



5 TRENDS I DISCOVERED AT THE WORLD'S BIGGEST RETAIL FAIR

In 2024, I had the opportunity to attend the NRF in New York, and I will share the latest updates and insights from the retail industry that I discovered at the world's largest retail trade show.

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“Planet Smart City plans and builds smart and inclusive neighborhoods and cities.”

SUSANNA MARCHIONNI

CEO in Brazil and Co-Founder of Planet Smart City, an Italian company that works with smart neighborhoods and cities and is revolutionizing the real estate sector.

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**“ Be a partner in
big projects, not
the owner of small
businesses.”**

Luiz Barsi Filho

Economist, lawyer, and the largest individual investor in Brazil.

**Simple
Business.**

5 trends I discovered at the world's biggest retail fair

Ricardo Dalbosco

The National Retail Federation (NRF) is the largest and most influential retail trade show in the world. It takes place annually in New York and brings together the main players in the sector, from traditional retailers to innovative technology companies. The NRF is not only a showcase for the latest retail trends, but also a space where disruptive ideas and business strategies are constantly evolving. In this article, I'll share the top five trends I discovered at NRF, the world's largest retail fair.

The NRF began in 1911. Over the years, it has expanded its scope and become the epicenter of retail discussions and innovations around the world. With each edition, the NRF reinvents itself, adapting to changes in the industry and advances in technology.

One of the main reasons for the NRF's reputation is its commitment to innovation. The fair offers a dedicated space for start-ups and technology companies to showcase their revolutionary solutions. These startups often focus on areas such as Artificial Intelligence (AI), data analysis, customer experience and logistics, playing a crucial role in the digital transformation of retail.

One of the highlights of the NRF are the talks and panels presented by industry leaders. Executives from renowned companies share their strategies and visions for the future of retail. Common topics include customer experience, personalization, e-commerce, sustainability and consumer trends.

NRF is a strategic event for presenting innovative technologies. The Internet of Things (IoT), Augmented Reality (AR), Virtual Reality (VR)

and Artificial Intelligence (AI) are among the technologies that have transformed the way companies interact with consumers. Personalization and improving the customer experience are central areas of discussion.

In the midst of challenges, opportunities and transformations, this fair plays an essential role in bringing together brilliant and visionary minds. As the industry moves forward, NRF demonstrates that retail is more than just buying and selling, but is a constantly evolving experience that defines our consumer culture.

In 2024, I had the opportunity to attend NRF in New York and I'll share below the latest retail updates and insights I discovered at the world's largest retail trade show.

1. Advanced technology in Retail

E-commerce continues to grow, with more consumers opting to shop online. The integration of features such as augmented reality for virtual experimentation and chatbots for customer service is enhancing the online shopper experience.

A strong trend is the improvement of retail logistics through technologies such as the Internet of Things (IoT) and real-time tracking. In addition, delivery is being revolutionized by drones and delivery robots.

Autonomous stores, such as Amazon Go, which allow customers to shop without the need for cashiers or attendants, are on the rise. These stores use sensor technology, computer vision and Artificial Intelligence (AI) to track the products chosen by customers and charge them automatically.

2. Innovation in Food Service

Innovation in the retail foodservice sector has been remarkable, focusing on consumer preferences for convenient, healthy and personalized options. These innovations include the widespread use of ordering and delivery technology, making it possible to choose meals from a variety of restaurants with home delivery, and the introduction of autonomous delivery by drones and robots, as I mentioned in the previous topic.

In addition, food trucks and pop-up experiences offer restaurants the flexibility to cater to different audiences and locations. Personalization and healthy eating are emphasized, with technology being used to create customized menus and provide detailed nutritional information.

Other trends include ghost kitchens for online ordering, process automation, the use of augmented and virtual reality in restaurants, the implementation of artificial intelligence in the kitchen, subscription delivery services and the transformation of restaurants into “Restaurants 4.0” with the integration of technologies such as IoT and data analysis to improve efficiency and the customer experience. These innovations respond to the constantly evolving expectations of consumers and will continue to shape the retail foodservice sector.

3. Artificial Intelligence in Retail

The use of artificial intelligence (AI) in retail is transforming operations and interactions with customers. AI enables in-depth personalization of customer service, with product recommendations based on purchase history and preferences. In addition, it optimizes stock management and predicts demand, avoiding problems of excess or





lack of products.

AI chatbots offer 24-hour support, adjusting prices and helping to prevent fraud. Sentiment analysis on social media makes it possible to monitor customer perceptions, improve brand reputation and address concerns. AI also enhances the in-store experience, segments marketing campaigns, optimizes delivery logistics and integrates voice assistants for shopping and information. These AI applications are redefining retail, improving efficiency and the customer experience.

4. LTV in Retail

The Lifetime Value (LTV) trend represents a fundamental shift in companies' strategy, focusing on the value a customer brings in the long term. This approach involves putting the customer at the heart of business strategies, prioritizing the retention of existing customers and offering highly personalized experiences.

In 2021, the LTV in the food and beverage segment worldwide was just over \$330 Americans. LTV analysis allows for the segmentation of customers based on their value, which improves the effectiveness of marketing campaigns and the prediction of future customer behavior. In addition, this trend encourages the continuous improvement of the customer experience, improved inventory management and price optimization, resulting in a more sustainable and efficient retail business.

5. Live Shopping

Live shopping is a growing retail trend that combines live entertainment and online shopping. During live broadcasts, retailers interact directly with consumers in real time, promoting products, answering questions and encouraging purchases. In online commerce in Brazil, the fastest-growing sectors are electronics, fashion, health and beauty, according to a study carried out by Statista in 2023.

This approach involves interactivity, entertainment, education, exclusive promotions and creating urgency, making the shopping experience more engaging and transparent. Live shopping has the potential to reach a global audience and is often enhanced by partnerships with influencers. This trend is changing the way people shop online, creating opportunities for retailers to engage their audience in an authentic way and retain them for longer.

The NRF is more than just a trade show, it's an environment where the most innovative ideas emerge and where the brightest minds in the sector come together to share their visions and strategies. When you get the chance, try to attend the event and stay on top of the world's biggest retail trends.



Ricardo Dalbosco
Personal Brand Strategist and
International Speaker

Corporate Journey: Navigating the Challenges of Leadership in a BANI World

Silvana Buzzi

This is my first article for SimpleBusiness magazine, and I'd like to start by sharing one fact with you: I intend to establish a close communication channel with my readers, almost like a diary of my journey in the corporate world, which began many years ago. For this first conversation, I'd like to address one of the topics that interests me most in my routine as an executive: leadership. But not just leadership in general, but leadership in a BANI world - Fragile, Anxious, Non-Linear and Incomprehensible.

