



The Cloud in México

X - R A Y



X-Ray of the Cloud in Mexico: Productivity Away From Your Desk

In these times, and as part of the efforts for social distancing, physical interaction is no longer considered an appropriate form of communication. Businesses and institutions throughout the world have looked to digital solutions in an attempt to maintain productivity.

Many countries are requiring that employees of non-essential businesses work remotely for an undefined period of time; and schools and universities are also taking advantage of videoconferencing platforms to facilitate learning at a distance.

As a consequence, it's not surprising to see that collaborative solutions, like Google Meet, Microsoft Teams and Zoom, have reported record growth in recent weeks. In fact, according to a Microsoft blog post (March), they note that their product for team collaboration experienced a monthly growth in use of 775% in Italy, this occurring shortly after stay-at-home orders were issued in the entire country.

In April, Google Meet exceeded 100 million users participating in meetings every day. The company reported that since January, daily use of this tool had grown 30 fold. Two months later, they reported more than three billion minutes of video calls. For its part, social media use has increased 42% in time spent browsing.

GOOGLE MEET EXCEEDS 100 MILLION

30-fold growth

42%

Social Media



TOP 5 SITES MOST OFTEN VISITED FROM A DESKTOP



The behavior of users on computers has also changed since the quarantine took effect in Mexico.¹ During this period, use of Netflix increased 48.3%, placing the platform within the top 5 sites most often visited from a desktop computer. The other places were filled by live.com, mercadolibre.com, whatsapp.com and yahoo.com.

Other sites with increased use as of the beginning of the quarantine were zoom.us, promodescuentos.com, sat.gob.mx and unotv.com; while in the realm of apps, those that had the greatest increase in time of use were: Tik-Tok, Uber Eats and Banamex Mobile.



APPS



TikTok

Uber
Eats

Uber Eats



Banamex Mobile

¹ El Financiero. (2020). [COVID-19 le da un 'subidón' de 42% al uso de las redes sociales: Nielsen IBOPE](#) Junio 2020.

HOW IT STARTED

For decades, the efforts to make large scale computer profit were frustrated by limitations in telecommunication network capacity. But once the telecommunications companies invested in high capacity fiber optic networks in response to the increasing use of the Internet as a shared network for the exchange of information, things changed.

Over time, the remote application supply model became popular and it took on the name of Cloud Computing. Then, a model was developed

in which the Cloud computing companies charge users for their services, through subscriptions and use rates. Thus, today Cloud computing services provide information technology (IT) as a service via the Internet or an exclusive network, with on-demand delivery and payment based on use.

These Cloud computing services cover everything from development platforms and complete applications to servers, storage and virtual desktops. Furthermore, they have several common characteristics:

- **Virtualization:** Cloud computing widely uses the virtualization of servers and storage to quickly assign and reassign resources.
- **Multiusers:** resources are grouped into pools and are shared among several users to achieve economy of scale.
- **Network Access:** resources can be accessed through a web browser or a delegated client on a variety of networked devices (computers, tablets and smartphones).
- **On demand:** the resources are self-supplied from an online catalog with predefined settings.
- **Flexibility:** resources can be automatically scaled vertically or horizontally.
- **Retroactive Charge:** use of resources is tracked and billed according to the service agreement.



The most persuasive arguments for companies that want to adopt the Cloud is that it brings other benefits, like reduction of operating costs, quicker time to market, and a greater competitive advantage.

