HOW GAME-CHANGING TECH CAN HELP LOCAL RETAILERS GO GLOBAL

BY SAM RANIERI
FOUNDER AND CEO, REACH



Retailers and their customers are no longer limited by national borders when buying what they want. The explosive growth of e-commerce has opened a global marketplace, with 2.14 billion online buyers worldwide, 70% of which make purchases from foreign e-commerce sites.

More than **80%** of retailers worldwide agree that cross-border e-commerce is profitable for their businesses, but the challenge is how to tap into such a lucrative - and hyper-competitive - market. As cross-border e-commerce volumes are set to surge to \$4.9 trillion by the end of 2021, it's crucial that businesses can optimize checkout conversions from customers anywhere in the world to drive a diversity of revenue streams

While multinational businesses have the resources and networks to sell across multiple markets, smaller retailers must overcome numerous obstacles. High foreign exchange rates, complex regulatory requirements, and the need to accept multiple payment methods favored by consumers in different parts of the world are just some of the challenges.

The Need for Localized Payments in a Global Market

Many payment processors promise businesses access to localized payment methods and transaction processing, but in fact, this requires the business to establish a legal entity in each market where they want to operate. The huge costs involved in setting up a physical presence in every country are a big barrier to extending geographic presence but a must-have for sellers to increase their customer base in different countries. Reach will do this on the sellers' behalf.

Reach can help brands of all sizes go global, by using its ground-breaking modular technology platform and the Merchant of Record (MOR) business model to take these burdens off businesses. In effect, Reach acts as an independent entity on behalf of the retailer in each market, enabling it to process consumer payments in the country where consumers live – this gives access to more payment options which in turn, increases conversions.

Reach's transaction API dynamically adjusts the payment options to suit each local market, ensuring maximum transaction acceptance, reducing basket abandonment, and offering full integration with many of the world's leading sales platforms used by businesses today.

With its guaranteed foreign exchange (FX) localized pricing solution, Reach connects businesses to top-tier banks worldwide to offer consumers the choice of over 80 alternative payment methods.

How Global Growth and Sustainability Can Be Achieved
By tapping into global e-commerce in this way, the immense cost benefits of utilizing the MOR model in conjunction with Local Acquiring can save brands between 20% and 50% of their current fees, helping them to compete more effectively and realize higher profits



One notable example of how this has been achieved is Japanese collectibles retailer HobbyLink. With over 70% of international sales coming through its e-commerce site, HobbyLink needed to access optimal foreign exchange rates and enhance checkout options.

With seamless integration of Reach's MOR solution within HobbyLink's platform, including full ongoing customer support, HobbyLink's customers can now pay safely and securely online in their own language, in over 125 currencies with their preferred payment method. As a result, HobbyLink has achieved higher conversion rates, reduced foreign exchange conversion costs, and a simplified customer payment experience.

Reach is in full compliance with the global PCI DSS 3.2 data security protocols, meaning businesses can ensure the safety of customers' payment transactions, and stay protected by advanced fraud monitoring tools. Reach's unique cloud-native application suite means businesses can scale quickly and easily, and its modular platform design means businesses only need to use and pay for the services they select. By continuously enhancing the delivery of real-time, data-driven services through Reach's API framework, businesses can connect with even more shoppers around the globe.

Ultimately, today's game-changing payment technology is helping retailers to scale effortlessly to meet increasing global demand, assuring future-proof agility and strength amid a rapidly evolving e-commerce marketplace and doing so with fewer fees, higher conversions, and profits.

About Reach:

Founded in Alberta, Canada, in 2016, Reach is the premier partner for ambitious, forward-thinking online brands that want to connect with consumers around the world, expand their business, and increase global sales. Reach's "in-country" solution takes advantage of its 20+ local acquirers, 80 payment methods, and 100+ currencies to deliver the local experience consumers expect.

Bringing consistency to cross-border currency conversions with its guaranteed FX solution, Reach has relationships with banks worldwide to enable local credit card processing, offers consumers alternative payment methods where they are accustomed to using them, and provides best-in-class fraud detection and prevention services.

For more information, visit www.withreach.com.



Reach



THE IMPACT OF TECHNOLOGY ON BUSINESS ACTIVITY

BY CESAR ZULUAGA



Currently, the implementation of technological tools in companies is a strategic necessity in which most organizations worldwide are investing. One is that technology is not only essential to everyday business processes, but it can also help companies achieve growth and success when used effectively. Successful companies do not see technology simply to automate processes but use it to start using new ways of doing business.

