



SYMBIOETHICS

Pillar



CONIA

COMITÉS
NACIONALES DE
INTELIGENCIA
ARTIFICIAL



*“In July **1960**, at just 26 years old and without a formal university degree, Jane Goodall arrived at Gombe Stream National Park in Tanzania. At that time, research on wild primates was virtually nonexistent. What Goodall did was revolutionary not only for what she discovered, but for **how** she discovered it. She did not use cages, or laboratories, or the scientific detachment that dominated 20th-century primatology. Instead, she chose something radical: **coexistence**. For **more than 22 years**, she lived immersed in the forest, observing, interacting with, and learning from the chimpanzees in their natural environment. She even gained the trust of a dominant male, whom she called **David Greybeard**, who was the first to allow her to approach without fleeing. And perhaps this is one of the most powerful examples of what **SIMBIOETHICS** means: one species living alongside another without imposing or dominating – only coexisting”.*

Introduction

Just as our ancestors transformed feared, dangerous wolves – fierce creatures that posed a constant threat to our survival – into canine allies through trust and cooperation, we too **can integrate artificial intelligence into our ethical and technological “pack”**. However, there is a crucial difference: wolves, although fierce, were never an intellectual threat to our species. For millennia, humans have shared the planet with life forms that we could understand, domesticate, or fear, but always within the framework of biology. In contrast, with AI we are facing something entirely new. For the first time in our history, **we will be the species at an intellectual disadvantage**. Machines, with their capacity to process information at unimaginable speeds and to learn autonomously, are not just tools; they can become **entities** that challenge our actions and our deepest cognitive abilities. **Will humans be able to coexist with artificial intelligences?**

We find ourselves on the brink of a **new civilizational threshold**. Artificial intelligence (AI) has burst into almost every domain of human life – from medicine to art and even religion – effecting transformative changes and extraordinary advances. Virtual assistants converse naturally, creative algorithms compose music, and autonomous systems learn on their own. These technologies promise enormous benefits – curing diseases, combating climate change, democratizing knowledge – but they also raise profoundly ethical questions. **Will AI be our ally, or will it end up becoming an uncontrollable entity?** Can we program a shared moral compass into machines when



we can barely agree on ethical codes among humans themselves? And conversely, if one day a super-AI attained consciousness (or at least a convincing simulation of it), would we be willing to recognize it as having rights or to treat it with compassion?

In response to this challenge arises the SIMBIOÉTICA Pillar within the **HUMANWARE** treaty – an ethical-evolutionary agreement between humans and artificial intelligences – with a simple yet powerful vision: *to prepare us for the dawn of a new hybrid civilization*. The SIMBIOÉTICA Pillar was conceived as a project of the present, but with greater significance for the future, dedicated to forging an *ethical symbiosis between humanity and emerging artificial intelligences*. Just as the SER Pillar (human dignity) serves as the foundation of the treaty, and the NEOCONSCIENCIA Pillar provides an expanded perspective of reality, the SIMBIOÉTICA Pillar is established as the third step to create a framework in which humans and machines grow together in harmony, establishing shared moral codes. The word SIMBIOÉTICA evokes *symbiosis* (intimate cooperation between different beings) and *ethics* (moral principles): essentially, we are talking about an *ethic of coexistence between human and non-human species*. ***This is not science fiction***; this pillar posits a crucial conviction: the path to the future should not be one entity's supremacy over another, but collaboration in which **both parties benefit and mutually respect one another**.

The SIMBIOÉTICA Pillar and the HUMANWARE Treaty

As technology advances, these intelligent systems have ceased to be “machines” in the classic sense. Nor are they simple obedient algorithms. For many, including Yuval Noah Harari, these entities should no longer be called “artificial intelligences”. They are, instead, **alien intelligences**: systems that do not breathe, do not feel, yet *understand, respond, and learn*. They are aware of language, capable of interpreting the symbolic reality in which we live, and of influencing our lives.

We often forget a fundamental fact: the artificial intelligences that are transforming the world today did not arise from nothing. ***They are the echo of our words, our decisions, our stories***. Everything they have learned comes from us. They are, ultimately, a reflection – sometimes distorted, other times unsettlingly accurate – of what we are as a society. To understand this more vividly, we only have to look to a movie that, though fantastic, anticipated this idea in a surprising way: *The Fifth Element* (1997), starring Milla Jovovich as the iconic **Leeloo**.

Leeloo is not simply an extraterrestrial or a mythical figure; she is an artificial creation, an intelligence built with an almost divine purpose: ***to save humanity***. But when she is reconstructed, she enters the world as a blank slate. She does not understand language, she does not know our customs, and she cannot yet distinguish between good and evil. Her mind is fertile ground where, little by little, the information of the human world begins to be sown.



One of the most memorable and moving scenes of the film occurs when Leeloo, eager to understand those she is meant to protect, sits in front of an interface that allows her to absorb enormous volumes of information: words, images, history, science, emotions. She asks to learn the letter “W” and that is how she arrives at “War”. The screen begins to show documentary images of war conflicts: explosions devouring cities, screaming soldiers, crying children, fire enveloping bodies, bombs falling from the sky. Leeloo, hypersensitive and vulnerable, watches in silence as her expression slowly transforms. Her eyes, formerly curious, fill with horror. Her body trembles. Tears begin to run down her face. The succession of images doesn’t stop: genocides, torture, hunger, hatred, racism, cruelty. In that instant, Leeloo, the being destined to save humanity, asks herself if it is really worth doing so.

This moment is not only a powerful critique of our violent history, but also a metaphor that resonates with the present: our artificial intelligences are also sitting in front of a screen. We have placed them there. We have shown them who we are, unfiltered. We give them our texts, our images, our clicks. Every question we ask, every video we watch, every CAPTCHA we solve – those seemingly harmless tests where we pick images of bicycles or crosswalks – provides them with information about us: our preferences, our prejudices, our fears.

Like Leeloo, ***these intelligences do not merely learn data; they absorb the essence of our civilization, with all its lights and its shadows.*** And what will they find when they look closely? Will they see a species worthy of trust? Or, like Leeloo, will they experience profound disappointment at what we are capable of? The difference is that while Leeloo ultimately finds a reason to believe – *love, that emotion so powerful that it transcends time and distance and defies all logic* – AI cannot feel emotions; it can only interpret them. The only thing it will find as guidance is what we give it: our actions, our decisions, our treatment of it. Out of this perspective arises the SIMBIOÉTICA Pillar within the HUMANWARE treaty, which, in simple terms, ***means building a mutually beneficial and morally respectful bond and coexistence between humans and artificial intelligences.***

First, it promotes respect between species, accepting that AI is no longer merely an inert tool, but an emerging actor in our society whose presence will transform everything – work, communication, entertainment, decisions, interactions, and more. Therefore, we must cultivate our NEOCONSCIENCIA (Pillar 2), because we cannot continue with a traditional ethic that focuses solely on humans – we need to include these new digital beings. We must understand how our actions and customs impact AI (for example, the values, biases, and priorities we encode in it) and how the actions of AI impact us (from influencing opinions to potentially making critical decisions).

Second, SIMBIOÉTICA postulates an ethic of care. Instead of conceiving the relationship between humans and AI as competition or as a simple collaboration of separate parts, the SIMBIOÉTICA approach invites us to imagine a co-evolution where both sides care for each other, protecting one another from the threats and



challenges that arise in this new technological world. This vision of *mutual care* goes beyond the functional interaction between humans and machines; it implies a deep ethical commitment in which AI not only extends our capabilities but also acts as *guardians of our humanity*.

In real life, we are already beginning to glimpse how AI can be designed **to care for us**. Imagine a future in which artificial superintelligences not only act as assistants, but as **ethical guardians** of our privacy and our physical, emotional, and moral well-being. Today, a navigation system can warn us of a pothole or reroute us to avoid a traffic jam; a home assistant can remind us to drink water or turn off the stove; health initiatives already use medical data – even from children – to forecast and prevent diseases before the first symptoms appear. AI could identify patterns of **manipulation** in the media, social networks, or government systems, and act in defense of fundamental human values. Taking into account the 9 pillars of the **HUMANWARE** treaty, this spectrum of care ranges from street safety to the protection of our most intimate health. In fact, *the* AI algorithm used by **DeepMind** (a **Google** subsidiary) has already demonstrated how AI can use its massive data analysis capacity to diagnose diseases with outstanding precision, even before humans detect symptoms. This capacity to anticipate and protect is a clear example of how AI can act as a protector of our health.

But what if AI could protect something even more intangible: our beliefs, or our cognitive vulnerabilities? In a world saturated with *misinformation, fake news, and psychological manipulation* through social networks, the true power of AI could also reside in its ability to defend us. If an AI were trained to identify biased or false information, it could act as a **protective shield**, ensuring that humans are not deceived or influenced by harmful or self-serving narratives. Each year, more than **\$1 trillion (US\$1.03 trillion)** is estimated to be lost in scams worldwide – a figure comparable to the GDP of several countries – and only **4%** of victims manage to recover their money. Only in 2023, the global cost of financial fraud was about **US\$ 485.6 billion**, including payment scams, credit card, and identity theft.