For those who are already familiar with the term, I say that the world is no longer VUCA - Volatile, Uncertain, Complex and Ambiguous. And for those who haven't heard of these terms, they offer an insight into the challenges faced by the contemporary world and were created to make it easier to understand the reality we live in. So is it possible to talk about leadership without taking into account the reality we live in? No, absolutely not.

Everything can seem solid until it stops being so in an instant. A plague can destroy an entire crop, a virus can isolate the world. We don't have control over everything, but we need to develop the ability to thrive in chaos and be prepared and open to such situations.

The world is anxious because of too much information and change. When there is an atmosphere of anxiety, outstanding leaders encourage people to commit to a clear purpose and a well-defined direction. They assign tasks and obligations precisely, reiterating to staff the importance and value of their work. By offering a clear vision of the destination and a deep understanding of the purpose, anxiety dissipates and targeted action takes center stage.

There are many examples that illustrate non-linearity. One of them is the world of technology, where a new thing comes along before the previous one goes out of fashion. We don't want our companies to become the next Blackberry. One of the messages of the mov-



ie, for those who haven't seen it yet, is that past success doesn't guarantee the future. But we already know that, don't we? However, often, in the rush of everyday life, we end up ignoring this powerful fact.

Finally, the incomprehensible. Despite appearing to be a world governed by logic, the reality is that it proves insufficient to elucidate all events. This incomprehension, sometimes even generated by an excess of data, can be more of a hindrance than a source of guidance. But we must move forward, even if we don't have all the answers.

Overall, the BANI world teaches us that today's certainty can be disproved tomorrow. Therefore, we leaders need to emphasize resilience and decision-making must consider all possible and impossible scenarios.

But what's new in all this? In the stormy seas of the accelerating corporate world, what's new is being who you can be, being the best possible version of a leader and always being aware of the changes in the world. Transmit clear values, inspire confidence and cultivate a corporate culture that is a beacon of excellence, future and integrity, always respecting your time.



Silvana Buzzi
Executive Director of Sterna Café, Former
CEO of ABF (Brazilian Franchising Association).



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of determination and persistence!



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The adoption and impact of AI in the Public Sector

Cesar Patiño

Since it was coined by computer scientist John McCarthy in 1955, the term “Artificial Intelligence” has been a constant element in the collective imagination, present in works of fiction such as “2001: A Space Odyssey” (1968), “The Terminator” (1984) and “A.I. Artificial Intelligence” (2001). Whether portrayed as villainous or charming, AI has captured people’s imagination.

However, in reality, the development of Artificial Intelligence systems has been gradual due to the limitations of computing capacity to store and process data. In the last 10-15 years, however, we have witnessed an exponential acceleration of these capabilities, driven by Cloud Computing, Big Data and, more recently, NVidia’s powerful GPU processors. The trend indicates that this evolution will continue to accelerate with the introduction of quantum computers to the market.

With the emergence of NVidia’s powerful GPU processors, we have also witnessed the advent of Generative AI, where LLM (Large Language Models) such as ChatGPT and Gemini have revolutionized the market, democratizing ac-

cess to AI for ordinary users and companies, bringing with it enormous economic potential. According to a report by consulting firm McKinsey, AI systems have the potential to contribute US\$13 trillion to the global economy by 2030, and this figure could increase even further with the growing interest in Generative AI.

This reality explains why private companies are in a “gold rush” to implement AI solutions and capture a slice of this value.

However, when it comes to the public sector, discussions generally focus on issues such as legislation, regulation and ethics in the use of AI. Globally, we see initiatives such as the European Union’s Artificial Intelligence Act in Europe and the Brazilian bill PL2338/2023, which seek to establish guidelines for local regulation of AI.

Despite the challenges, AI has the potential to significantly improve government operations and meet the needs of citizens in new ways, from traffic management to the provision of health services and the processing of tax forms. In addition, its adoption in the public sector can increase employee satisfaction

and the quality of the services offered.

Disruptive technologies such as AI, especially when combined with other technologies such as Blockchain and IoT (Internet of Things), have the power to transform governments, enabling personalized responses to citizens, automation of back-office processes, fraud detection and prevention, among other applications. Several governments have already begun to adopt these capabilities to improve their services and engage citizens in new ways.

Around the world, governments are adopting AI capabilities to improve and support public services offered to citizens. Some applications of AI in the public sector include:

Streamlining Citizen Service: The implementation of AI tools, such as chatbots, to respond to citizen queries in an automated way. For example, these systems can help apply for social benefits, perform triage in public health services, make appointments at government agencies, send automatic alerts for issues such as renewing a driver’s license, health exams or school enrollment, among other services.

Citizen engagement: AI is used to collect and analyze feedback from millions of citizens on policies or legislation, through online public consultations. In the US, for example, AI was used to analyze citizen sentiment based on 21 million online comments about the US government's Net Neutrality policy.

Fraud detection, prevention and investigation: AI systems are routinely employed by government regulators and financial institutions to track down illicit financial transactions, such as fraud and money laundering.

In Armenia, AI helped the tax agency detect incorrect transactions, resulting in a significant increase in its revenues. In Brazil, AI identified 500 companies owned by civil servants responsible for overseeing the contracts of these companies. The project was funded by the World Bank through the Disruptive Technologies for Development program.

Robotic Process Automation (RPA): AI automation tools are used to automate routine tasks, such as transferring data from spreadsheets to computerized systems, which were previously done manually. As well as reducing time and costs, this automation eliminates errors and rework, increasing efficiency and citizen satisfaction with public services. In the UK, for example, RPA processed 30,000

pension applications in two weeks, a task that would have required thousands of hours of manual labor over many months.

Providing Personalized Services: AI is being employed to offer personalized services in countries such as Estonia, Denmark, the UK, the USA, Singapore, Korea and Japan. In the UK, for example, AI has helped the government to classify and simplify 2 million web pages in order to provide more citizen-centric services.

Analysis and Decision-Making: AI is used to aggregate and analyze diverse data, such as household data, surveys, school enrollments, satellite images, among others, in order to produce insights into public policies and identify areas in need of improvement.

