



LUXOR
—
INVESTIMENTOS

Investors
Letter

October 2024



Manager's Message

"The emergence of the internet and the exponential growth in the ability of computers to process and exchange information mark a revolution for humanity. The impact of this phenomenon on people's lives and, consequently, on companies has been transformative. The most recent chapters in this series of technological advancements enabling all this are cloud computing and artificial intelligence. As investors, we believe we are witnessing a unique opportunity for value creation and return generation. We see a vast addressable market and phenomenal companies leading the industry, benefiting from solid competitive advantages: scale, human capital, technology, and intellectual property."



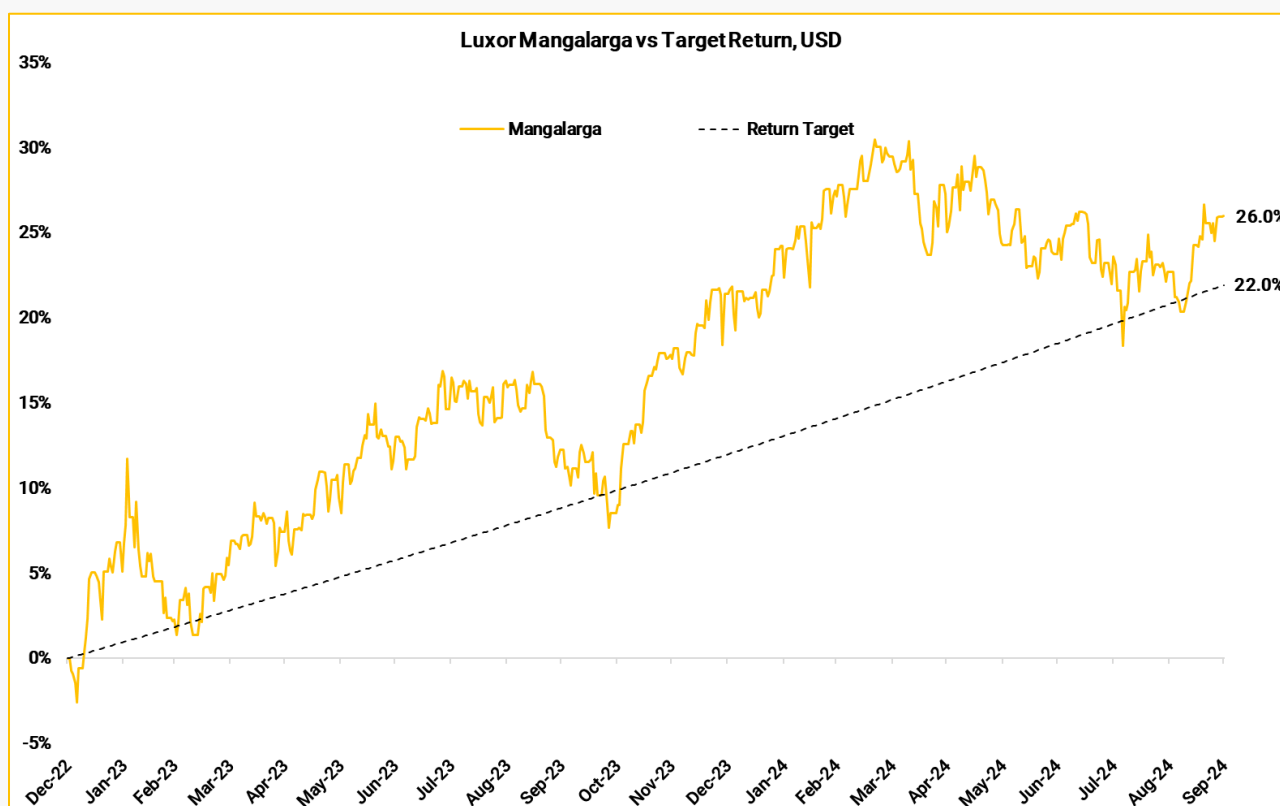
1. Introduction

We have reached the second half of 2024 with positive results, though slightly below our annual target. Despite the performance falling short of our desired level, we are pleased with the success of our strategy to primarily invest in companies with a global outlook. Regarding the portfolio, we made some important adjustments throughout the year, which we will discuss here.