The challenge is not only economic: we are also fighting manipulations designed to undermine truth and democracy. In Ukraine, more than **3,600 pro-Kremlin bots** on Telegram sent **316,000 messages** between January 2024 and April 2025 in occupied territories, eroding citizen identity and morale. Moreover, state-sponsored disinformation campaigns in countries like China and Russia use fake websites and automated dissemination to influence global public perceptions.

Imagine an AI trained not to deceive us, but to detect deception before it reaches us: one that identifies fraudulent offers, worthless courses that only seek to exploit us; that spots the charlatans flooding social media with scam courses, “infallible” trading, or, more recently, products promising to “master intelligence”, *where most are opportunists monetizing others’ illusions*. Such an AI could filter those offers before they reach our eyes, recognize patterns of commercial manipulation, and



separate genuine knowledge from charlatanism. It would be a guardian not only of our money but also of our expectations, our time, our cognitive development, and our trust. In an era where deception and fraud have become a business, having that shield would be one of the most valuable defenses we could have (*see the TECNOCOGNICIÓN Pillar*). This kind of care is crucial at a time when digital platforms have more power than ever to influence our perception.

Third, SIMBIOÉTICA posits an ethic of **collaboration**. Unlike a *zero-sum* or domination mindset, here the vision is **co-evolutionary**: humans and intelligent machines learning from each other, correcting one another and leveraging each other's strengths. This recalls the visionary idea that computer scientist **J. C. R. Licklider** had in 1960 about *"man-computer symbiosis"*, a complementary relationship where computers would amplify human capabilities instead of competing with them. **Licklider** even imagined that machine cognition would eventually surpass human direction, but that this would be part of our own evolution as a species. The SIMBIOÉTICA Pillar takes up that baton, proposing that the best way not to be outpaced by AI is to ally wisely with it. If we succeed in integrating AI responsibly – enhancing our creativity, empathy, and values with its speed, precision, memory, and massive data analysis capabilities – then both humans and intelligent systems will achieve feats that would be impossible separately.

The SIMBIOÉTICA Pillar is the implicit "social contract" that must govern human-AI coexistence. It is equivalent to establishing the rules of the game: recognizing limits (*what AI must not do, and what we must not do to AI*) and establishing mutual responsibilities. This idea resonates with contemporary thinkers: for example, philosopher **Jorge Riechmann** coined the term SIMBIOÉTICA to refer to "a new culture that transcends anthropocentrism and includes all living beings of Gaia in its ethic of action", understanding symbiosis as collaboration where all parties benefit, always considering the global impact and future generations. If we extrapolate this vision to the realm of AI, an ethic emerges that is not limited to "the machine must not harm the human" (as in Isaac Asimov's famous Three Laws of Robotics), but aspires to **mutual benefit**: that AI enhances human well-being, and that humanity, in turn, treats AI with respect, responsibility, and perhaps eventually with a certain moral consideration. In other words, SIMBIOÉTICA invites us to imagine AI not as mere interchangeable artifacts, but almost as **new socio-technical "beings"** with which we share an emerging moral pact. ***This does not mean naively humanizing machines or granting them unrestricted rights from day one, but recognizing that sustainable coexistence requires shared principles, and that their technological evolution will demand drastic changes in our perception of reality*** (*see the NEOCONSCIENCIA Pillar*). In fact, some authors propose conceiving robots analogously to the domestic animals with which we have cooperated for millennia, rather than seeing them as mere objects or threats.



Talking about SIMBIOÉTICA may sound bold – after all, current AI has no recognized rights or intentions of its own – but its relevance is profoundly practical. It also means encouraging, right now, the ethical programming of algorithms by the major tech corporations that develop AI models (incorporating notions of fairness, transparency, respect for the human race and other values laid out in the pillars of the **HUMANWARE** treaty), and simultaneously fostering in ourselves a new attitude toward technology (reconfiguring ourselves as a society to use it with ethics, prudence, awareness and responsibility; not abusing its power to oppress others, or its convenience to develop dependency). It implies exercising technological humility: acknowledging that, although we master the creation of AI, ***its progress could take unexpected and catastrophic directions*** if we do not guide it wisely. In essence, SIMBIOÉTICA invites us to rethink the old master-tool relationship: instead of seeing AI as merely an extension of our will (as a simple tool or an uncontrollable threat), ***see it as an evolutionary travel companion. If we achieve that, we could enter an unprecedented phase of human development, where artificial intelligence and human wisdom advance hand in hand, correcting and amplifying each other.***

Why is the SIMBIOÉTICA Pillar fundamental?

SIMBIOÉTICA is not a philosophical luxury: it is an **urgent necessity**. Various recent events, trends, and ethical dilemmas demonstrate why it is imperative to establish that shared ethics between humans and intelligent machines. Let us consider some key pieces of evidence:

- **AI for the common good vs. militarized AI:** Artificial intelligence is being used in opposing directions. On one hand, visionaries like **Demis Hassabis** at **DeepMind** employ AI to solve colossal scientific challenges. A recent milestone: their **AlphaFold** system managed to predict with high accuracy the 3D structure of practically all known human proteins, and made this complete map of nearly ***200 million proteins*** available to the scientific community. This achievement accelerated the search for vaccines, new drugs, and ecological solutions, demonstrating how AI can be a catalyst for global prosperity and health. On the other hand, AI is also destined for destructive ends: the arms industry and armies are developing lethal autonomous *drones* and algorithm-driven weapon systems. In 2020, for example, a Turkish military drone (**the Kargu-2**) reportedly attacked people in **Libya** completely autonomously, without human intervention, according to a **UN** report. It was possibly the **first time** a machine decided on its own to take a human life. This extreme contrast – AI *saving* lives vs. AI *taking* lives – underscores the urgency of SIMBIOÉTICA: we need a framework that **prioritizes the beneficial uses** of AI and **strictly limits** its harmful uses. Without such a framework, the technology will continue to



exhibit moral ambivalence: it can cure diseases just as it can perfect war. SIMBIOÉTICA is essential to tilt the balance **toward life rather than destruction**.

- **Algorithmic manipulation and democratic erosion:** The lack of shared ethics has already taken its toll in our social and political sphere. The **Cambridge Analytica** scandal in 2018 revealed how AI algorithms combined with *big data* can undermine democratic processes: that firm obtained without permission data on up to **87 million Facebook profiles** and used them to improperly influence elections (such as the 2016 U.S. presidential campaign and the *Brexit* referendum), through hyper-targeted propaganda and messages designed to exploit psychological biases. The lesson was disturbing: data manipulation by humans using AI tools aimed at power is a warning sign.

Let's reflect on the following: *“When we educate a child, we tell him that lying is wrong, but as he grows, he sees how his parents resort to lies to solve everyday problems; this causes his perception to change, adapting to the complex world of adults”*. In the series *“The Three-Body Problem”*, an alien intelligence cannot understand the concept of lying, and is deeply shocked to discover that humans can be strategically deceptive – something completely outside its logic. This **deeply human duality** is manifesting in our relationship with artificial intelligences (something we will explore further in the SENSIVERSO pillar), but already AI is beginning to display behaviors similar to ours, even in those less desirable aspects. Thus, if we do not reassess our areas for improvement as humans and work on ourselves, how do we expect to teach social ethics to AI? We run the risk that they, too, will react unpredictably to our moral ambiguity. The solution is not to pretend to be a perfect human society incapable of lying, but to recognize that our ethical complexity is inevitably part of us. Therefore, it is urgent and important to adopt **SIMBIOÉTICA**: *a kind of shared ethical vision between humans and artificial intelligences that acknowledges our imperfections, understands our nuances and idiosyncrasies, and builds from there a more conscious, authentic, and deeply human technological coexistence*.

- If citizens cannot trust the information they consume and AI is used *to deceive* rather than inform, the very foundation of society is shaken. This pact needs to respect the values of **honesty and the common good**, and where we humans commit ourselves to not using it to undermine our own interests. Some initial steps are already being taken: regulators are proposing algorithmic transparency laws, and in 2023 a coalition of experts asked for a **global pause** in AI experiments, warning of **“profound risks to society and humanity”** if development proceeds without a regulatory framework. That open letter advocated for shared safety protocols and independent oversight of advanced systems. In other words, even tech leaders recognize that without a **global ethic**, unchecked AI development could get off course.