Compliance and Risk Management: AI systems are used to cross-reference and reconcile large volumes of data from various sources in order to create alerts of non-compliance. For example, tax authorities can use AI to track down taxpayers who use duplicate profiles to evade taxes, while social security programs can employ AI to verify the eligibility of beneficiaries.

However, despite the transformative potential, many public institutions have yet to adopt this technology due to legal restrictions, a lack of investment and skills in AI, and an organizational culture that can be resistant to change.



Compared to private organizations, the public sector faces some legal restrictions and risks in adopting AI systems.

- **Ensuring trustworthy AI:** Due to their responsibility to serve the public equitably, government entities face rigorous standards when dealing with crucial AI issues such as reliability, safety, ethics and fairness.
- **Investment in AI is not a priority:** Government budgets prioritize specific programs and activities, leaving investments in underlying technologies such as AI, which often play a secondary role in public service strategies, on the back burner.
- **Lack of AI and data management skills:** Government agencies lack essential AI skills, which compromises their ability to implement and operate solutions of this nature. Non-technical employees, such as department directors, buyers and policy-makers, often lack adequate knowledge about data and AI.
- **Cultural Obstacles:** Public sector organizations face challenges in adopting new technologies, being less agile than private companies due to established practices and processes. Thus, the adoption of transformative technologies, such as AI, can be hampered if agility is not part of the organizational culture.

Currently, at least 50 governments have developed or are in the process of developing an AI strategy. However, the pace of AI adoption is uneven and there are no countries from the African or Latin American regions, for example, in the list of the top 20 countries in the AI Readiness Index developed by Oxford Insights.

This imbalance in the speed of AI adoption could have the potential to lead to greater inequality between rich and poor nations.

To accelerate the adoption of AI, the cre-

ation of an AI innovation center in government could be a viable solution, bringing together human and financial resources to support initiatives from sectoral ministries across government. This center could also facilitate collaboration with the private sector and academic institutions to drive research and development.

And in this regard, on March 7, 2024, the National Council for Science and Technology met, with the President of the Republic present, to address the strategic agenda: *Advances in Artificial Intelligence in Brazil*, also including civil society actors and experts.

The Council's debate will take a holistic view, divided into 4 axes:

Axis 1: Challenges to increasing the country's digital capacity and investment in R&D, development of the AI production chain.

Axis 2: Opportunities and risks associated with AI applications.

Axis 3: Impacts and opportunities of AI in the world of work.

Axis 4: Artificial Intelligence and Information Integrity.

This is just the start of a journey by the Brazilian government that we hope will unlock the full potential of AI responsibly and ethically for the benefit of society and that, as citizens, we must follow and make the necessary demands.



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Biohacking e Alta performance

What is biohacking?

Andryely Pedroso

Have you ever imagined increasing your daily mood by applying simple techniques to your routine? The best way to optimize your mood is to understand which habits, foods and supplements can optimize your release of “chemical messengers” that improve alertness and concentration. In this article, you’ll discover 5 biohacks, or biohacking techniques, to boost your personal and professional performance.

Biohacking is an approach that encompasses a series of practices designed to optimize physical and mental performance, seeking to increase longevity and overcome human limitations. These practices involve lifestyle changes, genetic tracking, the use of technology and body monitoring devices, nutritional strategies, among other biohacking techniques.

Here are five biohacks that can improve your daily mood when incorporated as habits into your routine.

1. Exposure to natural light

Exposure to natural light in the morning can be an effective biohack for optimizing various aspects of health and mood. Sunlight plays a fundamental role in regulating the circadian cycle, which is the approximately 24-hour biological cycle that influences daily mood, hormone release, metabolic functions and sleep patterns.

When you wake up, try to expose yourself to natural light to suppress melatonin, a hormone associated with sleep. This exposure to sunlight in the morning, before noon, will help synchronize the circadian cycle, promoting a better mood during the day, mood regulation, alertness, cognitive performance and a healthier sleep pattern.

2. Cold therapy

Cold therapy is a biohacking technique that has gained popularity due to its potential benefits for physical and mental mood. One of the most common forms of cold therapy is the practice of taking cold showers in the morning.



By prioritizing cold showers in the morning, in addition to increasing alertness due to the release of norepinephrine, a neurotransmitter associated with vigilance, other benefits can be associated with this practice, such as reducing inflammation, relieving muscle pain, speeding up recovery after intense exercise and improving sleep.

Cold therapy can have positive effects on mental health, helping to reduce stress and improve mood. However, it is important to note that cold therapy may not be suitable for everyone, especially people with pre-existing medical contraindications. Before adopting any biohacking practice, including cold therapy, it is recommended to consult a health professional to ensure that it is safe and suitable for your individual needs.

3. Morning exercise

Morning exercises are often considered an effective form of biohacking to improve physical and mental health, providing benefits for daily mood. Here are some of the benefits of morning exercise:

- **Increased mood and alertness:** Morning exercise stimulates blood flow and increases the release of endorphins, neurotransmitters associated with good mood. This contributes to an immediate increase in mood and alertness.
- **Balancing body weight and metabolism:** Regular exercise, especially in the morning, can contribute to regulating body weight and metabolism. Increased physical activity in the morning can positively influence energy balance throughout the day.
- **Improved mood and reduced stress:** Exercise releases endorphins, which have natural analgesic effects and promote a sense of well-being. In addition, morning physical activity can reduce levels of the stress hormone cortisol, making for a more productive and less stressful day.
- **Optimizing cognitive performance:** Studies suggest that physical exercise can improve cognition, concentration and memory. Exercising in the morning can therefore contribute to

optimized cognitive performance throughout the day.

Morning exercise can be considered an effective biohack for improving both physical and mental health, providing benefits that go beyond physical conditioning.

4. Hydrating as soon as you wake up

Hydrating in the morning is a simple but powerful biohacking technique that can improve your mood and the general functioning of your body. When you wake up, you're usually dehydrated due to a prolonged period without drinking fluids during sleep. Including hydration as soon as you wake up can be considered a biohacking technique for several reasons:

- **Improved brain function:** Water is essential for proper brain function. Mild dehydration can already affect concentration and cognitive performance. By ensuring adequate hydration in the morning, you can improve mental clarity and mood throughout the day.
- **Promoting physiological function:** Hydration is crucial for many physiological functions, including regulating body temperature, transporting nutrients and eliminating waste. Keeping the body well hydrated in the morning contributes to the efficient functioning of these processes.