Why is technology so important in business?

Technology is no longer a luxury or privilege around the world, it has become a fundamental element in the personal and business environment. In an active and globalized world, companies must be fast and efficient with all their resources. Technology has arrived to solve problems and eliminate barriers in organizations through innovative systems that are adaptable to the needs of each one. What used to take weeks and even months, nowadays it is possible to finish in a few minutes and without much effort or complication thanks to the implementation of technology in business.

When a company resists implementing new technologies in each of its processes, it is more likely to stagnate and fall behind, especially those that are in a new growth path, but are not yet fully stabilized or positioned in the market.



But here are some important characteristics of technology in a company:

Although the characteristics of the technology in a company may vary from case to case, these are the most general ones:

- It is innovative and allows rethinking processes or business models.
- It is scalable. That means that it has the capacity to grow as the business grows.
- It responds to the specific or general needs of a company, an organizational area, or an industry.
- It is easy to operate, although training will always be necessary.
- It securely stores the information of the processes it executes.
- Facilitates integration between different technological tools.
- It generates reports of the information it manages.

How technology can support business growth:

Digital technologies for effective marketing

Businesses now operate in an era where having a strong digital presence is essential, not only for success but also for survival. The lack of a strong digital presence is a contributing factor to the failure of many SMEs, half of which are failing in their first five years of existence. With limited marketing budgets, SMEs need to be prudent in using digital technologies for maximum impact.

Software to reduce costs and improve customer service

Productivity software is designed to help businesses improve operational efficiency, replace laborious paper-based processes, and reduce costs. The most used productivity software packages include those for office productivity, accounts, communications, and email.

The scope of business productivity software has expanded considerably in recent years, with the development of cloud and mobile technologies.

To maintain our competitiveness in the business and economic environment is necessary to rely on technological solutions for the management and organization of your company. Technological Solutions that companies like Biz Rescue Pro can provide you with. A team of IT Engineers, IT Managers, Network Security Experts with more than 15 years of experience supporting Canadian companies. Its purpose over the years has been to help businesses improve their processes, maximize their performance and give them the boost they need to operate in a big way and succeed in the marketplace.

**For more information,
visit <https://bizrescuepro.com/>**



FIREFOX 94.0 ARRIVES WITH IMPROVEMENTS

BY OSCARY AMAYA



If you're a Firefox user-and there aren't many of you- compared to the bulk of web browser users of Chrome and a few, increasingly, on Microsoft Edge. These Firefox updates will make your day.

The new version of Mozilla's web browser, Firefox 94, has been launched and it comes with interesting new features for its users. Such as Site Isolation Technology which defends against compromised browser rendering processes and related security risks. Also, this new version protects you against new types of attacks from malicious sites and complies with Mozilla's security principles.

How Site Isolation Works in Firefox

Site isolation is based on a new security architecture that extends the current protection mechanisms by separating (web) content and loading each site in its own operating system process.

This new security architecture allows Firefox to separate code coming from different sites and, in turn, defend against malicious sites trying to access sensitive information from other sites you are visiting.

More updates...

Among the changes, Firefox 94 also introduces a function to unload open tabs without closing them through the internal page "about:unloads", the same as "chrome://discards" in Chromium derivatives. This is a feature that the browser already has by default and works automatically but will be useful for more experienced users and those who use a larger number of open tabs.

How Global Growth and Sustainability Can Be Achieved
By tapping into global e-commerce in this way, the immense cost benefits of utilizing the MOR model in conjunction with Local Acquiring can save brands between 20% and 50% of their current fees, helping them to compete more effectively and realize higher profits

Other new features of Firefox 94 include improved WebGL support for Linux, support for low-power mode for full-screen video on sites like YouTube and Twitch, downloading and installing new versions of Firefox on Windows in the background, but without prompting to restart the browser.



Interface updates

The interface has also been changed, giving it a touch of color with: Colorways, a "vibrant color scheme available for a limited time". Basically, these are color schemes that give life to the application.

Colorways will appear the first time Firefox is opened after its update, but all the themes that are displayed are available in their own section in the browser preferences. They are a way to draw attention to the customization possibilities and thus capture the interest of users.