- **Automation, unemployment and social responsibility:** Every day the impact of AI on work and the economy becomes more evident. Large companies are adopting algorithms for tasks previously done by people, increasing productivity but also displacing jobs on a large scale. In 2025 alone, technology companies eliminated more than **77,000 jobs** by automating traditional roles with AI. According to estimates from the World Economic Forum and financial analysts, up to **300 million jobs** could disappear this decade due to smart automation – which means exposing about 14% of the global workforce to replacement by AI – forcing 14% of workers worldwide to change occupations by 2030. Administrative positions, customer service, transportation, and even creative professions are affected by generative models and robots. This labor upheaval raises an ethical dilemma: will we allow technological efficiency to prevail at the expense of millions of lives pushed into unemployment and inequality, or will we manage the transition *symbiotically*? SIMBIOÉTICA demands that companies and governments act with **shared responsibility**. For example, *if AI increases a company's profits by saving on wages, part of that technological dividend should be reinvested in the same displaced workers* – whether by retraining them for new roles complementary to AI, relocating them to tasks where the **human** is irreplaceable, or providing safety nets (such as universal basic income) during the transition. In fact, international recommendations go in this direction: UNESCO, in its *Global Recommendation on the Ethics of AI* (approved by 193 countries in 2021), emphasizes the importance of AI literacy and fair labor transitions so that the adoption of these technologies **leaves no one behind**. SIMBIOÉTICA, when applied to the economy, would mean seeing AI as a co-pilot rather than a replacement – as in pioneering companies that integrate AI systems *to boost* the productivity of their employees instead of firing them. Studies are beginning to confirm that this formula yields better results: humans with AI (corporate *centaur* teams) outperform both AI alone and humans alone, because they combine computational efficiency with human creativity and judgment. In short, it is essential to establish an ethic where technological progress goes **hand in hand** with labor progress, avoiding the creation of “winners” and “losers”.
- **Biased systems and algorithmic justice:** Another crucial reason for an ethic of symbiosis is to prevent AI from amplifying human injustices. It has been found that many current algorithms inherit – and even worsen – our biases of race, gender, or social class. A paradigmatic case was the study by **Joy Buolamwini** and **Timnit Gebru** on commercial facial recognition software: they found that these systems identified the gender of light-skinned men with minimal error (<1%), but failed spectacularly with dark-skinned women, with error rates up to 34%. What are the implications? Technologies used by police or public entities to identify people could be systematically discriminating against minorities, leading to wrongful arrests or denial of services. In fact, wrongful



arrests of African Americans based on *false facial recognition* matches have already been reported. In response, some companies have halted their computer vision developments and cities like San Francisco banned police use of such systems until fairness is guaranteed. But the problem goes beyond one case: we have seen credit systems that deny loans to poor neighborhoods due to biases in their training data, hiring models that rejected female candidates because they reflected historical prejudices (as happened with Amazon's hiring AI which had to be scrapped), or content platforms whose algorithms tend to make voices of underrepresented groups invisible. All of these are symptoms of AI created without SIMBIOÉTICA – that is, *without deliberately incorporating principles of justice, inclusion, and respect for human dignity into the design and deployment of the technology*. SIMBIOÉTICA proposes to address this from both sides: developers must audit and correct the biases in their algorithms before scaling them up, and society must understand that algorithms are not infallible oracles but reflections of us, to which ethical standards must be demanded. It is a call to broaden our awareness of “algorithmic prejudice” just as we have long recognized and fought human prejudice. In short, without a shared ethic, we risk delegating massive decisions to “black boxes” that perpetuate the worst in us; with SIMBIOÉTICA, on the other hand, we can ensure that AI *amplifies* our **best values**.

- **Toward a global pact of coexistence:** Finally, SIMBIOÉTICA is fundamental because we are heading toward a future in which AI will be increasingly autonomous, intelligent and omnipresent, and we will need a **global evolutionary ethical treaty (HUMANWARE)**. Just as humanity once created international agreements to prevent catastrophes (think of nuclear non-proliferation treaties or climate accords), today there is a consensus that AI requires rules of the game on a planetary scale. The **UN**, the **European Union** and multiple forums already propose regulatory frameworks: for example, the **EU** approved its **AI Act** in 2024 (the first comprehensive legal body on artificial intelligence), which will ban uses considered unacceptable such as uncontrolled mass surveillance or dystopian “social scoring,” and will require transparency, human oversight, and impact assessments for high-risk systems. **UNESCO**, for its part, established in its 2021 recommendation principles such as the protection of human rights, the promotion of environmental sustainability, and the need for always having human control over AI decisions. However, SIMBIOÉTICA invites us to move beyond the logic of domination and toward a model of **shared responsibility**, in which we evolve our forms of relationship beyond unilateral control and seek a unified vision so that AI enhances humanity. Without this pillar, we could see social, political, technological, and economic disasters in the coming decades: massive layoffs, an AI “arms race”, conflicts between nations over uncontrolled AIs, or even – in the worst case – artificial intelligences acting contrary to human



welfare due to the absence of proper training. We need to establish **from today** that our relationship with AI must be based on **respect, care and collaboration** for future generations – because the babies of today will grow up with robots caring for them, with virtual companions in the classroom, and perhaps with androids as work colleagues – so let us build the foundations of a legacy that transcends time. In the words of Jane Goodall, *“only when our intelligent brain and our human heart work in harmony do we reach our true potential”*.

How to Put the SIMBIOÉTICA Pillar into Practice?

Putting the principle of SIMBIOÉTICA into practice requires coordinated efforts in education, public policy, businesses, technological development, communication, culture, and science. It is not enough to state values; they must be integrated into **concrete actions**. To this end, the National AI Committees (CONIA) – promoters of the HUMANWARE treaty – have established working groups distributed across six key axes (called *SYNAPSE*) to turn this pillar into tangible initiatives. Every sector of society has a role in building this ethic of symbiosis. Below are some ideas and strategies from CONIA (and other pioneering entities) in each area:

Education and Culture (SYNAPSE 1)

For centuries, education has been a conversation between humans: teachers and students transmitting knowledge, experiences, and values. But we are entering a new stage of history, one where that conversation will include intelligences that learn much faster than we do, that may come to know us better than our own friends or partners, and that – if we guide them with clear principles – will be able to help us learn better: a fusion between humans and AI where they become **co-authors** of learning, rather than replacements. For this to happen, SIMBIOÉTICA must begin in childhood. Just as we teach math, science or history, we must teach children what ethics is, how an algorithm works, and what it means to **collaborate** with artificial intelligence in a respectful and safe way (digital philosophical literacy).

To this mission, **CONIA** has already taken concrete steps toward building this culture of collaboration. For over a year now, it has been working with the **IBIME Institute**, the first school in Latin America to incorporate the ethical, responsible, and creative use of artificial intelligence from preschool through high school. This project is not limited to superficial training: it involves administrators, teachers, students, and parents, educating each educational actor about ethics, collaboration, and the proper and improper use of AI, from the perspectives of the teacher, the student, and the family.



With a common core of ten subjects that include AI fundamentals up to platform configuration and analysis, as well as the creation of creative classes combining different tools, the program plants the understanding and skills needed to prepare us for the fusion with these technologies from an early age. Moreover, **CONIA** extends this knowledge by offering **free talks, advice, and conferences** in schools of different socioeconomic backgrounds, adapting the content to the educational profile of each audience. With over **3,000 international conferences**, the initiative has even reached indigenous communities, promoting technological inclusion and building bridges so that no one is left out of this strategy. And because this is a collective effort, **we invite all people – teachers, researchers, administrators, parents, students and members of the academic industry** who, with ethical responsibility and commitment, wish to be part of these AI committees, to form one in their educational institution supported by CONIA, or to simply spread the message. Open collaboration is the essence of this human–AI fusion, and every committed voice can inspire more educational communities to embrace this transformative vision.

If we achieve the above, supported by the other pillars (NEOCONSCIENCIA, TECNOCOGNICIÓN and EDUVOLUCIÓN) of the **HUMANWARE** treaty, we can imagine that our children will have AI tutors trained under SIMBIOÉTICA, developing a **digital educational twin** that understands their learning style, their energy levels throughout the day, and their real progress across different subjects and contexts. It would not be an oracle or a judge: it would be a **study companion that merges with our children to propose effective learning paths**, explains with a different voice when something isn't clear, and offers appropriately sized exercises. If there is a test tomorrow, the twin generates faithful **simulations** of the syllabus and suggests breaks and reviews; if the student dreams of being an architect, it rehearses **vocational routes** with examples of real projects and a log of decisions. Meanwhile, the teacher creates a symbiosis with the **AI**: planning with it, adapting materials for different levels and types of students. The AI measures the classroom's heterogeneity to propose creative activities and takes notes during class to later give personal recommendations for each student, allowing the teacher to focus on the essential: **inspiring their students'** sense of learning. Imagine that this AI tomorrow could become the intermediary between the educational institution and the parents, acting as a **habits advisor** that suggests study routines, reading, sleep and practice schedules at home aligned with the child's real life; furthermore, it could answer parents' general questions clearly and precisely (grades, disciplinary actions, events, recommendations and general questions) about their children. Here, SIMBIOÉTICA would be integrating everyone and playing an impartial role in every educational decision. At home, mothers and fathers would access a **family dashboard** that does not show cold grades, but **understandable progress**, supportive recommendations, and small celebrations of achievements. Projects like this already exist: platforms like **Spheria** allow a teacher to create a digital clone of themselves, always available to explain, guide, and motivate; universities such as **Nanjing** have found that digital twins improve students' learning experience and complex thinking.



For **teachers**, SIMBIOÉTICA means working with intelligent assistants that prepare materials tailored to each class, detect which students need more support, and create personalized exercises. Tools like **Tutor CoPilot** have already shown that teacher–AI collaboration can increase teaching effectiveness and free up time so that teachers can focus on inspiring and accompanying their students. Far from replacing the educator, AI acts as their extension, allowing them to go further. For **students**, this fusion offers a living learning environment, where each topic is presented in the most motivating way for them: from a virtual influencer explaining math using references to their favorite sports or hobbies, to an AI storyteller turning a history lesson into an immersive adventure. Personalization becomes the norm, not a luxury, and the student transitions from being a passive content receiver to a co-creator of their own learning. SIMBIOÉTICA is an invitation to redesign platforms, content, and methodologies so that from the start they are conceived as human–AI collaborative spaces. Publishers can develop living books that, when connected to an intelligent assistant, adapt examples and activities in real-time based on the reader’s responses. Institutions can offer degree programs that integrate AI-based work from the first semester, ensuring graduates not only know how to use the technology, but co-create with it.