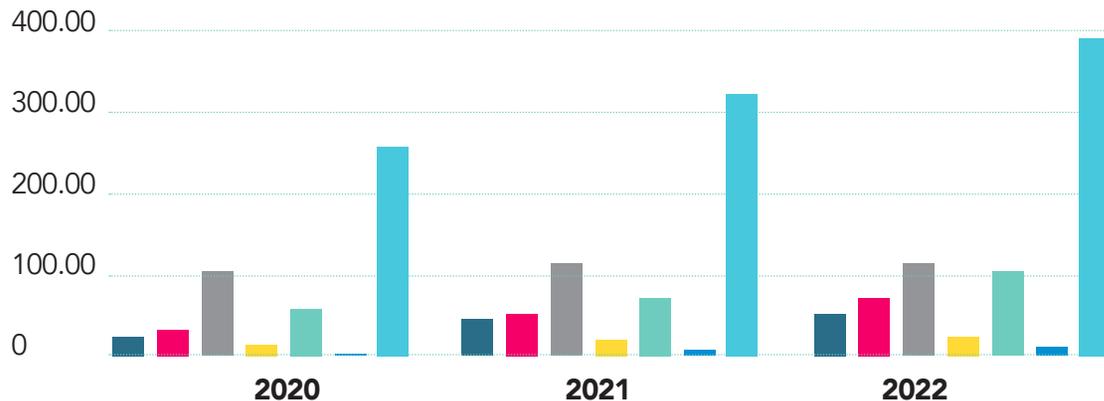
THROUGHOUT THE WORLD

For this reason, it is not surprising that the total value of the Cloud market was 214 billion dollars in 2019. This was spectacular growth if you consider that the market was valued at 6 billion dollars in 2008².

PROJECTION OF WORLDWIDE INCOME FROM PUBLIC CLOUD SERVICES

Figures in US Dollars

- Business process services in the Cloud (BPaaS)
- Application infrastructure services in the Cloud (PaaS)
- Application services in the Cloud (SaaS)
- Administration and security services in the Cloud
- System infrastructure services in the Cloud (IaaS)
- Desk as a Service (DaaS)
- Total market



BPaaS = Business Processes as a Service

IaaS = Infrastructure as a Service

PaaS = Platform as a Service

SaaS = Software as a Service

Note: Totals may not coincide due to rounding.

² Gartner. (2021). [Gartner Forecasts Worldwide Public Cloud End-User Spending to Grow 23% in 2021](#), august 2021.

THERE ARE FOUR FACTORS THAT WILL AFFECT ADOPTION OF THE CLOUD IN 2020.³

1.

Cost optimization will encourage Cloud adoption: through 2024, nearly all legacy applications migrated to Public Cloud infrastructure as a service (IaaS) will require optimization to be profitable.

2.

Multicloud will reduce vendor lock-in: strategies based on several clouds will reduce vendor dependency for two thirds of organizations through 2024. Nonetheless, this will occur mainly in other ways that are not application portability.

3.

Insufficient IaaS ability in the Cloud will delay migration: to overcome the challenge of this lack of labor power, companies that want to migrate their workloads to the Cloud should work with managed service providers and integrators of successful systems.

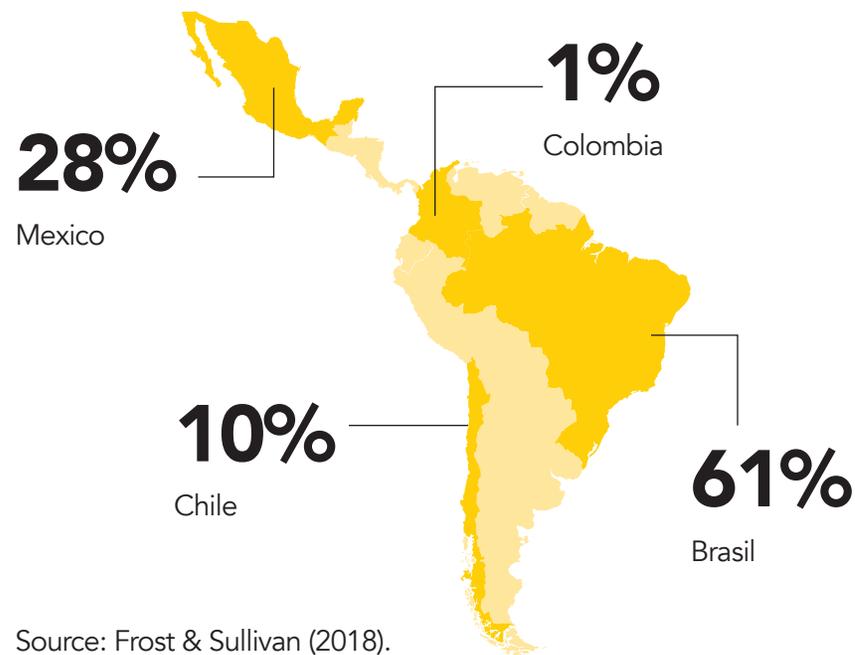
4.