Protection updates

The new model provides more reliable protection against Spectre attacks, reduces memory fragmentation and allows additional isolation of external script and iframe content and returns memory to the operating system more efficiently, minimizes the impact of garbage collection and page-intensive computation on other processes, increases the efficiency of load balancing between different CPU cores and improves stability (blocking the process processing the iframe will not trigger the main site and other tabs along).

Firefox 94 for Android

Version 94.0 for Android comes with a lot of new features. On this occasion, the changes focus on the home page and tab management, in addition to the typical bug fixes. This version is already arriving on Google Play (also available as APK), with several new features focused on productivity and reducing the mess of having a multitude of tabs open. The most obvious change is on the home page, the one that appears when you open a new tab.

So, the good news is that you can customize what items are displayed on the home page from the Firefox settings. This way, you choose whether you want your most visited favorite sites, "back to this tab", recent bookmarks, and recent searches to be displayed. Although its innovative changes may not be apparent at first, Firefox 94 is an important release for most users of this browser that has recently lost a huge market share over the last decade.



THE INTERNET OF THINGS (IOT)

More broadly, the internet of things includes any object - or "thing" - that can connect to an internet network, from internal factory equipment and transportation to mobile devices and smartwatches. But today, more specifically IoT means connected things that are equipped with sensors, software, and other technologies that enable them to transmit and receive data - to and from other things. Traditionally, connectivity was primarily achieved through Wi-Fi, while today 5G and other types of network platforms are increasingly capable of handling large data sets with speed and reliability.



IoT devices relate to a process called M2M (machine to machine) in which any two devices or machines communicate with each other using any type of connectivity (which can be wired, WiFi, Bluetooth, etc.), doing their work without the need for human intervention. This is necessarily done with specific sensors and chips that are arranged in the devices (for example, a smartphone usually has an ambient light sensor, gyroscope, etc.).

These connected devices generate a large amount of data that reaches an IoT platform that collects, processes, and analyzes this data. This information becomes relevant to the user because thanks to it, conclusions can be drawn about the user's habits and preferences, as well as to make the user's life easier. For example, if there is a fault in your car, you can receive a warning to take it to the workshop.

An example of an IoT device is the Amazon Alexa smart speaker, which is connected to the network to obtain information and interacts with other devices to give us the ability to control them through simple voice commands. Little by little the different devices in day-to-day life are becoming more and more IoT devices and are interconnected with each other with the idea of making our lives more practical.

Of course, the whole purpose of collecting data is not just to have it, but to use it. Once IoT devices collect and transmit the data, the ultimate point is to analyze it and create an informed action. This is where AI technologies come in: augmenting IoT networks with the power of advanced analytics and machine learning.

IoT devices are empowered to be our eyes and ears when we can't physically be there. Equipped with sensors, the devices capture data that we might see, hear, or sense. They then share the data as indicated to be analyzed to start or improve decision-making.

In conclusion, these are the 4 steps that the IoT process follows:

1. **Capture the data.**
2. **Share the data.**
3. **Process the data.**
4. **Act on the data.**

How have IoT technologies evolved?

- **Connectivity:** Currently, many IoT devices rely on a local Wi-Fi network to transmit complex and voluminous data. But as 5G and other cellular networks improve, this may decouple IoT devices from Wi-Fi networks.

- **Sensor technology:** the market went from having a few expensive niche suppliers to having a highly globalized, price-competitive sensor manufacturing industry with improvements in the functionality and diversity of these products.

- **Computational power:** more data will be created in the next three years than in the previous 30 years. To use and leverage all this data, modern businesses require ever-increasing amounts of memory and processing power, and this is where the applicability of IoT comes in.

- **Artificial intelligence and machine learning:** these technologies give companies the ability to not only manage and process large amounts of IoT data but also to analyze and learn from it. Big Data is the favorite food of AI and machine learning. The larger and more diverse the data sets, the more robust and accurate the strategic information and intelligence that AI-powered advanced analytics can provide. The rise of IoT devices has been growing strongly, along with the advancement of artificial intelligence and its appetite for the data they provide.