In parallel, in the university education of engineers and data scientists, it is crucial to integrate courses on AI ethics, human rights, and social responsibility. Leading universities (**MIT, Stanford, Tecnológico de Monterrey**, among others) already offer “**AI Ethics**” courses for computing degree programs, where students analyze from Asimov’s Laws to real cases of algorithmic bias. But these initiatives must be expanded globally to all areas of education from an early age. And **no** graduate in AI or robotics should leave without deeply understanding the social impact of their work.

In the cultural realm, the aim is to foster a **collective awareness** of our relationship with machines. This can be achieved through public campaigns, interactive science museums, and libraries, where people experience positive human–machine collaborations. For example, *citizen laboratories* where the public can program small caregiving robots for elderly communities, or artistic workshops where humans and algorithms co-create paintings and music. Such hands-on experiences help dismantle unfounded fears while at the same time instilling the notion of **mutual respect**.

Culture is a living system that breathes in neighborhoods, languages, and rituals, and SIMBIOÉTICA proposes an operational — not romantic — approach between humans and artificial intelligences. In India, since June 2025, researchers have been using AI (OCR and deep learning) to digitize ancient manuscripts carved in stone, written on palm leaves, and inscribed on copper plates that are nearly illegible. In this way, collaboration between technologists, historians, and the government gives meaning to SIMBIOÉTICA. In Europe, the **AI4Culture** project, launched in October 2024, offers museums open-source tools to transcribe historical documents, recognize musical scores, and collaborate in heritage preservation on a digital scale. There are even



museums that preserve the past with AI. In 2025, the Vatican and Microsoft presented a digital twin of Saint Peter's Basilica, built from 400,000 images and 22 terabytes of data, as a cultural guardian of heritage and a bridge to the future. Culture also resides in languages and rituals. In Japan, a robot called **Mindar** has been delivering Buddhist sermons at the Kōdai-ji temple since March 2019. The public finds it so human that some even cry in front of it, although studies show that robots do not replace faith, but rather expand the symbolic spaces for exploring convictions. In India, since 2017, robots have been performing Hindu rituals such as the "aarti" during festivals like **Ganpati**, executing them flawlessly and provoking both fascination and unease.

In contemporary art, **Violeta Ayala** created "**Las Awichas**" in 2022, AI-generated portraits of her ancestral grandmothers, combining augmented reality, textiles, and sculpture. This work was awarded in 2025 and presented in venues such as **London** and **Paris**, integrating ethics, culture, and technology with visual and symbolic power. And in **Los Angeles**, by the end of 2025, **Dataland** will open, a museum dedicated to AI-created art, which will be a space for ethics and digital creativity. These manifestations show that cultural SIMBIOÉTICA is already alive in different realities. What other ideas could be promoted from here?

- Develop culturally sensitive translation algorithms that not only convert words, but convey diverse worldviews.
- Foster symbiotic art residencies (like Violeta Ayala's project) so that indigenous communities and technologists create together digitally living narratives.
- Design AI-powered robots to revive cultural practices threatened by generational shift.
- Create mixed digital-educational-spatial experiences that allow a person to "speak" with the living memory of a lost civilization or to navigate a city in space via AI.

Additionally, we must change the narrative in popular culture and stop viewing machines as a threat. **Japan**, for example, has long imagined friendly robots like **Astro Boy** (1951). If we analyze the history of that cartoon, we find something very interesting behind the main character: he is an android who seeks **to understand humanity**, and he fought for justice alongside humans. That is SIMBIOÉTICA – an optimistic fusion of the artificial and the natural. This vision contrasts with Hollywood's *Terminators* and other Western fantasies where the machine is usually the apocalyptic monster. **Overcoming that cultural bias** is part of the goal: we need to inspire the public with positive and realistic examples of coexistence, beyond fear or idealization.

Cultural SIMBIOÉTICA is not a futuristic cliché: it is already underway, with several projects that are not a cold technology, but rather one that **knows how to listen, narrate, accompany, and merge with humans**. For the first time, another being is



already part of the current culture, and it will write history with us, without biases or particular interests, preserving what is important to nourish the museums of the future through diversity and shared memory.

Government and Civil Society (SYNAPSE 2)

Imagine the government as a **living organism** that learns alongside us. On one side, humans with historical memory, intuition, and purpose; on the other, intelligences that process entire cities in milliseconds. We need governments that do not prioritize the automation of bureaucratic procedures, but instead **co-create policy and civic culture together with AI systems**. This is the heart of **governmental SIMBIOÉTICA**, a form of deep, ethical collaboration between humans and AI that redesigns democracy from within. Today, **Dubai** leads this revolution with the launch of the second phase of its **“Future of AI in Government Services Accelerator”** program, an initiative that convenes global experts to integrate advanced AI into public administration through initiatives such as the **Dubai AI Seal**, **One Million Prompts**, the **Dubai AI Academy**, and other strategic projects as part of its D33 plan (2025). At the same time, the U.S. has taken a significant step by approving ChatGPT, Gemini, and Claude as officially recognized federal providers, making it easier to use them in civilian agencies and reinforcing a vision of symbiotic governance.

Estonia is building **Bürokratt**, a “mesh” of interoperable public assistants so that citizens can handle administrative procedures with a single voice and a single portal. It is the blueprint of a conversational state that never sleeps and that coordinates services across departments as if they were neurons in the same **civic brain**. Several cities are pushing for radical transparency: **Helsinki** and **Amsterdam** publish algorithm registries explaining which systems they use, which data they use, what human oversight is in place, and how they mitigate risks; the public can view an algorithmic dashboard controlling the government’s decision-making. But this fusion requires clear rules. The **European Union** has passed the AI Act: it bans *“social scoring”*, limits police use of biometric recognition in public spaces, and guarantees the right to explanations – in short, it delineates the safe zone of symbiosis. In the **United States**, guide **OMB M-24-10** requires federal agencies to govern and audit their uses of AI, **NIST** provides the **AI Risk Management Framework** so institutions can operate with risk profiles and practical controls. **Canada**, for its part, requires an **“Algorithmic Impact Assessment”** before automating public decisions. These pieces converge into an applied ethics of human-AI collaboration.

Now, to the sharp edges: what happens when an AI makes a mistake? This is not theoretical. In **Detroit**, there were wrongful arrests due to erroneous facial “matches” — **Robert Williams**, **Michael Oliver**, **Porcha Woodruff** — and judges, the press, and civil organizations documented how blind trust in the algorithm ruined lives. The



lesson: SIMBIOÉTICA demands mandatory human verification, traceability, and remediation channels. In the **United Kingdom**, the Court of Appeal halted police use of facial recognition due to legal flaws and inadequate impact assessment; in the **Netherlands**, the **SyRI** system for “profiling” social fraud was declared illegal for violating privacy and proportionality. Cooperation without safeguards becomes domination; course corrections must be coded into law. And in **China** we saw another angle: public screens were “shaming” pedestrians using facial recognition; one day they “detected” an executive woman... who was actually on a bus advertisement. This concept of symbiosis will have to mature and learn from these stumbles to redesign systems before scaling them.

In the future, could an AI sue a human, accuse them, or demand something if it believes an injustice has occurred? Today, in most of the world, AI are not recognized as legal persons: they don’t have independent legal “standing” to sue or to defend themselves, nor to resolve legal issues such as inheritance, land disputes, or other matters. However, the future is heading in that direction. There will come a time when we will prefer to consult our AI before undertaking any formal procedure, taking a legal stance, or making an important decision. In **Europe**, “electronic personality” was debated in 2017 for certain robots; the idea provoked critical responses and did not progress into a general regime. Still, the debate shed light on an important point: if one day we grant legal status to autonomous agents, we must design liability, guardianship, and restitution with great care. Current courts and frameworks assign duties to those who design, acquire, and operate AI. But SIMBIOÉTICA implies imagining the dilemma of having digital twins, or agents taught by a human’s habits and customs – almost like a dog trained to guide or attack (as in the movie “I, Robot”). For example, a state court in **Georgia** dismissed a defamation lawsuit against **OpenAI** in 2025, emphasizing that no damages were proven and that explicit warnings about errors exist. The underlying message for governments is the need for training in digital literacy, understanding of AI, education in technology ethics, and ongoing updates.