Distributed Cloud allows for greater availability of service: "data microcenters" will be located in areas where there are a lot of users, while "emergent" points of service in Clouds will allow for temporary requirements, like for sporting events or concerts.

THE NEW CONTINENT

The Latin American IaaS market generated 1.8 billion dollars in 2017 and is expected to reach 7.4 billion dollars in 2022, at a compound annual rate of 31.9% driven by the Internet of Things, Big Data and cognitive intelligence.

LATIN AMERICAN IAAS MARKET



³ Gartner. (2020). [4 trends impacting cloud adoption in 2020](#). Junio 2020.



OUTLOOK IN MEXICO

Not being in the Cloud means being cut off from innovation. It means not taking advantage of great opportunities to make processes more agile, increase productivity and improve data security.

But migration to the Cloud does not have to be a particularly dramatic decision or process. It can be done in stages, selecting different levels: partial migration, reconstruction, transformation of infrastructure, through to full migration.

According to IDC, Latin America is heading towards adoption of the Cloud with 62% of companies having already used some Public Cloud solution; of these, the Hybrid Cloud is the strongest tendency in Latin American companies. In Mexico, the proportion is 56%, and in fact the country makes up 20% of the IT market in Latin America.

The native development of the Cloud is on the rise. Nonetheless, many companies have legacy applications that are not ready and may never be ready. So the alternative for many of these organizations has been to resort to Hybrid Cloud models, because they provide benefits typical of the Cloud (centralized administration, security, orchestration and automation) without having to transfer every application there.

Furthermore, with Hybrid Cloud models, companies can also effectively take advantage of the IoT and Edge Computing, as well as other disruptive technologies that will allow them to build flexible architectures that adapt to their needs now and in the future.

Additionally, while technology, customer needs and competition change rapidly, companies require greater protection of their resources and data, which makes the Hybrid Cloud and Multi-Cloud the best solution, because it

⁴Select. (2019). [Servicios en la nube para acelerar la Transformación digital](#) [Cloud Services to accelerate digital transformation] June 2020.

offers agility, scalability, cost optimization, resilience, performance, regulatory compliance and security.

Select predicts that companies and governments will allocate one billion dollars in 2021, just for Public Cloud budgets in Mexico. This is a growth of more than 30%, thanks to the fact that the value proposition of these services becomes very relevant in the new reality of remote work, education and entertainment:

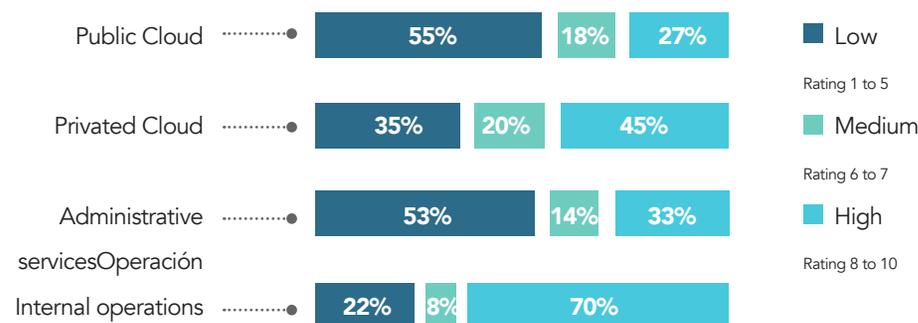
- Accelerated development and launch of new services to respond to market needs.
- Business resilience in the face of disasters and greater availability of services.
- On demand payment means users only pay for what they use and there is no wasted capacity.

Cerca del 50% de este presupuesto saldrá de cinco verticales: finanzas, retail, educación, medios y gobierno. Estos sectores tienen una característica en común: dan atención a cientos de miles de clientes y ciudadanos hiperconectados mediante servicios de negocio basados en Nube Pública como banca digital, educación remota, trámites digitales y comercio electrónico, entre otros.