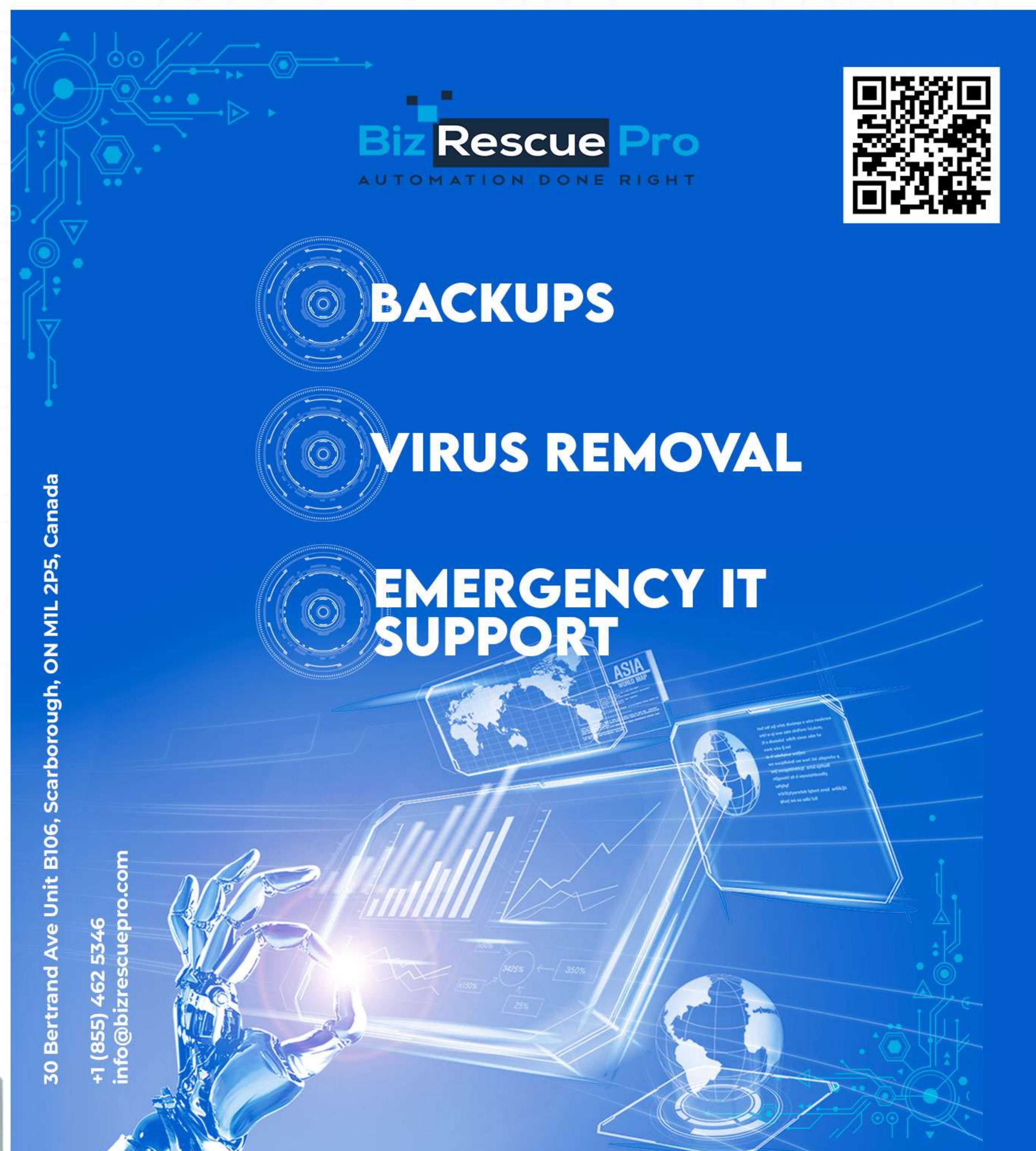
- **Cloud computing:** With the ability to provide high-volume processing power and storage on-demand, private cloud solutions have also made it possible for enterprises to manage greater volumes and types of IoT data while maintaining the security of a closed system.

- **Edge computing:** Devices within an IoT network are often widely distributed geographically, yet all transmit data to a single central system. As IoT data volumes grow ever larger, they can begin to monopolize the bandwidth and capacity of an enterprise's cloud. In addition, data takes time to be captured, transmitted, processed and received at its destination. This delay-known as "latency"-adds further inefficiency, especially to businesses in which data processing is very time-sensitive. Edge computing solutions decentralize a system's processing power by bringing it closer to the data source.

This is achieved by integrating localized computing systems, as well as building processing capabilities within the IoT devices themselves.