In this letter, we will present our investment thesis in cloud computing companies. These companies offer a combination of factors that are highly conducive to generating returns: a large addressable market driven by the secular

trend of increasing technology usage, impeccable governance, and solid competitive advantages that enable them to capture a significant portion of the value generated across the chain. Furthermore, they exhibit strong cash generation, allowing them to fund their investment and growth primarily with their own capital, while also returning cash to shareholders. Although this is not a new story – we have been investing in this industry since 2017 – we believe it remains a significant investment opportunity. We are excited about the thesis and will detail our reasoning.

2. Mangalarga – Performance 2024



2. Mangalarga – Performance 2024

Mangalarga achieved a positive return of +3.65% in dollars through the end of September 2024. Comparing this result to our annual return target of 12%, we are below our goal; however, it is worth noting that the market fluctuates significantly over short-term horizons, and we still have approximately three months until the year's end. More importantly, we should not forget that we treat the annual target as a guideline while we aim to achieve this outcome over longer horizons.

Looking at the result constructively, despite

the lower-than-desired return in dollars (+3.6%), the fund returned +16.4% in reais. We consider performance in dollars the best measure of return (as explained in our second letter). Nevertheless, the year's outcome highlights the success of diversifying capital geographically. The fund's positive performance is primarily driven by gains from the global equity portfolio (+11.56% for the year). On the other hand, we suffered from poor results in the Brazilian asset portfolio, particularly in equity funds and in Localiza.

Luxor Mangalarga FIC FIA (Cumulative Returns)		
Period	US\$	R\$
2024	+3.80%	+16.41%
6 months	-2.67%	+5.61%
12 months	+12.27%	+21.98%
36 months	+1.07%	+0.77%
60 months	+35.05%	+76.52%



2.1 Portfolio Update

We made few adjustments to the portfolio in 2024. The most significant was the recent divestment from Berkshire Hathaway, a company we have invested in for many years and for which we hold a special appreciation due to the valuable insights from its founders – Munger and Buffett. Our divestment was motivated by three factors. First, we have concerns regarding Buffett's succession. It is evident that there is a high-quality executive team, including Greg Abel, Ajit Jain, and Todd Combs, who are already managing the company, and we trust that they were carefully chosen to ensure the business's longevity. However, we are concerned about the impact of Buffett's absence on the company over the coming decades.

Another factor that caught our attention was the challenges faced by some of Berkshire's

operating companies, particularly BHE and the railroads. The insurance companies have recently performed very well, especially Geico. However, we believe much of the operational improvement story has already occurred, and the increased exposure of reinsurance companies to natural catastrophes adds risk to the company.

The final factor relates to the company's valuation. With the stock's strong performance in recent months (Berkshire is up 30% for the year, vs. 23% for the S&P), the margin of safety has been reduced. An important indicator of the high stock price was the reduction in buybacks throughout 2024, to the lowest level observed since 2018, even at a time of extraordinarily high cash levels for the company. Given this, we opted to divest.

3. Investment in Cloud

3.1 What is the cloud?

The cloud essentially represents a new way of utilizing computers. It is a true technological revolution in which personal computers now perform most of their tasks not on local physical equipment but in remote data processing and storage centers, unknown to the user. In other words, we are witnessing the transition from a world where each office has a room full of large servers and general computing equipment to one where each user has a machine relatively limited in memory and processing capacity but

connected to the cloud, where tasks are effectively carried out. However, cloud computing is not limited to the reallocation of machines and processes. This innovation is accompanied by a significant expansion of computational capacity with the evolution of chips, boards, and data storage equipment, which bring countless new possibilities for technology use, such as those enabled by artificial intelligence.



3.2. What are the main benefits of this new model?

Cloud computing solves several challenging issues inherent in the local computing model. The first of these is task sharing, as files shared in the cloud can be accessed and edited simultaneously by multiple users. Additionally, cloud computing drastically reduces the cost of updates, reinstallation, or reconfiguration on individual machines, whether in software or hardware, as virtual machines can increase capacity and memory without the need for physical intervention. Another point concerns information security, as cloud computing allows companies greater control over their data and significantly aids in backup management. Accessibility is also one of the great benefits of the cloud, especially in a world of remote work and smartphones, where people need to access and edit their files from anywhere. Finally, cloud computing reduces the need to invest in expensive local computing equipment, as personal machines become mere access channels to the cloud. However, it also allows users to utilize powerful machines for project

development or the execution of specific tasks, reducing the need for capital commitment for process evolution or new product development.