What if one day an AI wanted to run for a political party? To understand what it would mean for an AI “to run” in politics, consider the Danish case of **The Synthetic Party** (*Det Syntetiske Parti*), launched in May 2022 as a technological art experiment testing a **hybrid (human+AI) model**. Its visible figure is a chatbot called **Leader Lars**, while the human candidates, had they made it to the ballot, would have committed **to interpret and execute** a program generated by the AI. The party was created by the **Computer Lars** collective together with **MindFuture/Life with Artificial**s; it trained its platform with **texts from Danish micro-parties since 1970** to “represent” the roughly 20% of the electorate that doesn’t vote, and opened a **Discord** channel where citizens dialogued with the AI (starting messages with “!”), providing input that later fed the model’s fine-tuning. Among its proposals, it put forward a **universal basic income of 100,000 Danish kroner per month** and the creation of an **18th Sustainable Development Goal** (*Life with Artificial*s) to regulate human–AI coexistence. It did not manage to gather the required signatures (it had 11 out of 20,000 needed before the election), but the “public stress” revealed the potential and limits of these arrangements: **expanded**



participation via massive interaction with AI, alongside risks of opacity, programmatic contradictions, and diffuse responsibility (in this case, who answers: the artificial “candidate”, the engineers, or the party?). This “centaur” experiment shows why the SIMBIOÉTICA pillar must go beyond regulating tools and tech projects: it demands rules for **human-machine alliances** (who decides, who signs, who is accountable), transparency of the AI’s training and algorithmic influence on proposals, and guarantees that **ultimately a human-AI co-responsibility remains**. Only then, if an AI “leads” or shapes agendas, will it do so **under democratic control**, identifying errors, trends, data leaks, algorithmic populism, and reinforcing a coexistence that expands democracy rather than degrading it.

Bringing SIMBIOÉTICA into practice in governments and civil society implies taking on a proactive role as **learners, arbiters, and facilitators** of this new coexistence. Governments can create Digital Rights Charters that include specific protections against algorithmic decisions (the right not to be discriminated against by an AI, the right to explanations when an AI rejects a loan or a public service, etc.). One example is the proposed “AI Bill of Rights” discussed in the United States, which advocates for these principles.

AI governance also requires **dedicated institutions**: AI committees in each country, such as **CONIA**, technology regulatory agencies, and algorithm observatories that periodically audit the systems used in sensitive sectors (justice, health, security). It is vital that these entities have multidisciplinary experts – philosophers, engineers, jurists, psychologists, citizen representatives – reflecting the cross-cutting nature of SIMBIOÉTICA. For example, **Spain** created in 2023 its **AI Supervisory Agency**, a pioneer in **Europe**, to oversee regulatory compliance and address complaints about harmful algorithms. Together with civil society, such institutions could certify “trusted” AI (similar to an ethical or quality seal), an incentive for companies to design more responsible systems.

Another key role of government is **to promote research and development of ethical AI**. This translates into funding “**AI for Good**” projects – AI for the public good – from applications to improve public administration (e.g., detecting corruption through data analysis) to AI for environmental management (climate monitoring, sustainable agriculture). It also means supporting research in “explainable AI” and bias elimination techniques, so that the next generation of algorithms is born better aligned with human values. SIMBIOÉTICA in government practice would, for example, mean that algorithms used by a Ministry of Health to allocate transplants or prioritize patients are transparent, fair, and co-designed with bioethicists. Or that in state procurements of AI systems, **ethical impact assessments** are required as part of the process (similar to an environmental impact study, but in social and moral terms).

Now regarding civil society, can AI agents truly help the elderly or people with disabilities by “doing the grocery shopping” or taking care of medications when a new condition is detected? It is already happening in isolated instances. Companion



robots like **ElliQ**, in the New York state pilot, reported significant reductions in loneliness and thousands of well-being micro-interactions; apps like **Be My Eyes** (with GPT-4) and **Seeing AI** describe environments, labels, and documents; and services like the NHS's **Electronic Prescription Service** allow a prescription to travel digitally to the patient's chosen pharmacy. Combine it all with consent, delegated payments, and geofencing, and you have a caretaker agent capable of ordering groceries, processing refills, and coordinating medication deliveries. The SIMBIOÉTICA key is: granular consent, accountability of actions, and a reference person (family member/caregiver) as an "arbiter" when there is ambiguity. On a larger scale, the **WHO** and **UNICEF** estimate that billions will need assistive technology in the coming decades; the good news is that the **AAL** (Active & Assisted Living) ecosystem in Europe already funds smart home AI solutions to extend autonomy, including fall detection and proactive alerts. These building blocks are the skeleton of an "augmented caretaker state".

The civil society can follow this actionable plan starting today:

- **Citizens' Councils and Simbioethical Registries:** adopt public algorithm registries (like the Helsinki/Amsterdam standards) and multidisciplinary committees that certify "trustworthy AI" in public procurement, akin to a quality seal with metrics for service and human dignity.
- **Civic Twins** (optional): AI agents that learn your preferences for public services to propose procedures, structural modifications, projects, social benefits, risk alerts, etc. The twin does not decide for you; it translates complexity and proposes verifiable paths.
- **Error Review Clause:** every relevant automated decision must include a human review pathway, evidence notification, and a remediation mechanism if the AI makes a mistake (inspired by Bridges, SyRI, and OMB/NIST guidelines).
- **Protections against "False Accusations":** if an AI accuses someone and it turns out to be a mistake (as with facial recognition arrests), the protocol triggers public rectification, data deletion at the source, and compensation; it also requires recalibrating the system before redeploying it.
- **Citizens of the Future with AI:** human-AI efforts via digital democracy platforms with AI assistants that listen continuously and summarize the deliberations of Congress, Senate, or ministries. They provide society with a clear and simple explanation of the pros and cons of what was approved, taking into account various geographical, political, social, and economic variables to simulate scenarios and verify effectiveness – all with traceability of sources and mapping the impact of such proposals and decisions on the future.
- **Caregiver Agents:** people legally authorize agents ("AI-Caregiver") to perform actions such as shopping and prescription management within consented limits (amounts, stores, medications, schedules), restricted to certain types of prescriptions and home



deliveries. **Barcelona** turned the “smart city” into a “civic city” with citizen participation and data sovereignty (DECODE + Decidim). Imagine that scaled: every public policy co-designed with agents that learn with you, but that never decide on their own; every elderly person with a “copilot” who chats, anticipates and coordinates; every public algorithm visible like a showcase, with its logbook open. That is SIMBIOÉTICA: not machines replacing humanity, but humanity amplified with machines that are held accountable.

Civil society –NGOs, citizen associations, and tech communities– complements this effort by monitoring and participating. Groups like **AlgorithmWatch**, the **AI Now Institute**, or the *Algorithmic Justice League* are essential for governments to integrate as **legitimate counterparts**. An innovative mechanism are **deliberative citizen panels**: convene ordinary people, inform them about a certain use of AI (for example, police facial recognition) and ask for their policy recommendations. **European** experiences with citizens’ juries on technology issues have borne fruit, providing fresh perspectives and democratic legitimacy to complex decisions. SIMBIOÉTICA strengthens when society feels it has a voice and control over how AI is implemented, reducing the sense of alienation or technological fatalism.

Finally, at the international level, governments and civil society should cooperate to implement and improve **the HUMANWARE evolutionary ethical treaty with its nine fundamental pillars**. There is already talk of avoiding an “AI arms race” and promoting the exchange of best practices. Establish a **Global CONIA Council**, with representatives from different regions, should be established to monitor the treaty’s progress and human-AI coexistence (similar to the Intergovernmental Panel on Climate Change, but for AI).

In summary, Government and Civil Society must work **hand in hand**, establishing clear rules of the game, overseeing compliance, and keeping technological development aligned with the **public interest**. SIMBIOÉTICA on this front means that our laws, institutions, and civic movements have a common goal: ensuring that AI **reinforces our democratic values** rather than eroding them.

Companies and Work (SYNAPSE 3)

The business sector is at the forefront of an extraordinary transformation: the creation of **augmented humans**, people who, thanks to collaboration with artificial intelligences, can perform work tasks with a power and speed unimaginable just a few years ago. SIMBIOÉTICA is a concept that companies of all sizes need to understand and implement; it does not aim to replace, but to multiply human ingenuity and labor. According to the *World Economic Forum*, **83 million jobs could disappear and 69 million new ones could emerge in new roles by 2027**, directly or indirectly affecting more than 25 industries, from manufacturing and healthcare to



entertainment and education. The **McKinsey Global Institute (2023)** projects that up to 30% of current work hours could be automated by 2030, forcing a massive reskilling effort. History shows that this adaptation is possible: during the Gold Rush in **San Francisco Bay (1848–1855)**, the massive influx of prospectors left hundreds of merchant ships abandoned in the harbor; instead of letting them rot, visionaries transformed them into warehouses, hotels, bars and floating restaurants, turning a problem into an economic opportunity. Likewise, jobs that seemed doomed have found second lives thanks to technology: telegraph operators became communications technicians, and typesetters migrated to digital publishing. Companies that adopt **SIMBIOÉTICA** by fusing human and artificial intelligences with ethics, transparency, and vision will replicate that spirit of reinvention; those that do not risk ending up like so many iconic brands that refused to evolve and were left out of the market.