This processed data drives immediate action in situ and is then periodically sent - in a more structured and organized format - to the central system where advanced analytics and processing can be performed.

The IoT is changing the way we relate to the physical world. IoT applications are intended to make it easier for us to use services in sectors ranging from hospitality, retail, or agriculture. No matter the industry, this trend provides immediate solutions for the best applicability of processes and optimization of results in any department of a company.



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AI AND NATURAL LANGUAGE PROCESSING IN THIS MODERN WORLD

The concept of artificial intelligence is becoming more and more common, not only in the technological field but also in everyday life. It basically refers to the ability to simulate human intelligence processes developed by computer software, with reasoning, learning, and self-correcting capabilities. A few years ago, this seemed futuristic, but we can already see it reflected in our daily lives, such as voice commands like Alexa, chatbots, and other technologies with which we can communicate with just our smartphone.

On the other hand, we find natural language, which is nothing more than the language we humans use, it can be spoken, written, or gestural. This language requires many neural connections and brain and body processes to be able to express ourselves and understand others spontaneously. And the so-called formal language is the one used by sciences such as mathematics or computing and is based on the union of previously specified symbols.

Now, these 3 concepts, although they seem very basic but different, can be united.

What is "Natural Language Processing"?

NLP, or Natural Language Processing, focuses on how artificial intelligence can understand and imitate the natural language of human beings. Achieving this has been a challenge for those who have pursued it, but they have finally come up with several ways to develop NLP:

Probabilistic model: to carry out this model, data are first collected and the frequency of occurrence of certain linguistic units in a context is calculated so that the appropriate unit can be predicted.

Logical model: in contrast to the previous model, in this case, the patterns are previously defined by the linguists, so that, by combining them with the stored dictionary information, the response patterns will be configured.

Processing natural language requires different techniques, and by following both models and certain algorithms, PLN allows artificial intelligence to perform tasks such as:

- **Language detection:** one of the most basic tasks artificial intelligence has when processing natural language.

- **Relationship identification:** to know what to answer next.

- **Content categorization:** in such a way that they summarize all the information based on natural language, facilitating its search and indexing.

- **Syntactic analysis:** to be able to answer correctly.

- **Lemmatization:** is the automatic elimination of prefixes and suffixes to stay with the root word, which facilitates word searches and helps a faster response.

- **Contextualization:** structuring the information based on the context that has been previously defined.

- **Sentiment analysis:** identifying the mood of the interlocutor based on language that has been used.

- **Documentation summarization:** capable of automatically summarizing large amounts of text.

- **Translation:** translating into several languages.

- **Speech to text and vice versa:** transforming spoken language into written text and vice versa almost immediately.

In general, these tasks break messages into elementary pieces to explore how these pieces together have new meanings and add value to communications.

What is the relationship of NLP with Artificial Intelligence?

Natural Language Processing is one of the branches of Artificial Intelligence. Artificial Intelligence relies on this processing to be able to give effective answers and to have conversations getting closer and closer to human language. One of the most visible faces of this area is the Chatbots, especially we can talk about personal assistants like Siri, Cortana, or Alexa.

Are there bugs in this Natural Language Processing?

These technologies are very recent, and it is common that they need improvements, especially in the ability to reproduce this natural language. The lack of cadence in conversations or errors in understanding certain forms of speech is tiny errors that have been progressively solved. Let's remember that Artificial Intelligences can learn, so they are gradually correcting their mistakes.



Precisely because of this great capacity for learning and efficiency in the processes where AI intervenes, it can make, for example, the repetitive administrative tasks associated with management positions, such as the creation and modification of work shifts or the preparation of analytical reports, be carried out more efficiently, impartially, and profitably than if they were done by the managers themselves.

But employees should not see AI as an enemy. The great advantage would be that these workers, now freed from these necessary tasks that add little value to their jobs, can devote themselves more freely to processes that do require human mediation, and in which machine intelligence cannot yet replace human capabilities.

Who would have thought 20 years ago that we would now be talking to our computing devices? And even more importantly, how far will we go? There is already talk of the metaverse and the interrelation with artificial intelligence and natural language processing - it will be very interesting to see how these technologies adapt to each other!