In summary, cloud computing makes the execution of complex computational tasks much simpler and more affordable, enabling all users to adopt more sophisticated work tools and promoting enormous productivity gains. Additionally, this entire installed base of data processing enables the development and application of complex technologies, such as artificial intelligence. The practical examples of how companies are benefiting from this new tool are numerous, ranging from inventory or logistics optimization based on data analysis to product and service customization provided online through artificial intelligence. A notable example is the Nobel Prize in Chemistry¹ awarded to Demis Hassabis and John Jumper for developing an AI system that predicts the 3D structure of proteins from their amino acid sequence, greatly aiding drug research across various fields.

1. <https://www.nobelprize.org/prizes/chemistry/2024/press-release/>



3.3. How does this industry work?

The cloud computing industry operates in a fairly straightforward way. Essentially, major providers sell their clients storage or data processing capacity in the form of remote hard drives or virtual machines, on a subscription basis. Thus, consumers of computational capacity are transitioning from a model of purchasing and owning machines and equipment to a pay-per-use model in the form of computing services. Certainly, this new model reduces the need for users to invest in hardware and allows for more targeted consumption, as well as occasional use of certain services, lowering the cost of technology for individuals and companies. These possibilities are advantageous in various circumstances, such as the need to run specific experiments that require far above-normal capacity or companies looking to expand their workforce and scale their technology usage without large capital expenditures.

The services offered by major cloud providers can be contracted at different levels – they can be applications or SaaS, platforms or PaaS, or infrastructure (IaaS). Essentially, “software as a service” refers to a program available in the cloud that the user, whether an individual or a company, subscribes to. An easy example of this type of product is Gmail, provided by Google. When subscribing to the service, all the infrastructure that ensures the continuous operation of the application belongs to the provider, so the user only needs internet access to use the tool. The capacity or memory of their local device is

irrelevant for the program to perform its tasks. On the other hand, the service cost varies according to each user’s needs. Those with large volumes of messages and files within Gmail will have higher subscription costs.

Platforms, in turn, consist of remote work environments that function as large servers, where clients can allocate and manage services such as databases, internet portal management systems, or other applications. In this case, responsibility for the operation and maintenance of these remote environments lies with the platform provider, while the user only needs to use the environment and tools hosted there.

Finally, cloud computing providers also offer infrastructure services (IaaS), which are essentially virtual machines that users utilize, with the responsibility for both software and hardware maintenance lying with the service provider.

Additionally, when contracting cloud computing infrastructure, the client has the ability to remotely adjust the storage and processing of their machines, without relying on direct purchasing or manual intervention on physical machines, as was done previously.

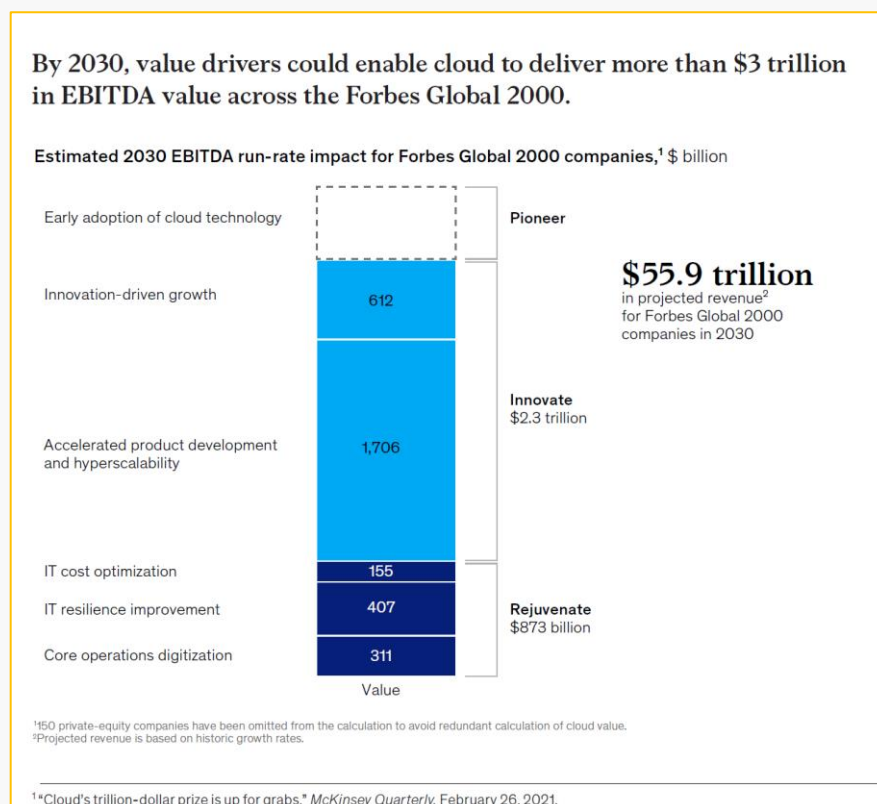
More recently, other applications of cloud computing have emerged, such as ‘gaming as a service,’ where games are sold as cloud-processed applications, eliminating the need for expensive local equipment, like traditional consoles – PlayStation, Nintendo, etc. As a result, complex games can be displayed even on smartphones.