In contrast to previous years, connectivity is no longer a limiting factor for adoption of the Cloud; telecommunication services are more robust, they have greater capacity and their coverage is extensive in the main cities, business centers and industrial parks of the country.

In this context, in 2021, contracting Cloud services is a budgetary priority for innovation and business transformation.⁵

Operations diagram (Distribution of responses 0%)



⁵Select (2021). [Servicios de nube: ejes de la transformación en 2021](#) [Cloud services: axis of transformation in 2021] August 2021.

WHAT ARE THE PROJECTIONS?

It has become ever clearer that the Hybrid Cloud, which consists of a combination of Private Clouds in external Public Cloud facilities and services, is an ideal model⁷ to satisfy the diverse requirements and demands of a next-generation system architecture, as it takes advantage of the benefits of each type of Cloud implementation.

As a result, the Hybrid Cloud is expected to grow at a compound annual rate of 20%, resulting in a 4.5 billion dollar market for the government of the U.S. by 2025.⁸

Organizations in Mexico appear to be well positioned for the next step on their journey towards the Hybrid Cloud model, with 53% of those surveyed expecting to implement an integrated hybrid environment in just the next five years.⁹

This is because the infrastructures designed and managed in the Cloud provide greater access to future innovation activating next-generation services like Artificial Intelligence (AI) or the Internet of Things (IoT).

To take on these challenges, Cloud providers give organizations the option of taking advantage of the controllable and flexible nature of the hybrid multiple Cloud to create new economic models that can rapidly change when conditions so require.

Investments in Private Clouds with hyperconvergence solutions have grown exponentially. IDC consultants estimate that in five years it will experience seven-fold growth, going from 10.7 million dollars in 2017 to 81.1 million by 2021.

Hyperconverged systems are an evolution of technological infrastructure that tightly integrates the main functions of storage, computing and networks in a single software or device solution, which facilitates the implementation and adoption of Private Cloud solutions in Data Centers.

These growth rates are due to the fact that the Mexican data center market is at a point of inflection between traditional acquisition of servers and the hiring of infrastructure as a service (IaaS), where hyperconvergence will become more important as it is the option for implementing Private Clouds in the context of hybrid Data Centers.¹⁰



⁷Nutanix (2020). [Enterprise Cloud Index 2020](#), august 2021. ⁸Forrester (2020). [Mainframes Are A Critical Part Of Modern IT Strategies](#), august 2021. ⁹Op. cit. Nutanix (2020). ¹⁰IDC (2019) Crecerán 7 veces las inversiones de nube privada en México, con hiperconvergencia, entre 2017 y 2021 [Private Cloud investment in Mexico will grow to 7 times its size, with hyperconvergence, between 2017 and 2021]; IDC, June 2020.

ECONOMIC IMPACT

The use of Cloud computing services has an immediate impact on company and personal budgets since the initial IT-related capital investment is eliminated and transferred to variable costs. This simple transfer from investment costs to operational costs (from Capex to Opex) allows for more opening of businesses, especially small businesses that are more sensitive to investment needs.

For this reason, when one speaks of Cloud computing for small and medium-sized enterprises (SMEs), it's not just about savings, but about the possibility for greater competition, employment and production, which directly affects competitiveness and growth of companies and countries.

The starting point to explain the benefits of Cloud computing is the financial savings. Despite the time which has passed since then, it is illustrative to consider the IT budget structure that IMCO produced in 2011 based on known companies in different subsectors of the economy, as well as the General Public Administration (an effort that has not been repeated in recent years). This gives us an idea of the savings potential of a transition to the Cloud.

The results show that the six subsectors of the national economy that were analyzed were able to have a joint savings at that time of 20 billion pesos, equivalent to 0.16% of GDP. Furthermore, we should not forget that the Cloud has significant social impact as well, such as job creation and increa-

sed citizen participation and collaboration.¹¹

Particularmente, las empresas que adoptan la Nube Híbrida de KIO pueden ahorrar hasta un 80% en gastos de infraestructura y hasta un 30% en gastos operativos, ya que KIO es responsable de proporcionar una experiencia operativa, de infraestructura y de servicios de acuerdo con las necesidades de cada cliente.