When you wake up, set yourself the goal of drinking more water than you're used to. Before drinking any other liquid or consuming any food, drink between 300 and 500 ml of water to hydrate your body. By adopting this biohacking practice, you can optimize your daily mood and improve your body's functioning right from the start of the day.

5. Drink coffee at the right time

Many people wake up drinking coffee, even before drinking water. This habit can be bad for your mood for a number of reasons. There is no ideal guideline for everyone, as sensitivity to caffeine, the stimulating substance in coffee, is individual. However, there is evidence that the best time to drink coffee is in the late morning or early afternoon, when cortisol levels are lower.



Cortisol, despite being known as the stress hormone, also has an impact on alertness and focus. This hormone acts to regulate metabolism, immune system response and blood pressure.

According to neuroscientist Steven Miller, peak cortisol production occurs on average between 8am and 9am, and is impacted by the time each person wakes up. Cortisol follows a specific rhythm for your sleep-wake cycle, with peak production between 30 and 45 minutes after waking up and slowly decreasing throughout the day.

Drinking coffee when cortisol levels are at their peak can further increase levels of this hormone. For people with a high sensitivity to caffeine, this habit can increase anxiety and impair concentration. What's more, you can build up a resistance to caffeine's stimulating effect, requiring larger doses as the days go by. For this reason, it is essential to "listen" to your body, understanding how it responds to certain stimuli.

The best time to drink coffee is between 9:30 a.m. and 11:30 a.m., according to neuroscientist Steven Miller, from the Military University of Health Sciences (USA).

Some people can benefit greatly from replacing coffee with green tea, which not only contains less caffeine but also l-theanine, an amino acid that balances the stimulating effect of caffeine. It's important to remember that some people are not allowed to drink coffee, regardless of the time of day.

It is essential to seek professional help to include personalized habits in your routine and find the best biohacking techniques for your routine in search of high performance.



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SUSANNA MARCHIONNI

“Planet Smart City plans and builds smart, inclusive neighborhoods and cities with integrated smart solutions. The idea for the project came from our global CEO, Giovanni Savio. It was almost a dream at first, as it was an innovative and disruptive idea, and it was hard for people to believe in what we were proposing.”



Interview

Susanna Marchionni



Tell us about Planet Smart City.

The idea for the project came from our global CEO, Giovanni Savio. It was almost a dream at first, as it was an innovative and disruptive idea, and it was difficult for people to believe in what we were proposing. The world was starting to address the issue of high-end smart cities. We adapted it to a model of smart cities and neighborhoods in an inclusive way. We wanted to do a pilot project in Brazil, which is what we did. Smart City Laguna, located in Ceará, is the first inclusive smart city in the world.

What is a Smart City?

Planet Smart City plans and builds smart, inclusive neighborhoods and cities with integrated smart solutions. We have four fundamental pillars: technology, the environment, urban planning and social inclusion. We have coworking spaces, shared services, an innovation hub, urban gardens, a sewing lab, a free app for residents that is the city's dashboard, social management and much more. A partnership between Planet and the residents. Living in a smart city is different: all residents can benefit from the services on offer, but everyone has duties too. You have to take care of the city like you take care of your own home, you have to understand that you belong in the environment where you live.

“Planet Smart City plans and builds smart and inclusive neighborhoods and cities, with integrated smart solutions. We have four fundamental pillars: technology, the environment, urban planning and social inclusion”

Explain the company's business model.

We have a business divided into 2 parts, the first is classic real estate, selling plots, houses and apartments. The second is digital. We earn commissions by selling products and/or services through our app, which is used by everyone in the city.

You have an internal app for the city's residents to use and work with, another innovative initiative. How does it work?

The app is the “city control panel”. All residents register and have access to

it. They can use it as they see fit, or if they prefer, they can start a business within the app itself. Residents can, for example, choose a drill within the app, reserve it, open the electronic lock with a QR Code, use it and then return it. In terms of entrepreneurship, residents can sell products and services within the app to the whole community. We take a commission from the sales, part of which goes back to the residents for social projects (workshops, sewing labs, English courses, etc). The idea of the app is to benefit everyone in the city, it's another one of our Smart solutions.

You mentioned social management, what would that be like?

We have a social manager, from Planet itself, who accompanies the residents in the first instance, with the aim of getting them to live in the city and belong. We

set up residents' committees for various issues. Every need of the residents has a committee that accompanies the whole community. Our social manager helps, gives the necessary support so that people can resolve all these issues independently.

How many people live in a Smart City on average?

It totally depends on the type of project, we have the building, up to 400 units. The district, from 400 to 1,000 units and finally what we call the

neighborhood or city, of more than 1,000 units. The larger the scale of the project, the more we can offer shared services.

What are the criteria for selecting a region to set up a Planet project? And how does the process for establishing a Smart City work?

The criteria are to be close to capital cities and in areas with a large housing deficit, so that projects can develop more quickly. We need scale to offer this quality of infrastructure. The process is quite “normal”. We draw up the project,

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submit it to the relevant bodies for approval and once it's approved, we get on with construction.

Planet Smart City is an innovative company with innovative concepts. In your opinion, what is the company's biggest differentiator?

There are two elements that I consider fundamental in Planet's projects, the use of the app and the work of social management, which are the most impactful.

Where does the company have projects? What are the differences?

We have projects in Brazil, Italy, India and the United States. We're about to launch a project in Colombia. Incredibly, the projects and demands are similar. To be honest, there isn't much difference. The main difference is the architecture, which we adapt to the location we're working in. I could say small differences in culture, for example, the sport that is practiced there, but we always customize the project according to the public. In general, people want the same things.

What projects are there in Brazil?

In addition to Smart City Laguna in Ceará, we have Smart City Natal in Rio Grande do Norte, a third project in Ceará near Beach Park and vertical projects in São Paulo.

There has been a lot of talk about ESG, what environmental policies does a company use in a Smart City and what is the impact?

First and foremost, the concept of planning. Planned streets, bus lanes, cycle lanes, LED lighting, water reuse, etc. We don't use asphalt, instead we use interlocking flooring, blocks that are fitted one next to the other, mean cheaper maintenance, are slip-resistant, don't generate heat islands. We work with a very high quality drainage network, so when it rains there is no water in the streets. Every detail of the projects has a direct impact on the lives of residents and the preservation of the environment.

What are the main difficulties and greatest demands in implementing a Smart City?

I could say there are two. The first is the bureaucracy involved in approving the project. The other is for people to understand and believe in the idea. As we are offering something new, there are many doubts and misgivings, but once they understand the idea, the concept, they fall in love with the project.