THE IMPORTANCE OF DIGITAL-FIRST STRATEGY IN EVERY ORGANIZATION

BY ERIKA RODRIGUEZ



The huge digital adoption, with new tools, applications, and trends that in the last year were created and already adapted in people's daily lives is unquestionable. During the pandemic, many internet users increased their usage time with their devices whether for work, shopping, entertainment, health, or any other activity.



IoT devices relate to a process called M2M (machine to machine) in which any two devices or machines communicate with each other using any type of connectivity (which can be wired, WiFi, Bluetooth, etc.), doing their work without the need for human intervention. This is necessarily done with specific sensors and chips that are arranged in the devices (for example, a smartphone usually has an ambient light sensor, gyroscope, etc.).

Of course, the whole purpose of collecting data is not just to have it, but to use it. Once IoT devices collect and transmit the data, the ultimate point is to analyze it and create an informed action. This is where AI technologies come in: augmenting IoT networks with the power of advanced analytics and machine learning.

IoT devices are empowered to be our eyes and ears when we can't physically be there. Equipped with sensors, the devices capture data that we might see, hear, or sense. They then share the data as indicated to be analyzed to start or improve decision-making.

In conclusion, these are the 4 steps that the IoT process follows:

1. **Capture the data.**
2. **Share the data.**
3. **Process the data.**
4. **Act on the data.**

How have IoT technologies evolved?

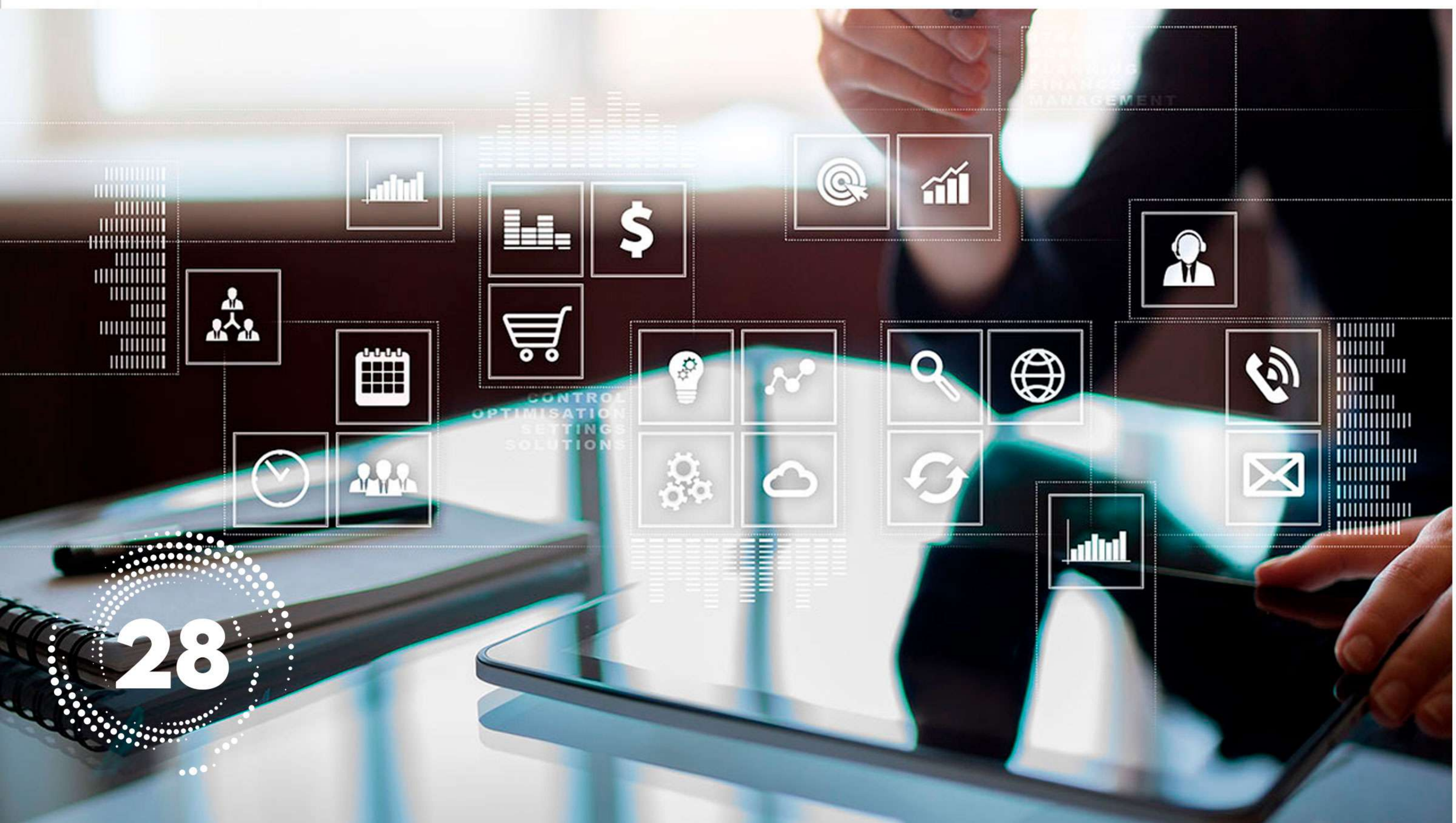
- **Connectivity:** Currently, many IoT devices rely on a local Wi-Fi network to transmit complex and voluminous data. But as 5G and other cellular networks improve, this may decouple IoT devices from Wi-Fi networks.