DATA CENTERS

Each year IDC carries out a survey of various companies in the country and in 2018 they asked: "How much of your budget went to your own Data Center compared with your investment in external centers?" These executives responded that close to 58% of their resources went to their own infrastructure; but in 2020, those that were interviewed believe that the tendency will change, that 48% will be spent on their own Data Center and 52% on external centers.

These figures are supplemented by the behavior of the server market, which will remain stable over the next four years, while hiring of infrastructure as a service (IaaS) increases significantly.

By **2020**, IDC expects that both **markets will exceed 328 million dollars** and for the following year, the consumption of IaaS will overtake sale of hardware, while in **2023 they will go above 900 million.**

¹¹ IMCO (2012), "Cómputo en la nube": nuevo detonador para la competitividad de México, junio 2020.

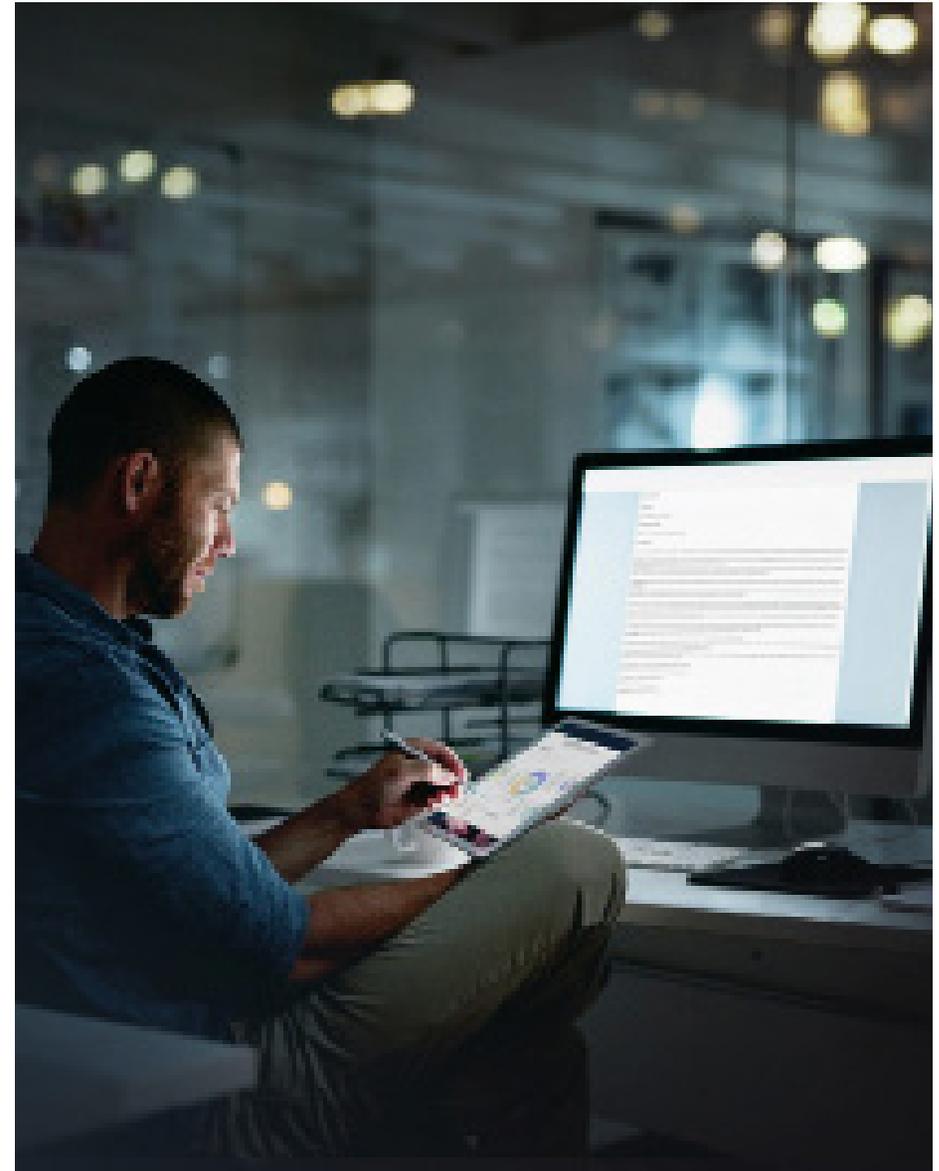
PROGRESS

According to industry experts, around 80% of organizations in Mexico use services based in the Cloud through private and hybrid Cloud models, keeping in mind that government agencies in Mexico are becoming digitalized and are more and more focused on offering electronic government services based in the Cloud, which in turn is encouraging growth of the market for this computational model in Mexico.¹²

It can be seen that in this country there are already developed industries in this area that are beginning to include positions that did not previously exist in their labor force, such as data scientists or Chief Data Officers, to analyze through the Cloud the data created in the company and in this way improve decision making.

Likewise, there are fewer and fewer companies whose main obstacle to adoption of the Cloud is rejection due to lack of knowledge. On the contrary, an increasing number of companies are realizing that the Cloud is a fundamental element for innovation and development of new technologies and businesses.

In this scenario, one of the challenges that companies face is to figure out how to manage several Clouds, both public and private: the subject of the Multicloud is now a real necessity.



¹²DataCube Research. (2020). [Mexico cloud computing market](#) Junio 2020.



THE COVID-19 FACTOR

Since the mobility restriction measures to ameliorate the current Coronavirus epidemic were made known, ensuring the continuity of businesses has become a challenge for companies. With nearly all their employees working remotely, companies had to have solutions that allowed their workers to access the data and applications that they needed, while advancing in their process of digital transformation.