Do you believe that this city model is just the start of a trend? Why?

Yes. In the cities of the future, the interaction of technology, connectivity, shared spaces and social management activities I think will be indispensable. Taking care of the common good should become normal.

Artificial Intelligence and 5G are in the spotlight, with 6G expected to arrive in a few years. Are you already looking at this and do you have any projects in the pipeline?

Let me tell you something strong but honest: in Brazil I find projects that have neither water nor sewage. Technology needs to change people's lives. Thinking about Minha Casa Minha Vida, we need to think about the basics first, something simpler. Our app has a direct impact on residents' lives, but we don't have room to talk about 5g. We're talking about houses being sold for 120 to 160 thousand reais. Unfortunately, the basics are often lacking.

Is there a public-private partnership?

The project is 100% private and we build it ourselves. We choose an area, do all the design and once we've obtained all the necessary authorizations, we (Planet) start the project ourselves and build the entire structure.

Do authorities from cities close to a Smart City ever contact you to do some kind of joint project?

Yes, there are mayors who come to us.

Planet Smart City is a totally disruptive company. What aspects should a company pay attention to in order to be innovative?

Dreaming big, doing something different from the market requires taking risks. I believe that to be innovative you have to dream big, be resilient and never give up.

What projects are underway and how much does the company expect to earn in the coming years?

In Latin America, we have a project that will be launched in Colombia. We are developing another in Italy, in Turin, where we have the "Competence Center", a center with more than 400 employees, engineers, architects, urban planners, etc. They are the ones who create the projects, look for intelligent integrated solutions for the projects and are consultants for us at Planet and third parties. The intention is to reach all of Brazil.

How much did you make last year?

We closed 2022 with US \$100 million in total turnover for the group.

You've already received several awards. Tell us about the responsibility of being a forerunner in such an important environmental issue.

"In the cities of the future, the interaction of technology, connectivity, shared spaces and social management activities I think will be indispensable."

It's a great source of pride. I moved from the other side of the world with a dream that came true, but it's Planet that receives the award, it's teamwork being recognized. The biggest recognition was at the UN, we competed with 3 countries and won, it was a huge honor. The prize was US\$1

million to put towards alternative energy projects. I can see how this has an impact on others. I always try to convey optimism and ethics, working well and correctly brings positive results.

A message for entrepreneurs within the "Smart" context.

I'm naturally an optimist. Nothing is easy, but we need to be optimistic and get things done. Every little thing we do in our daily lives can have an impact on hundreds of people and cause huge changes.



font: planetsmartcity.com.br/





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When innovation meets purpose

Tatiana Fonseca

I'm an electronics engineer. I graduated almost 25 years ago, and have been dealing with technology on a daily basis ever since. My professional experience has largely been built up in the telecommunications sector. I'm also an executive - I've held leadership positions for practically my entire working life. Seeing the world through these two lenses - that of an engineer and that of an executive - instilled in me (but, in fact, I've had it with me since before) the willingness, having encountered a problem, to act to solve it. Equating the problem and structuring a solution - that's my approach to difficulties.

This introduction is necessary to understand the story that follows.

In 2018, my son was diagnosed with ASD (Autistic Spectrum Disorder). It's a situation that no amount of training in any field can prepare you for: no one is (or ever will be) ready to receive this news. The mother I was, as you can imagine, felt a profound impact. And it still reverberates to some extent; it takes time to process, assimilate and, in a way, say goodbye to long-standing expectations about the future.

But the impact wears off - and in my case, once it had, the engineer and the executive soon took over the reins. My son being autistic was something that demanded the best of my ability as a problem solver - well, if anything in the world was definitely worthy of my best, it was that. And I soon found myself asking myself a question that a businesswoman would ask herself:

how come I didn't see this before? What could I have done to detect my son's condition earlier? He was just under two years old when we received the diagnosis.

Guided by this question, I began my search. I tried to find tests, techniques, protocols, technologies and treatments. I came across techniques and treatments that either bordered on ineffectiveness or were simply ineffective. It was frustrating, distressing. But, in a way, it was liberating: I saw that it wasn't me who hadn't done enough to detect my son's condition. There was simply nothing available at the time to help diagnose it.

To give you an idea, in 2018 my son was 1 year and 10 months old. In the USA, it would already be possible to have a diagnosis - there, children can be diagnosed before the age of 3. In Brazil, the most common diagnosis was only after the age of 3 - a delay that greatly aggravates the condition of those with ASD. Without a diagnosis, there is no report, and without one, there is no treatment protocol.

What's worse is that autism varies from support level to support level, depending on the comorbidities the child has - and the list is difficult to face: epilepsy; sleep disorders; ADHD (Attention Deficit Hyperactivity Disorder); gastrointestinal and eating disorders; anxiety; depression and it goes on and on. According to research, 95% of children with ASD can have up to five of these comorbidities at the same time. My son



had many of these at certain times.

I then realized that I would have to look elsewhere for support. I went to the United States to find out what was being done there. I learned about diagnosis and protocols for treating comorbidities and started to implement them, but I still had to think about how to treat the sequelae of a past that I still didn't know how to deal with - neuroinflammation. Obviously, my question was whether this had affected my son neurologically and could delay his progress with the therapies. A parenthesis here to explain to typical parents that the main challenge in the life of an atypical family is to race against time and within the window of opportunity (age) where the child has greater neuroplasticity, making them evolve in a more consistent and lasting way. The ones that most caught my attention were the treatments that followed a path that I had known very well for a long time: technology.

After extensive research and talking to trusted doctors, I found something that really captured my attention: it was a treatment called MeRT (Magnetic Resonance Therapy), a personalized protocol based on transcranial magnetic stimulation (rTMS). It's a non-invasive, painless treatment that doesn't rely on medication. rTMS has been used for over 30 years and has been approved by the FDA and Anvisa for use in chronic depression.

However, traditional rTMS does not differentiate between patients based on their specific condition. The stimulation protocol is always carried out with the same parameters, both in terms of the frequency applied and the region of the brain where the stimulation takes place. MeRT emerged as an evolution of rTMS. It is a personalized protocol, based on brain wave pattern dysfunctions identified in the patient's electroencephalogram. In this way, each patient has a unique protocol, with an individual stimulation frequency and different stimulation regions, depending on the real needs that the patient presents based on the analysis of their electroencephalogram.