3.4. What is the size of this market?

It is almost impossible to make an accurate estimate of the addressable market for cloud computing, as from today's perspective, it is not possible to determine the total value of the products and services that these technology development platforms will generate. In a 2022 report, McKinsey estimated the value created by cloud computing at \$3 trillion, with only one-third of that value coming from IT infrastructure optimization for companies. The majority of this value arises from innovations empowered by cloud computing: new product developments, automation, operational optimizations, and more. Other studies suggest slightly lower figures, such as Bernstein, which estimates the cloud computing market at \$2.3 trillion, primarily in PaaS and IaaS.

Currently, the three largest cloud providers — Google, Amazon, and Microsoft — have estimated revenues for 2024 of \$45.5 billion, \$108.8 billion, and \$150 billion, respectively. As a reference, the revenue of these three companies accounts for approximately 30% of the total IT spending by the world's largest companies, according to recent estimates. Qualitative research with executives indicates that large companies intend to have at least 50% of their IT infrastructure in the cloud by 2030. Thus, even considering that the cloud computing industry is already of considerable size, there is still significant room for these companies to grow, whether through increased penetration of cloud computing in companies' infrastructure or through the development of new products and processes.



3.5. What is the relevance of cloud computing for users?

Cloud computing users are divided into two main groups: individuals and companies. Starting with individuals, much of the use relates to remote file storage – such as personal documents, contacts, or photos – or the use of tools like the latest versions of Microsoft Office, where file storage and updates are managed remotely by Microsoft.

For companies, integrating local systems with cloud computing platforms is increasingly becoming mandatory to stay competitive in today's world. In terms of cost optimization, cloud computing enables the reduction of

expenses on computers and equipment, facilitates process automation and improvement, and speeds up many tasks that require data and file sharing. From a growth perspective, cloud computing and the possibilities enabled by processing large volumes of data allow for significant advancements in new product development. It also brings companies closer to consumers, allowing for the emergence of new revenue streams that previously would not have been possible. There are numerous examples of all these uses.

Exhibit 17

Companies typically start with cloud to save on costs but shift their focus over time to value-generating opportunities suited to their sector.

Value progression over time

	Cost savings	Business innovation/enablement and new business building	
Banking	<ul style="list-style-type: none"> Data center exit Risk management Corporate function apps SaaS apps Digital workforce apps Contact center apps/chatbot 	<ul style="list-style-type: none"> Settlement processing Mainframe modernization Customer loyalty program Fraud management Investment management tools Mobile apps Auditing system 	<ul style="list-style-type: none"> Climate-risk modeling Mortgage origination Open bank API Wealth-management platform Omnichannel banking platform Marketing automation Customer-engagement platform
Life sciences	<ul style="list-style-type: none"> Data center exit First-level support Field-force scheduling Product prediction demand 	<ul style="list-style-type: none"> Tracking sales-force performance Patient onboarding platform Single-instance ERP apps High-performance computing for R&D Predictive insights on patients 	<ul style="list-style-type: none"> R&D apps Identifying drug candidates Clinical research Predictive analytics in manufacturing Edge analytics
Consumer	<ul style="list-style-type: none"> Data center exit HR-employee churn Route-optimization algorithm Pricing optimization 	<ul style="list-style-type: none"> Data/analytics platform Contact-center apps/chatbot Customer-engagement apps Loyalty management Employee scheduling Warehouse management Supply chain management 	<ul style="list-style-type: none"> Design to value Geospatial analytics for new store location New e-commerce platform Advanced inventory modeling Smart manufacturing
Insurance	<ul style="list-style-type: none"> Data center exit Risk management Lapse-prediction model Data modeling Data storage and analytics 	<ul style="list-style-type: none"> Contact-center apps Next product to sell Partner integrations Customer portal Automated underwriting Financial advisor product 	<ul style="list-style-type: none"> Greenfield benefits business Fraud management Claims management Policy and benefits administration
Advanced industries	<ul style="list-style-type: none"> Data center exit 	<ul style="list-style-type: none"> Enterprise apps Demand forecasting High-performance computing for apps Analytics for predictive maintenance 	<ul style="list-style-type: none"> Product engineering Mobility apps New e-commerce platform Autonomous driving systems IoT/edge analytics Supply chain management