Cloud platforms and collaborative tools that allow for work from remote locations (streaming video systems, applications for calls, videoconferences, chats, etc.) have become indispensable elements for creating and sharing content among different members of a team and, thus, for carrying out the activities of many companies.

In this context, the Cloud in general has played an exceptional role, due to its functions in centralized management, automated updates and pay per use, which also means security and disaster recovery as a service (DraaS).

Cloud Computing is designed to meet the technological needs of large and medium-sized companies that urgently require a system of useful tools for storage and handling of their information, as well as virtual platforms and work software that can create direct channels for continuous interaction with clients, banks, vendors and government agencies, all of this using the Internet.

It is evident that the majority of companies lack their own computing structure which could take care of the previously mentioned tasks. Thus, it is necessary to consider the outsourcing model and work with a Cloud Computing vendor that offers complete service capable of meeting the requirements of any business unit.

Lastly, before implementing any Cloud, it is necessary to be very clear on issues such as compliance, protection and data sovereignty, as well as security, since with the increase in threats and attacks, the protection of critical information that resides in a Hybrid Cloud has never been more important.

In addition, increasingly stringent requirements or regulations such as the GDPR (General Data Protection Regulation of the European Union) and the PCI DSS (Payment Card Industry Data Security Standard), have prompted organizations to secure servers and applications wherever they are running, or risk paying hefty fines and penalties.

The Hybrid Cloud brings great advantages, as long as it is implemented and protected correctly and effectively. It's best to evaluate the different offers beforehand, because costs and differentiators can vary greatly between providers and it's best to avoid unpleasant surprises later.



The New Normal

It's a fact that there will be many differences in certain activities which were previously carried out in a normal way but which won't be possible now. The life we knew will have to change, in accordance with health standards and what the experts recommend.