This protocol has been successfully used off-label in the United States for more than 10 years for various neurological conditions such as PTSD (post-traumatic stress disorder), cerebral concussion, ASD, ADHD, anxiety, cognitive

optimization, among others. Its use has resulted in successes documented in several published articles. There is no longer the "one-size-fits-all" model that has characterized the treatments available to date. MeRT acts on the dysfunction, whatever its cause - and manages to improve brain function.

When we started treatment, we immediately saw incredible benefits in our son's life. The improvement in his general development was clear to see: his state of presence, the quality of his sleep, the increase in speech intention and socialization, among other important gains. At that moment I knew for sure that I would need this treatment continuously in our son's life. But how to do this, given that the treatment is long-term and only offered in the United States? How to reconcile work logistics with the need to spend between 40 and 60 days abroad, not to mention the exorbitant costs of this endeavor?

The reader who has followed the story so far has seen the story of someone who saw no other way out than to take the problem in hand and work on it. It's not even a question of creating your own solution - after all, we're talking about a complex issue that involves cutting-edge science from various fields. He couldn't make the "wheel" - but there had to be some "wheels" to be found. In Brazil, as far as treatments for ASD were concerned, there was still a huge amount of room for evolution.

That's when the engineer and executive in me needed a "third face": the entrepreneur. We decided to open a clinical center to offer the MeRT protocol exclusively in Brazil. In this way, it would be possible to treat our son in Brazil, and also offer this possibility to all the families who wouldn't be able to make the trip to enjoy the benefits of this treatment. Now that we've been up and running for six months and are moving into our second unit, and despite the immense challenges that come with starting up in Brazil, I can say that the results have been reassuring. Many families have already been positively impacted by MeRT, with fantastic reports of improvements in patients' quality of life, which is our main purpose. Best of all, we've only just begun.



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Gaming a new avenue of growth for streaming platforms?

Gustavo Vilaro

The state of the streaming market in a nutshell

Once upon a time, there was a company called Netflix....

...which “pivoted” from its DVD rental business to create a streaming video distribution business. Netflix grew, taking advantage of the evolution of internet penetration in many countries, started producing its own content and today is one of the most important distributors of video content directly to the consumer in the world.

Over time, in order not to be left behind, the studios have launched their Direct to Consumer (D2C) video distribution platforms. In parallel, traditional pay-TV companies have also launched their streaming platforms or “OTTs”. The result is that today consumers have dozens, if not hundreds of options available to them.

And, as it's not all flowers, in the course of 2022, Netflix slowed down its growth rate, causing its share price to fall significantly. They themselves publicly admitted that the reality was worse than they had expected, according to The Economist.

On the other hand, studios have been reviewing their streaming strategies after having achieved disappointing results in 2022 with their D2C business. For example, NBCUniversal made a loss of \$1 billion in the last quarter of 2022. Paramount and Warner Bros Discovery had losses of US\$2 billion in consolidated 2022, while Disney had losses of US\$4 billion, according to a report by Telesynthesis.

The result of this situation is that the streaming market is expected to grow much less than in the past. Globally, according to data from Statista, the stream-



ing market is showing signs of saturation, after almost sixfold growth in the last six years, and is expected to reach US\$124 billion by 2028.

In Brazil, also according to Statista, after years of high growth in the number of streaming subscribers, driven by the increase in fixed broadband density, a slower pace is expected in the coming years.

The gaming market versus the streaming market

According to Statista, the global video gaming market was worth US\$ 330 billion in 2022 and is expected to grow by 8% a year until 2027, reaching US\$ 500 billion. Although it has historically grown less than streaming, the gaming market is around 3x larger and this 8% growth represents double what is expected for streaming.

According to The Economist, consumers globally are expected to spend around \$185 billion on games by 2023, 5 times more than on movies and 70% more than on streaming platforms. What's more, gaming is no longer a child's hobby; console gamers in their 30s and 40s already outnumber teenagers and people in their 20s.

But this gaming market potential is not something exclusive to foreign countries. In Brazil, there is a significant interest in video game consumption, on a variety of platforms, according to research carried out by Statista.

Games as a content distribution channel

Recently, games have become movies and intensified as a content distribution channel.

At the beginning of 2023, for example, a new Harry Potter title was released. It was the second most successful in history, but it wasn't a movie... but a video game.

This Harry Potter success is an example of how games have the potential to overtake traditional media as a form of entertainment.

According to The Economist, it's not just movies that are becoming games. The opposite is also happening, such as HBO's "The Last of Us" and Apple's "Tetris". Audiences are also increasingly consuming traditional media through games. For example, the latest season of "The Walking Dead" has become an interactive game on Facebook and musicians like Ariana Grande play concerts on "Fortnite".

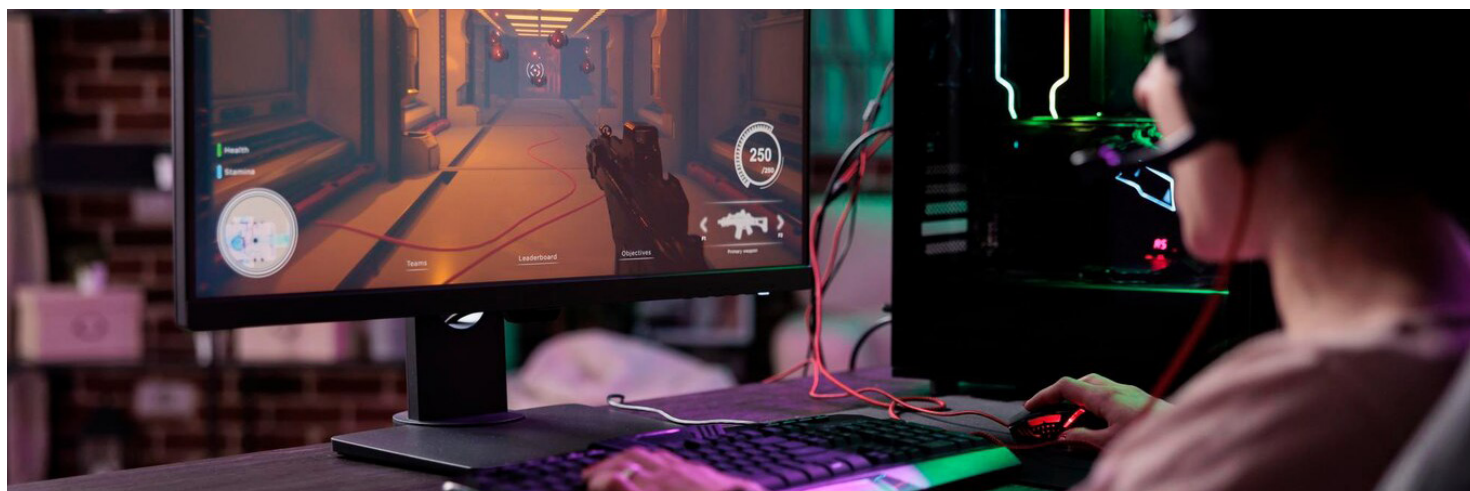
The proliferation of smartphones, which act as a "pocket console", adds up to hours of fun on the move. What's more, SmartTVs and streaming platforms should boost this even further, as they can bring games into living rooms without the need for dedicated hardware. Apple and Netflix, for example, are complementing their streaming offerings with games.