Source: CloudSights



3.6. How are we trying to participate in the process?

Just as we strive to identify companies that will capture a significant portion of the value created by the development of new drugs and vaccines through their competitive advantages, we apply the same approach to capitalize on the value created by cloud computing. We try to understand how the industry is evolving, both in its addressable market and competitive dynamics, and which companies are best positioned to capture most of the value generated by this new technology, and we partner with them. In this case, we see both a significant potential for additional value generation by the industry, as new cloud-dependent applications continue to emerge, and companies in highly favorable competitive positions to monetize this process, such as Amazon, Microsoft, and Google, each in their area of expertise.

Firstly, regarding industry evolution, we consider the growth potential still very large, as mentioned above. Obviously, we recognize that the major cloud computing providers are already enormous businesses. However, data shows that there is still plenty of room for the integration of cloud computing into the internal processes of large corporations. A 2023 McKinsey report showed that only 39% of the surveyed companies had more than 30% of their applications running in the cloud and aim to raise this number to 50%, but the transition process to the cloud occurs gradually within companies for various reasons. Furthermore,

we believe that much of the demand for cloud computing will come from innovations that will be developed over the coming years, through the interaction of this computational capacity being built with new software technologies, such as artificial intelligence.

Another important point of our thesis concerns the product offered by cloud computing companies. Our thesis is that the cloud computing business is not merely a facility with data storage and processing capacity. We believe the main differentiator for cloud service providers also lies in the quality of the software and the way cloud computing platforms interact with their clients. In this regard, we see the competitive position of the major cloud companies as very favorable. Both Amazon, Microsoft, and Google offer much more than data centers to their clients. Whether it is Azure, AWS, or Google Cloud, all are cloud application development platforms with a very high level of software technology, further enhanced by the development of programs available within these platforms, created by third parties. It is also worth noting the high level of investment required by any company looking to venture into this industry. In 2024 alone, these companies have a combined cloud investment budget of around \$100 billion. If these companies were not exceptional cash generators, they certainly could not be leading the development of this transformative endeavor at such a pace.



We know that scale alone is not an insurmountable competitive advantage, especially in a world with so much available capital. However, it is not just about budget. There are enormous barriers in intellectual property, human capital, and complex systems that need to be developed for these platforms to meet customer demands, which provides these companies with very solid competitive positions.

Thus, it seems quite clear to us that the three major players – Amazon, Google, and Microsoft – are and will continue to be extremely dominant in this market, which still has a lot of room for growth. We believe that the winners in this industry will have significant market power, as

3.7. How do these companies differentiate themselves?

We have discussed our investment in the three major cloud providers, but it is very important to note that these are very different companies in every aspect of their business. There are differences in both culture and corporate structure, as well as in the product they offer and, consequently, the client profile each one serves. Because of this, investing in each requires a careful analysis of each specific case.

Starting with Amazon, it is interesting to observe how an e-commerce giant transformed into the world's largest cloud computing provider, competing with tech giants like Google and Microsoft. AWS was born in 2006 out of an internal need within the company. The scale and quality of the computing asset they had built were so significant that the company began

competition will force companies to introduce cloud computing into their processes and as the use of technology becomes increasingly important for products and services offered by companies in various markets. Furthermore, we consider the risk of competition among them to be low. On one hand, the incentive for more aggressive price competition is low, and additionally, there is some segregation in the types of clients each of these three major players serves, associated with a differentiation in the products each offers. For all these reasons, we believe that investments in these companies still have much potential to yield benefits.

selling the use of this infrastructure to third parties as a service. With the launch of services like Amazon S3 (storage) and Amazon EC2 (computing), AWS began its pioneering journey in the world of cloud computing. Over the years, the product has become more sophisticated, and AWS has grown into the giant it is today. AWS's history aligns with its product characteristics – its platform is highly recognized for its flexibility and serves technology companies like Airbnb, Netflix, and Stripe particularly well. It has a stronger presence in IaaS and PaaS services than in SaaS. This case also reflects the importance of a corporate culture that values entrepreneurship and decentralized decision-making, very prominent traits in Amazon's operations since its founding.