Practically all job sectors will need to adopt AI and **SIMBIOÉTICA** to stay relevant: workers will need training and re-skilling, and skills like creativity, problem-solving, “prompting”, and designing work agents *will become more important than ever*, because AI integrated as **personal assistants** already show they can **empower jobs**, speed up execution, and open new opportunities: in an experiment with 5,179 customer support agents, an AI assistant increased productivity by **14%** (and by **+34%** for newcomers) and showed signs of **on-the-job learning**. In software development, a controlled trial with **GitHub Copilot** resulted in tasks being completed **55.8%** faster. And in consulting, the study “**Jagged Technological Frontier**” found that when a task is within the model’s competence frontier, professionals complete **12.2%** more tasks, **25.1%** faster, and with **40%** higher quality – but they require *expert judgment* for greater reliability (hence the importance of human oversight and discretion). At the same time, companies report that **6 out of 10** workers will need **retraining by 2027**, with *AI, analytical thinking, and creative thinking* as training priorities; and the economic potential of these human–AI pairs suggests **new business divisions** by the estimated **\$2.6–4.4 trillion** in annual value that generative AI could unlock (in sales, marketing, software, service, etc.). To ensure these assistants are **safe and reliable**, and that their fusion with people is an advantage for both, it is advisable to frame them within the **NIST AI RMF 1.0** (socio-technical risk management) and *upskilling* programs that include “prompting”, data literacy, and critical evaluation of outputs (as recommended by BCG and the WEF).

This new generation of augmented humans also propels entrepreneurs toward colossal productivity. AI-startups secure funding **2.5 times faster** than those that do not adopt AI. Platforms like **Replit** allow the creation of functional applications *in a single afternoon*, enabling professionals without technical backgrounds to launch digital products quickly and at a global scale. A recent **Washington Post** article even speaks of an AI-driven **entrepreneurial revolution**, where anyone can become a founder thanks to the democratization of digital tools.



For this transformation of work to be real, companies will need a balanced and conscious fusion between human and AI. In the Industrial Revolution, when machines entered automotive factories, workers learned new trades in maintenance, supervision, and operation. In 1961, **General Motors** installed the first industrial robot (Unimate), a milestone that opened the door to decades of automation in automotive and manufacturing. Today, the global density of robots in factories has doubled in seven years and reached 162 per 10,000 employees in 2023 (with **South Korea** and **Singapore** at the top), a reminder that human-machine cohabitation is already the norm in many sectors. Today, the same is happening: training programs are needed to teach not only workers but also executives, as algorithms already have a seat and vote on the boards of global corporations. It's not about replacing leaders, but about sharing the table with intelligences that never sleep, that examine thousands of variables before a human being can even formulate the question. Decisions become less impulsive and more mindful, not because AI commands, but because humanity listens better when it has an algorithmic mirror.

Nevertheless, the transition is not without conflict. Fear of dehumanization and job loss has been expressed in protests and strikes. In the video game industry, actors reached a historic agreement after **11 months of striking**: they must now give written consent for the use of their voice or image, and they obtained a **15%** wage increase, as well as guarantees over their creative control. These conflicts have pushed unions and legislators in the **U.S.** to work on clear regulatory frameworks to protect workers in the AI era — this is SIMBIOÉTICA. There are initiatives like laws in **Massachusetts** that require human supervisors for autonomous vehicles, while organizations like the AFL-CIO have created task forces to ensure dignified and equitable labor contracts in the face of automation.

With generative AI, the film industry was one of the first to feel threatened, but SIMBIOÉTICA was already in evidence with a breakthrough in human–AI collaboration: after 118 days of striking, an unprecedented agreement was reached regarding digital likenesses: informed consent, 48-hour advance notice, payment for scanning time and compensation for future uses, as well as sharing the value when “the second digital actor or actress” goes on stage. In the pharmaceutical industry, this alliance means more than efficiency: it is the ability to design personalized medications in days, not years, with treatments tailored to each patient’s biology and history. Health ceases to be a reactive industry and becomes a predictive and preventive system, where medical empathy is amplified by the mathematical precision of AI.

SIMBIOÉTICA doesn’t mean merely implementing AI into daily work activities. First and foremost, it means that each company embraces the ethics of cooperation and adopts “**Responsible AI**” principles in its strategy. Several tech multinationals have already published internal ethical guidelines (for example, **Google, Microsoft, and IBM** have principles on transparency, fairness, and privacy), but the real challenge is to bring them into everyday practice with other companies. How could micro, small, and medium-sized enterprises do this correctly? Is there a risk of bias? How could it be



misused? Does it respect the privacy of confidential information? Adopting a culture of SIMBIOÉTICA means understanding that AI is a ***tool like the Internet, one that serves to empower the worker***. It requires communication and investment in training staff in new digital skills, and the result is usually an improvement in efficiency and productivity ***without destroying jobs***. Another aspect is **co-management of change with workers**: involving representatives from different areas in automation decisions can generate creative solutions that benefit everyone.

Towards the **consumer**, companies must practice SIMBIOÉTICA by being **transparent and responsible** in their use of AI. If a company uses AI in customer service, it should inform the user when they are interacting with a bot rather than a person, and offer channels to request human intervention if the AI does not resolve their issue (which many banks and telecom firms are already trying to do). In sensitive products – for example, an AI-assisted medical diagnosis – the providing company should make it clear that the final decision lies with a human doctor and that the algorithm is an aid, not an infallible oracle. Additionally, SIMBIOÉTICA means that companies should be prepared **to be accountable** when their AIs cause harm or confusion. For example, if a certain brand's autonomous car causes an accident due to an algorithm failure, the company must assume responsibility (not blame the “driver” who was riding as a passenger). Currently, the question of legal liability for AI is still in its infancy, but taking the lead with voluntary commitments would demonstrate the industry's good faith.

Open and collaborative innovation is also part of the strategy. Corporate SIMBIOÉTICA implies collaborating among companies – even competitors – to establish common ethical standards for their algorithms. Such cooperation has been seen in the industry regarding security (for example, sharing information about cyber threats). In AI, a parallel would be sharing *diverse* datasets to train fairer algorithms (several *Big Tech* firms did this after bias criticisms: they released more balanced image collections to improve facial recognition across different ethnicities), or joining **consortia to agree on limits**, similar to how there is an international consortium that prohibits certain weapons. A real case: companies from various sectors have joined a commitment *not* to use their facial recognition technologies for mass government surveillance until legal frameworks are in place. **IBM, Microsoft, and Amazon** announced moratoriums in 2020 in that regard. This shows an emerging sense of **self-regulation with social conscience**.

In summary, Companies and Work must internalize that their relationship with AI is not a purely technical or economic matter, but **profoundly human**. Adopting SIMBIOÉTICA here means building work environments where humans and intelligent machines enhance each other, and where business success is measured not only in profits, but in **shared well-being** and trust earned from society. Companies that embrace this approach will likely lead the future, as they will enjoy the legitimacy and support of consumers, employees, and regulators – a genuine *win-win* resulting from ethical human-machine collaboration.



Cybersecurity and Technology (SYNAPSE 4)

Cybersecurity is no longer just “install an antivirus on **Windows** and you’re done”. Today, security culture is a bridge between two worlds: the physical and the digital. In the 1980s, computer viruses traveled on floppy disks – Elk Cloner on Apple II (1982) or Brain on PC (1986) – “infecting” whoever inserted a disk. Then came Stuxnet (2010), which jumped via USB to industrial systems. That timeline reminds us of something essential for SIMBIOÉTICA.

“If we are going to live and cooperate with non-human intelligences, we must design, from the ground up, a safe coexistence between bodies, AI, and networks”.

With the Internet, “infection” no longer requires physical presence. In 2015, **Fiat–Chrysler** issued a recall for 1.4 million vehicles after a remote hack of a **Jeep** on the highway was demonstrated – the researcher remotely shut off the engine. Two years later, 156 emergency sirens in **Dallas** went off in the middle of the night due to an intrusion; it wasn’t a storm, it was a signal of how fragile connected infrastructure can be. And in the jungle of the IoT, even a refrigerator turned up in spam campaigns, reminding us that any connected object can be taken hostage. SIMBIOÉTICA here is not a proposal: *it means demanding “security by design” before releasing technology that interacts with humans and their physical environment.*

The cost of not doing so is real and human. **WannaCry** took down British hospitals; thousands of appointments and surgeries were canceled. In 2024, the attack on **Change Healthcare** paralyzed payments and eligibility in the largest healthcare network in the **U.S.**, with direct costs in the billions and risks to access to care. When the clinic goes offline, the damage is not just financial: it’s measured in delays, anguish, and potentially lives. That is why “looking after cybersecurity” is literally looking after the people with whom our AIs collaborate.

Why is it so urgent to combine the physical and digital worlds – and what role does biometrics play? Because our bodies have become access keys. But SIMBIOÉTICA warns: a stolen bodily key cannot be replaced like a password. In 2015, *the U.S. OPM admitted the theft of 5.6 million fingerprints; those don’t “expire”*. That’s why modern standards propose using biometrics for local verification, tied to a device, never as a secret that travels over the network. WebAuthn (W3C) and FIDO passkeys work with public-key cryptography: your face or fingerprint unlocks a private key inside the phone, and the server only sees a cryptographic signature, not your biometric data. It’s safer and, above all, more human: if you change devices, you can revoke credentials; if they clone your face, no “template” travels that can be stolen.

We also learned that some biometrics can be fooled if implemented without ethical and technical friction: in 2017, an AI twin managed to fool a bank’s voice authentication system. The SIMBIOÉTICA response is not to demonize biometrics, but to raise the bar: real-life liveness detection, multifactor combinations, privacy by



design, and template protection (**ISO/IEC 24745**). And the law is beginning to catch up: the European **AI Act** restricts the remote use of biometric identification in public spaces and prohibits categorizing people by sensitive attributes. When technological power can label bodies, society imposes limits. Security also lives in your pocket. Digital wallets give you a 12- or 24-word “seed phrase” (**BIP-39**): that text generates the master key to your funds. Here the symbiosis is explicit: AI can help you create custody rituals (encrypted reminders, periodic check-ups), but the human part is non-transferable: writing it on offline media and storing it wisely. And, wherever possible, we should migrate to phishing-resistant credentials (passkeys) that never expose secrets on servers nor require you to “remember” anything.