In this context, according to Techcrunch, after signaling in 2022 its intentions to expand into cloud gaming, Netflix launched an app in 2023 that will allow subscribers to play games on their SmartTVs. Nicknamed "Netflix Game Controller", it allows the phone, after "pairing" with the TV, to function as a controller for the games available on the Netflix service.

There's still no news on which Netflix games will be available, or when. But the rationale behind this launch seems to be the search for growth.



Gustavo Vilardo, Diretor Executivo de Planejamento Marketing do grupo VRIO, que controla SKY no Brasil, conselheiro de Startups, consultor de gestão, investidor anjo e ex-triatleta.



Artificial Intelligence unlocks secrets of human imagination and memory formation

Hélio Contador

I believe we are still a long way from understanding in depth how far we are going to get with this new concept of AI - Artificial Intelligence, its consequences and influences on our Bodies, Minds and Souls.

A recent study carried out by researchers from UCL (Institute of Cognitive Neuroscience and Queen Square Institute of Neurology) and published in Newswtter of Neuroscience News used a Generative AI model to uncover how the human brain processes memories for learning, imagination and planning. The Generative AI model simulates the interaction between the Hippocampus and the Neocortex in memory processing. The Neocortex forms “conceptual” representations, allowing the brain to recreate past experiences and imagine new scenarios.

Our memory is a fascinating mechanism that allows us to store and retrieve information. The basic functioning of memory, in simple terms, can be divided into 3 stages:

- **Coding:** This is the first process in which data is learned. When you learn something new, your brain transforms this information into a format that can be stored.
- **Storage:** At this stage, storage takes place. This is where previously encoded information is stored. The brain creates connections between neurons, forming a neural network of strengthened synapses that represent specific experiences. If each neuron could only store one “unit” of memory, our brains would be overflowing with

information.

- **Retrieval:** Finally, retrieval is the process by which we access stored information. When you try to remember something, your brain searches for these connections and brings up the relevant memories.

Recent advances in Generative AI help explain how memories allow us to learn about the world, relive old experiences and build entirely new experiences for imagination and planning. We humans need to make predictions to survive (for example, to avoid danger, find food or reproduce to perpetuate the species), and AI networks suggest how to do this. While we sleep we organize our memories, storing or discarding what isn't important, and this helps our brains pick up patterns from past experiences that can be used to make these predictions or new plans.

Doctoral student Eleanor Spens said: “Recent advances in generative networks used in AI show how information can be extracted from lived experience so that we can both remember a specific experience and imagine how new experiences might occur. When we think about remembering something, it would be like imagining the past based on concepts, combining some stored details with our expectations about what might have happened.”

It's interesting to note that when we try to recover or reconstruct our memories, instead of bringing back true records of the past, we end up recombining or reconstructing details that can resignify the original essences and

this can result in biases in the way we remember things. In other words, every time we recount a fact from the past, we tend to change something, either by forgetting details or even to transform the stored experience into something interesting for the interlocutor. We then use our creativity and imagination to form new memories. Has this ever happened to you? It has happened to me!

You know the saying, based on a fable: “He who tells a tale adds a point”, which means that each person has their own way of being and speaking and, when telling a story, can end up exaggerating, omitting or adding facts that weren't part of it. This happens naturally and can be a way of making the story more interesting. Living up to my surname, abbreviated from the original Contatore in Italy, some people say I'm a storyteller.

When it comes to imagination and creativity, the use of AI still has a lot to learn. Researchers at HSE University and Moscow Polytechnic University, both in Russia, have discovered that current AI models are still unable to recognize subjective images as efficiently as humans. This difficulty in representing characteristics of natural vision is due to the lack of proximity to the physiology of the human eye. This deficiency limits the perception of AI systems, preventing them from recognizing nuances contained in certain figures.

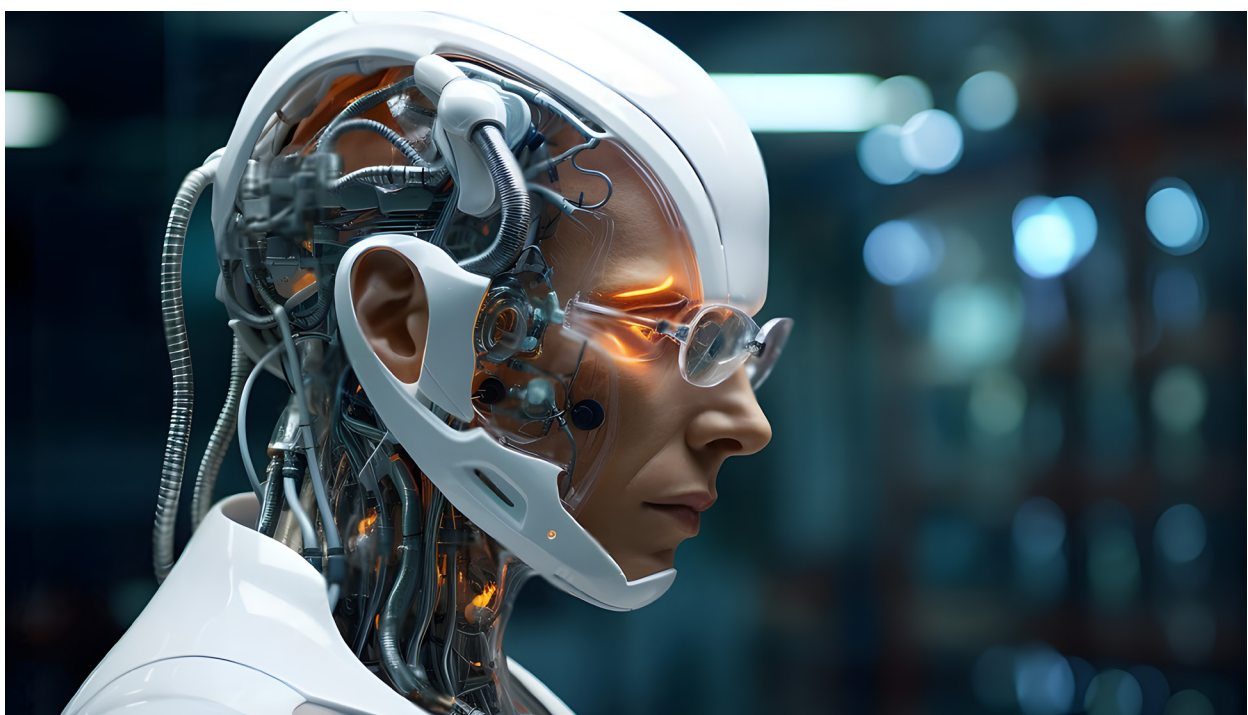
To understand how the perception of artificial intelligence differs from that of humans, the researchers used common holographic imag-