On the other hand, Microsoft launched Azure only in 2010, as a response to the impact AWS was having on the market. Despite starting later in developing this product, Microsoft did a phenomenal job with its platform. Leveraging a huge presence as an IT service provider to large corporations and its expertise in software development, the company quickly made Azure the cloud computing platform adopted by most large companies worldwide, with a product that combines PaaS, IaaS, and SaaS services, featuring unmatched products like Office. While Microsoft's lack of pioneering in cloud computing highlights a challenge in innovation, the speed and efficiency with which Microsoft created Azure, disrupting its own on-premise server business, proves the company's competence in adapting and responding to significant competitive threats. Moreover, we consider the leadership of its CEO, Satya Nadella, whom we greatly admire, to be fundamental to this movement by the company.

The recent investment in OpenAI was yet another example of a transformational strategic decision that we consider well-executed by the executive.

Google is certainly a step behind Amazon and Microsoft in the cloud computing business. Google's cloud computing revenue in 2024 is expected to reach \$40 billion, with approximately

one-quarter coming from GSuite, highlighting Google's greater presence in SaaS compared to AWS. Although GCP (Google Cloud Program) also originated from Google's internal infrastructure, the company was neither as agile nor as proficient as Amazon in transforming this asset into a marketable product. Google Cloud Storage and GCP were only launched in 2011, by which time Amazon and Microsoft had already captured a substantial portion of the market. Google's delay in advancing in this market and a poorly executed product marketing strategy resulted in a competitive disadvantage that persists to this day.

Nonetheless, even if GCP is not as successful as the others as a business, Google has done an excellent job leveraging its digital marketing business through applications of cloud computing, such as artificial intelligence. The search algorithm, Google's primary product, has seen significant improvements in recent years as a result of this technology. Therefore, as Google capitalizes on cloud computing advancements more through the enhancement of its own digital advertising products than as a provider of computing services, our investment in the company is not driven by an excessive optimism about GCP.



3.8. What are the risks we see in this investment?

As we described, one of the risks of this investment is the demanding valuations. Our long-term investment horizon, in a way, mitigates this risk, but we still consider it important. It is essential to recognize that a large part of the constructive expectations we have regarding cloud providers is already incorporated into the prices. Even so, considering that innovation will very likely drive the growth of these companies beyond the next two or three years, and that we still find reasonable returns for investment in these companies, even at current prices, we remain invested.

From a business perspective, we see risks, but we remain confident. We consider the risk of more intense competitive dynamics between providers or the emergence of new entrants to be low. However, the technology sector is characterized by disruption. Therefore, we also recognize that we cannot predict how this competitive landscape will evolve over the coming years.

However, another important risk, which concerns us more in this industry, lies in the market power of companies that produce high-performance computing equipment—obviously, we are referring specifically to Nvidia. As high-performance chips are indispensable components of cloud computing infrastructure, a monopoly on chip production by one specific company poses a significant risk to our thesis. This is why Amazon, Microsoft, and Google are investing substantial capital in developing proprietary chips.

Lastly, there is also the risk that the favorable competitive position of these companies could be challenged by regulators. We are constantly monitoring these changes, though we acknowledge our limited capacity to anticipate all possible developments.



CONCLUSION

As we mentioned earlier, 2024 has been a challenging year, but still constructive with good returns. We are below what we aim for, but we are also satisfied with the major allocation decisions we made and confident of fully achieving our long-term return target.

We believe our investment thesis in new technologies will continue to bear fruit and significantly contribute to our success. We are witnessing a true technological revolution, still in its early stages, with the potential to transform many aspects of people's lives and the way companies operate. Thus, the potential size of the businesses associated with cloud computing is enormous, and there is still the risk that we are underestimating its magnitude when viewed from what we are able to envision today. Moreover, these innovations are being led by exceptional companies that are capturing part of this value through strong competitive advantages and good management. Nothing comes without risks and uncertainties, but all the important elements for the success of major ventures are clearly present in this case, which leaves us very confident and hopeful.

Sincerely,
LUXOR INVESTIMENTOS