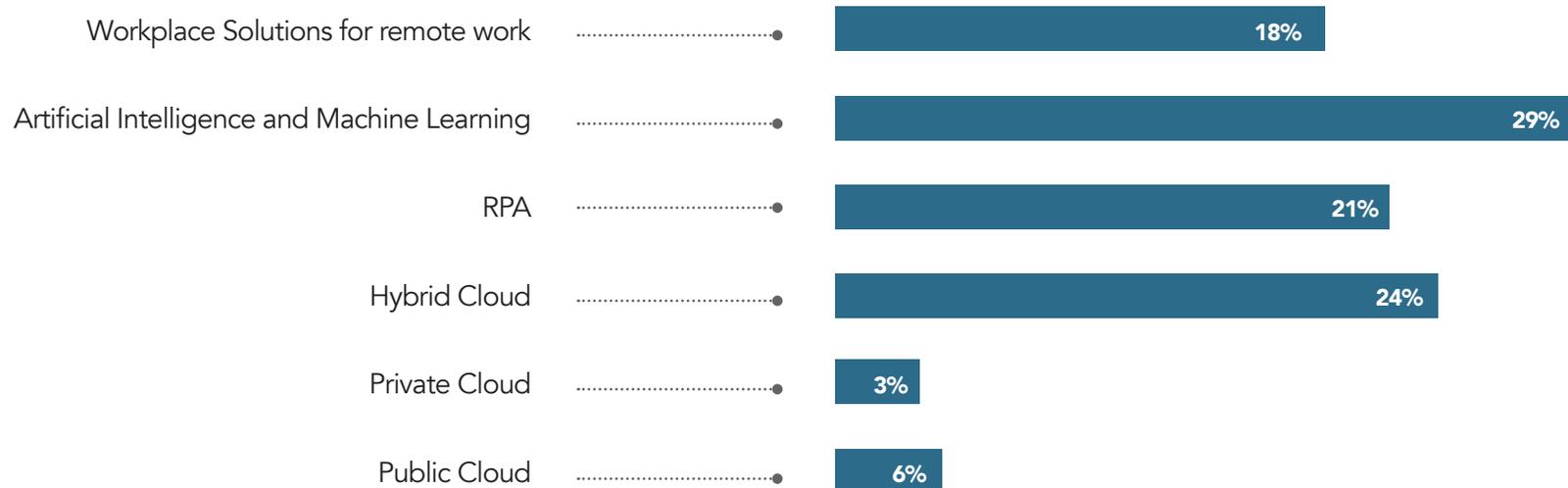
The first thing that companies have to do is evaluate the situation and decide who should continue with home office and who should be at the office. Furthermore, the following questions should be posed: What can be automated? Where should the efforts towards digitalization, security and e-commerce be concentrated? And what are the new needs of our clients?

It is necessary to reinvent business models and learn new paradigms. This might appear difficult, but if you have IT experts as partners, they will guide you and provide you with a solution made to measure.

Maybe it's best to start right away.

The New Normal

What technology will you be evaluating/using in 2021?



SOURCE: vTalk Event: Cómo huir de las Nubes caras [How to flee from expensive Clouds]. IT Master. July 2021.



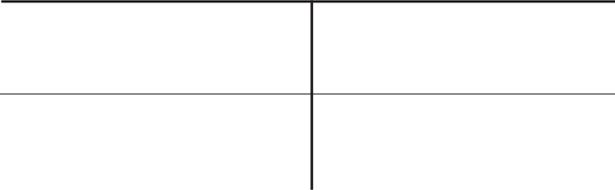
The New Normal

At **KIO Cloud Services** we implement and accelerate your Private, Hybrid or Public Cloud infrastructure so you can reach your business objectives in an agile and cost efficient manner.

Our partners are the most important companies in the market. We place certified specialists within your reach to accompany you in the most effective, rapid and adaptable design and implementation so that your company can take advantage of the benefits of the Cloud in its various modalities. All custom made, without any surprises and as scalable and flexible as you need.

With KIO, you'll have lower consumption costs and you'll improve the experience for your users, in addition to reducing the time for marketing and launch of applications. We offer you a service desk, computer and network managed services, data administration, SAP/HANA administration services or Kubernetes administered services.

Contact a specialist and ask about our offering: Cloud Storage, Cloud Networking, Cloud Monitoring, DRaaS, BaaS, implementation of G Suite and Office 365, Digital Workspace or migrate workloads to the Public Cloud with operational excellence and following best practices. Discover how KIO makes it possible.





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