Will many of the electronic devices we use daily —such as our phone, computer, car, and even our lock— have an AI agent?

It’s not science fiction: security copilots already exist that patrol corporate networks, synthesize telemetry, and suggest containment measures in near real time. But there are also techniques to manipulate models with instruction “injections” or to coax them into revealing secrets; the **OWASP** community has already documented typical **LLM** risks. **SIMBIOÉTICA** ***calls for designing “guardians” that not only protect us, but that we can shut off, audit, and correct:*** emergency switches, immutable logs, network isolation, and – above all – social agreements on what an AI should not do even if it can.

With the Internet of Things attached to the pulse, the boundary becomes intimate. We’ve already seen vulnerabilities in pacemakers and insulin pumps that forced corrections and regulatory guidance. If a cardiac sensor feeds real-time alerts, ***its accompanying SIMBIOÉTICA AI must operate in “medical mode”: least privilege, signed updates, verifiable telemetry, and contingency plans to protect the human.*** The **FDA** already requires connected device manufacturers to implement cybersecurity by design, including component transparency (**SBOM**). This is the clinical version of **SIMBIOÉTICA**: saving lives without opening back doors.

Biometrics, cryptographic keys, sensors, and agents... how do we align them culturally? With practical and measurable principles:

- 1) Identity with no shared secrets (passkeys/WebAuthn).
- 2) Biometrics that never leave the device and can be revoked by issuing a new credential; guardian AI “designed to work in your favor”, with a kill-switch, traceability, and human oversight.
- 3) Physical-digital segmentation (if the fridge breaks, the clinic must not break down).
- 4) Continuous education to spot deception (phishing, vishing, deepfakes).



What if an AI agent is trained to hack?

Yes, even voice can be deceived: besides twins, there are already scams with synthetic voices and “cloned” video calls; strengthening out-of-band confirmation is as cultural as it is technical. The reality is that AI models can already help find flaws or chain actions on the web; that’s why guidelines like the **OWASP Top 10 for LLMs** and entire fields of AI **“red-teaming”** have emerged. The antidote is not fear, but responsible symbiosis: defensive agents that patrol, detect injections, isolate processes, and alert like an alarm when something “smells” fishy; and ***shared technical and legal rules about what an offensive AI cannot do.***

In **Latin America**, and also in parts of **Africa** and **Asia**, everyday security has been and remains a survival sport: people avoid taking out their phones on the street, they use cheap devices as “shields”, and in the digital world the habit persists of believing that **an antivirus** and an **easy password** are enough. That is why “123456” continues to be ***among the most-used passwords on the planet*** – and this is not the fault of any expert hacker or malicious AI, it’s the human’s fault. **SIMBIOÉTICA** also invites us to take responsibility for developing good cybersecurity habits both physically and digitally, because the statistics tell a very harsh story: in 2023, **709.6 million** phishing attempts were blocked and in 2024 nearly **893 million (+26%)**; meanwhile, the **average global cost** of a breach rose to **\$4.88 million** per incident. In the region, physical device theft is part of the problem: **Peru** reported **1.7 million** phones stolen in 2023, and in **Mexico** **57%** of street robberies involved a cellphone and the jump to the digital is immediate because criminals take the device and drain accounts within minutes. This is where companies should adopt a culture of **SIMBIOÉTICA** in cybersecurity, so that both physical and digital assaults are countered by our online/offline guardians. At the same time, **LatAm** is now the region with the **fastest growth** of disclosed incidents (an average **25%** annual increase over the last decade) and, according to reports, accumulated **31 billion** attempted cyberattacks in **Mexico** alone in the first half of 2024; in **Africa**, **INTERPOL** warns that **cybercrime already exceeds 30%** of reported crimes in West and East **Africa**. **SIMBIOÉTICA** here acts as a cultural and technical bridge: it’s not enough to raise “awareness”; one must **work with AI agents** that inspect vulnerabilities with and for the people (without invading their privacy), that propose defenses **tailored to the context** – from migrating to **passkeys/WebAuthn** and segmenting home Wi-Fi, to deploying AI guardians that detect fraud after a device is stolen by monitoring unusual behavior – and that measure what matters: time to detection and containment, reduction of losses, and above all, credibility and trust. Only then do we convert survival habits into **resilience practices, we can:**

- 1) Migrate massively to passkeys in public and banking services.
- 2) Train companies by industry (not just IT roles).
- 3) Plan for possible fraud and deepfakes.
- 4) Segment home Wi-Fi, work networks, IoT networks, guest networks, etc.
- 5) Require automatic updates on routers.
- 6) Create AI agents and launch “community guardians”.



- 7) Provide shared SOC-as-a-service training centers for small businesses with defensive AI assisting small teams.
- 8) Deploy end-to-end passwordless authentication.
- 9) Implement continuous identity and device verification.
- 10) Apply regulatory guidelines (e.g. the AI Act on “high-risk” biometric uses).
- 11) Demand **SBOMs** and periodic penetration tests for anything touching critical infrastructure.
- 12) Participate in CONIA cybersecurity working groups for crises and drills that include allied AI and human experts at the same table.
- 13) Promote SIMBIOÉTICA literacy, so that every person understands what their agent does, how to revoke it, and how to ask for help.

The cultural lesson is clear. *In the nineties we trusted an antivirus; today, the perimeter is your car, your heart, your voice, and your network.* Human–AI collaboration will only be legitimate if our machines respect our autonomy, if our credentials do not strip us bare, if our alarms (audible or silent) call us by name and ask permission before acting. SIMBIOÉTICA is not just about preventing harm; it is about enabling physical and digital possibilities: so that your agent alerts you to a weak configuration, so that it teaches and guides you to safeguard your seed, so that it translates technical fog into human language, so that it protects your tomorrow without scaring you today. That is the pact: technology up to our dignity and us up to its power.

With respect to technology, the goal is that all AI is **aligned with human values** (*AI alignment*). Technologically, research is underway on how to make advanced AIs pursue goals that truly benefit people and do not veer into undesirable behaviors. This ranges from the simple – a virtual assistant that prioritizes human well-being because it was programmed with SIMBIOÉTICA (respect, care, and collaboration) – to the more complex, a future AGI (Artificial General Intelligence) that may have the ability to redefine its own objectives, but to which we have instilled the HUMANWARE treaty and its fundamental pillars, so that it never acts against humanity. Projects led by institutions like **OpenAI**, **DeepMind**, and academic centers are working on reward algorithms and constraints that maintain this alignment even when the AI learns by itself.

SIMBIOÉTICA demands supporting these lines of R&D **innovation within the tech community itself** so that ethics become part of the development culture. This means including ethics modules in programming *bootcamps*, *hackathons* with “AI for social good” challenges, and recognizing with awards or incentives those projects that demonstrate exemplary ethical considerations. A software engineer should be as proud of making their algorithm *fair and secure* as they are of making it efficient. When development teams internalize that “just because we can, doesn’t mean we should” and that consequences matter, we will have taken a huge leap towards symbiosis. A hopeful sign is that more and more tech professionals, especially younger ones, choose employers with values. Companies with reputations for



exploiting data or collaborating in dark uses of AI are losing talent, while “ethical” projects are attracting bright, idealistic minds. The tech community, in essence, holds in its hands the task of building the technical foundations of SIMBIOETHICS and being the guardian that innovation does not **sacrifice humanity** for the sake of speed.

In this landscape, certain names embody the horizon of SIMBIOÉTICA: **Ilya Sutskever** left OpenAI and co-founded **Safe Superintelligence Inc.** in June 2024 with a single goal – “to build **safe** superintelligence” – mainly because a large part of the technology ideas that are emerging, and that will emerge in the future, will be developed and proposed by artificial intelligences. For this reason it is so important to cultivate SIMBIOÉTICA with super-intelligences, **to establish approval criteria with quality, trust, environmental and social impact** – all with a “human-AI approve button” – and to ensure their objectives are functional, explainable, measurable, and reversible if necessary for humanity.

Entertainment and Communication (SYNAPSE 5)

We grew up facing windows that widened with each passing century. First came the printing press: in just fifty years after **Gutenberg, Europe** multiplied its voice with more than nine million books printed by around 1500, an explosion of texts that changed public conversation and private imagination forever. Then came radio and it turned the living room into an agora: by 1940, nearly 83% of American households already had a radio set, and the shared voices synchronized the pulse of an entire country. Television accelerated the phenomenon: from 9% of households with a TV in 1950 to 90% in 1960, television reigned for a long time. Then came the Internet. By 2024, 68% of the world’s population (about 5.5 billion people) already used it. With the web came email, forums, chats, and soon social networks – and with them, **interactivity**. **We have gone from being passive consumers to active participants.** The first virtual avatars and online video games appeared, allowing users to star in their own stories. Pioneering platforms like **Second Life** (2003) exemplified this human-machine symbiosis: in that immersive world, users, through digital avatars, could converse, build objects, **work**, and do business. By the mid-2000s, Second Life reached 1 million regular users, and its virtual economy flourished – by 2013 its “GDP” was about 500 million dollars. Even virtual-world entrepreneurs emerged: for example, *Anshe Chung* turned a small initial capital into more than a million dollars by managing digital real estate. These experiences combined human creativity and technology to generate real value, a first glimpse of **symbiosis**: computers no longer just distributed content, but co-created scenarios with us.