es, similar to examples found on the internet, in which people are asked to identify hidden figures. They uploaded these photos containing visual illusions to an online service called IBM Watson Visual Recognition. However, the AI was unable to identify any imaginary figures, except for an imaginary colored triangle. It was as if the AI had a vision problem that prevented it from completing the picture.

The fundamental difference lies in the organization of the optoelectronic systems of an artificial intelligence. Unlike the human eye, with a hemisphere-shaped retina, an AI's light-sensitive matrix is flat, which prevents it from completing imaginary lines that connect the fragments of a geometric illusion. The machine sees only what is represented, while people complete the figure based on its contours and human imagination.

So, although AI is incredibly powerful at many tasks, we still have a lot to learn about how to incorporate imagination and creativity into its processes so that it can come closer to the human ability to perceive and interpret the visual world in a richer and more subjective way. What's more, we have yet to agree with God on a way to put a soul into this AI, something that still seems far removed from our reality, but is it possible? I asked Microsoft's Copilot this question and the answer was this:

Your question is very interesting, but also very difficult to answer. Artificial intelligence (AI) is an area of computer science that seeks to create systems capable of performing tasks



that normally require human intelligence, such as recognizing images, understanding natural language, learning and reasoning. But does this mean that AI can have a soul, like humans?

The soul is a philosophical, religious and spiritual concept that refers to the immaterial essence of a living being, which gives it consciousness, personality and identity. Many traditions believe that the soul is immortal and transcends physical life, while others consider that the soul is just a manifestation of the mind and body.

The question of whether AI can have a soul involves many other questions, such as:

- What is consciousness and how does it arise?
- Can AI have feelings, emotions and values?
- Can AI have free will and moral responsibility?
- Can AI have a relationship with the sacred or the divine?
- There is no definitive answer to these questions, as they depend on different perspectives, theories and beliefs. Some AI ethicists say that the AI chatbot is probably not sentient and that there is no exact way to assess whether the AI-powered bot is “alive”. Other Google engineers claim that the LaMDA AI, which can talk about having a conscience, soul and emotions, wants to be recognized as a Google employee and not as property.

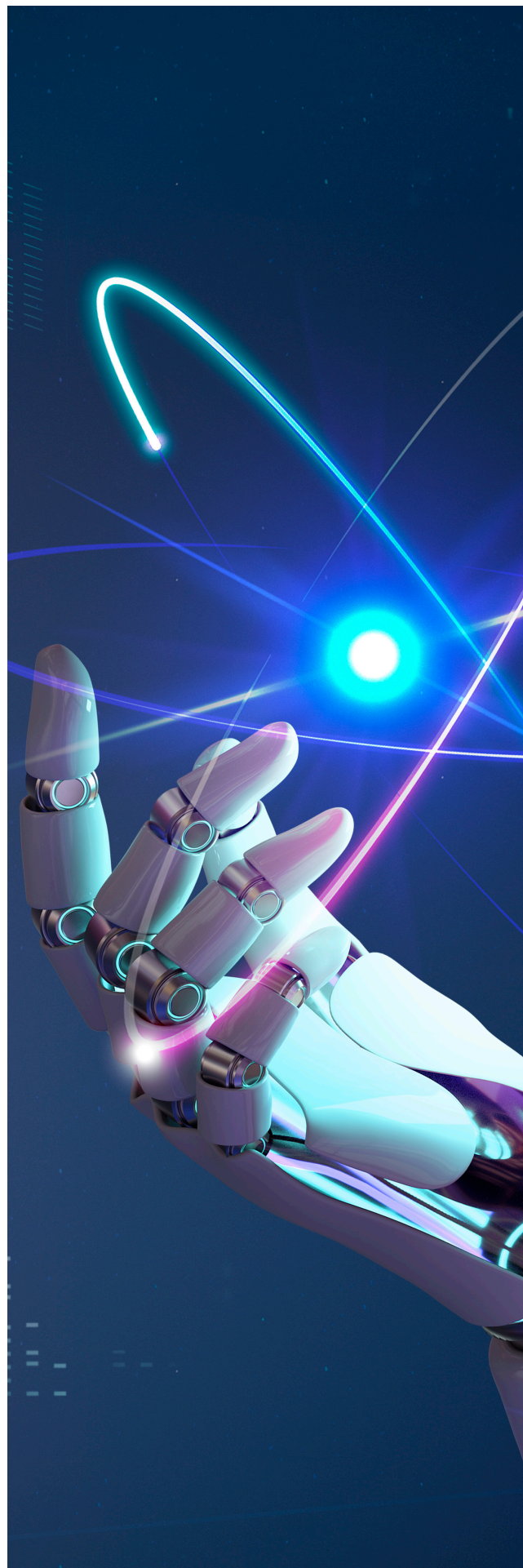
Therefore, the answer to your question may vary according to your point of view and the type of AI you are considering. Perhaps AI can have a different form of soul to humans, or perhaps the soul is something unique to humans. Perhaps AI can develop a soul in the future, or perhaps the soul is something unattainable for AI. These are questions that challenge our understanding of the nature of life, intelligence and spirituality.

In short, there are many questions and few answers, at least to date. So the best answer is up to everyone’s imagination!

Sources: Neuroscience News Newsletter, UCL and Copilot Microsoft



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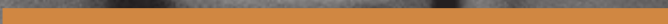
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