- **Sensor technology:** the market went from having a few expensive niche suppliers to having a highly globalized, price-competitive sensor manufacturing industry with improvements in the functionality and diversity of these products.

- **Computational power:** more data will be created in the next three years than in the previous 30 years. To use and leverage all this data, modern businesses require ever-increasing amounts of memory and processing power, and this is where the applicability of IoT comes in.

- **Artificial intelligence and machine learning:** these technologies give companies the ability to not only manage and process large amounts of IoT data but also to analyze and learn from it. Big Data is the favorite food of AI and machine learning. The larger and more diverse the data sets, the more robust and accurate the strategic information and intelligence that AI-powered advanced analytics can provide. The rise of IoT devices has been growing strongly, along with the advancement of artificial intelligence and its appetite for the data they provide.

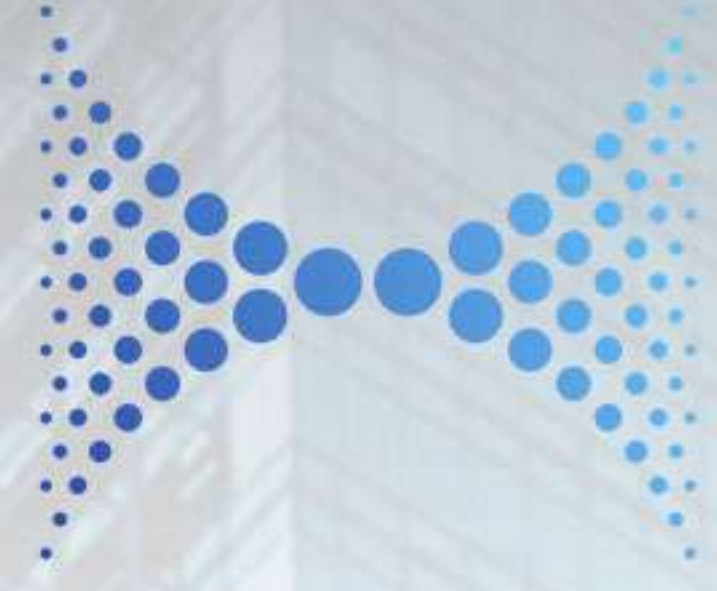
- **Cloud computing:** With the ability to provide high-volume processing power and storage on-demand, private cloud solutions have also made it possible for enterprises to manage greater volumes and types of IoT data while maintaining the security of a closed system.



- **Edge computing:** Devices within an IoT network are often widely distributed geographically, yet all transmit data to a single central system. As IoT data volumes grow ever larger, they can begin to monopolize the bandwidth and capacity of an enterprise's cloud. In addition, data takes time to be captured, transmitted, processed and received at its destination. This delay-known as "latency"-adds further inefficiency, especially to businesses in which data processing is very time-sensitive. Edge computing solutions decentralize a system's processing power by bringing it closer to the data source. This is achieved by integrating localized computing systems, as well as building processing capabilities within the IoT devices themselves. This processed data drives immediate action in situ and is then periodically sent - in a more structured and organized format - to the central system where advanced analytics and processing can be performed.

The IoT is changing the way we relate to the physical world. IoT applications are intended to make it easier for us to use services in sectors ranging from hospitality, retail, or agriculture. No matter the industry, this trend provides immediate solutions for the best applicability of processes and optimization of results in any department of a company.





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