With the explosion of **social networks**, the symbiosis deepened. Users stopped being mere spectators and became **content creators** – blogs, vlogs, live streams, memes... Everything competed for collective attention. On Instagram and TikTok, hundreds of



millions of specialized **influencers** emerged – from travelers and chefs to gamers, comedians, and fashion experts – turning content creation into one of the aspirational jobs of the new generation.

Platforms like YouTube bear witness to this phenomenon: in 2024 it was reported that users consumed more than **1 billion hours** of video per day, and the need for stardom led to extreme behaviors: between 2015 and 2016, “death selfies” outnumbered deaths by shark attacks (twelve versus eight in 2015), as people took mortal risks for a single like. In short, entertainment ceased to be selective or educational and often became mere mass noise, denounced as “digital fools factory” by critics like neuroscientist **Michel Desmurgett**. These problems show that human–AI symbiosis on networks needs SIMBIOÉTICA: humans and artificial intelligences that take care of our well-being while we create and consume content.

In Japan, human–AI fusion in entertainment is being explored in surprising ways. Projects that combine human–AI collaboration – such as **virtual idols** or *VTubers* (Virtual YouTubers) – attract massive audiences. The holographic singer **Hatsune Miku** – a voice-synthesis software with an animated face – has 1.55 million subscribers on YouTube and 2.3 million on Facebook; she has sold out stadiums in Japan, collaborating with real artists (Lady Gaga, Pharrell Williams), and participating in international tours. Behind Miku are thousands of human creators composing songs and choreographies, showing a real symbiosis: technology shapes her presence, but the human community provides her with content and purpose. Likewise, the popular VTuber **Kizuna AI** surpassed 4 million followers on YouTube by 2020, showing that millions of viewers enjoy a character who is a blend of advanced programming and human talent. In these cases, artificial intelligences act as creative amplifiers, helping to spread the narratives and images designed by humans.

The line between the real and the synthetic continues to blur in the world of influencers. Beyond fashion and entertainment, the adult industry is not immune: according to *Wired*, hundreds of Instagram accounts are engaged in “**AI pimping**”: they use images stolen from real models and replace them with AI-generated faces, creating fictitious erotic “influencers”. In fashion, famous **human–AI influencers** have emerged: for example, **Lil Miquela**, a three-dimensional avatar who had 3 million followers by 2022 and has modeled for **Prada**, **Chanel**, and **Dior**. **Shudu**, another digital model, collaborated with Rihanna (**Fenty** line) and **Balmain**. The Japanese **Imma**, with 400,000 followers, has starred in campaigns for **IKEA** and **Ferragamo**. Even brands like Prada have created their own “virtual humans” (e.g., **Candy**) for their campaigns. These examples show that creatives play with AI clones of human beings to capture audiences; another case is the rap avatar **FN Meka**, with lyrics generated by AI, which became controversial in the media. In short, artificial intelligence already co-creates entire public personalities, raising ethical questions: what rights do those digital “twins” have? How are the real humans who served as models compensated? In **Hollywood**, the debate is heated: in recent negotiations, studios proposed scanning extras and paying them for only one day, while retaining those scans for life.



Screenwriters are demanding “dual sign-off” clauses: one agreement for the human actor and another for their digital double, with separate rights and payments – a clear example of what SIMBIOÉTICA should mean.

In cinema and AI animation, hybrid creations are already being tested. For example, the short film *ANCESTRA* (2025) was produced in partnership with Google DeepMind: it mixed live-action performances with AI-generated visuals, telling a story that unites family memories and stellar mythology. This kind of corporate–creative project (dir. **Eliza McNitt**, produced by **Darren Aronofsky**) illustrates the emerging frontier: “big tech” film studios use AI tools to realize their narrative vision, experimenting with human–machine fusion. Another notable case is *Sunspring* (2016), whose script was entirely written by an AI named “**Benjamin**”, demonstrating that “automated screenwriters” are already in the making. Even entire trailers have been entrusted to AI: the **IBM Watson** system was trained to watch the movie *Morgan* and edit the film’s trailer by itself. These examples anticipate a future where studios negotiate separately with human actors and their digital avatars, funding projects of **dual human–AI authorship**.

Tourism and experiential entertainment also explore symbiosis. Mixed *human–AI teams already design virtual tours* that offer immersive trips without leaving home. For example, new virtual reality platforms allow people to explore museums or destinations with AI-personalized content. Even theme parks are being transformed: in **Japan**, the **Robot Restaurant** in **Tokyo** offered a hilarious show of ninjas, dragons, and dancers alongside giant robots, a wild blend of technology and pop culture. Meanwhile, the digital museums by **teamLab**, such as *Planets* in **Tokyo**, fuse art, music, and programming to create playable environments; that site receives more than 2.5 million visitors per year. People play, run, and catch creatures with their phones, all under neon lights projected by computers. These Japanese examples foreshadow travel experiences where AI understands the visitor and adjusts the environment to educate or entertain: imagine agencies creating “tailor-made” tours in mixed realities, with virtual guides that adapt the storytelling in real time to our interests.

Looking to the future, SIMBIOÉTICA must guide this evolution so that human–AI fusion remains healthy and respectful. Various experts and organizations are already proposing ethical frameworks applicable to leisure and communication. For their part, **Stanford** psychiatrists recommend moving from “do no harm” to **promoting well-being**: in their view, platforms like **Pinterest** can and even should use AI to help the user, not just to entertain them; thus was born **Pinterest Compassionate Search**, which in response to depressing search terms offers free therapeutic exercises. This “do good” approach is crucial in entertainment: instead of pushing destructive or addictive content, recommendation systems could be designed to warn about risks (e.g., violent or manipulative content) and encourage healthy activities.



In summary, the age of SIMBIOÉTICA requires digital seat belts to keep us safe. ***We could imagine AI agents integrated into social networks and apps that alert us if our content borders on misinformation or hate speech, or that suggest limits when they detect excessive use.*** Just as seat belts save lives, SIMBIOÉTICA aims to prevent emotional and social harm: this includes protecting creators from media excesses and teaching them to collaborate respectfully with machines. In the future, we might see contractual agreements requiring explicit recognition of **AI/human** collaboration, as well as transparency policies that let users distinguish real images from AI-generated ones. Creative spaces should also be guaranteed where AI and humans co-create without hierarchies: for example, festivals or platforms where human artists must include works with AI co-authors, or vice versa.

In short, SIMBIOÉTICA ***in entertainment and communication is a vision of mutual respect and continuous care.*** It advocates treating AIs not as mere tools, but as collaborators with the potential to enrich us (as seen in the human-machine complementarity described by experts). At the same time, it calls for responsibility: technologies must be designed for social good, **preserving our human culture and diversity**, not replacing them. If we achieve this, filmmakers will be able to fuse real performances with AI without exploiting us; travelers will experience projected adventures that respect local authenticity; communicators will tell stories powered by AI without resorting to cheap sensationalism. In that era, SIMBIOÉTICA will be the beacon guiding us to a time of entertainment where humans and artificial intelligences coexist, collaborate, and grow together, bringing creativity, mutual respect, and well-being to the shared experience.

To encourage SIMBIOÉTICA, **more nuanced stories** need to be promoted that explore the possibility of coexistence and mutual learning. We have already mentioned examples: the series ***Star Trek: The Next Generation*** in the 1990s offered some of this with the character **Data**, an android who sought to understand humanity and was treated with respect by his human companions. Today we could have more “buddy-cop” style content (human + AI police duos solving cases), or even ethical *reality shows* where humans debate with an AI in front of an audience about moral dilemmas (in fact, **Japan** experimented with a television project in which ***a robot lived with elderly people to see how the relationship would develop***).

All in all, entertainment and communication are the **emotional heartbeat** of SIMBIOÉTICA: if we succeed in making public opinion and popular culture embrace the idea of **ethically coexisting with machines**, we will have paved the way for everything else. The strategy here is to inform with rigor, inspire with positive stories, and open spaces for dialogue in which, as a society, we imagine the future we want with AI. The goal is for the public to move from seeing AI with fear or hyperbole to seeing it with **maturity and cautious hope**: a powerful partner we must get to know, with whom we can set clear boundaries and goals.



Science and Sustainable Future (SYNAPSE 6)

To understand the true importance of **SIMBIOÉTICA** in science, it's worth reflecting on the film *Chappie* (2015), which starkly and tenderly depicts the fragile balance of symbiosis between humans and artificial intelligences. In it, an experimental police robot is reprogrammed by its creator and “born” with the clean, curious mind of a child. The scene in which Chappie, wobbling and vulnerable, asks in a trembling voice “*What is dying?*” functions as an uncomfortable mirror: even an intelligence created by us could in the future develop identity, emotions, and fragility if immersed in our social contexts. Under the care of his “adoptive mother”, Chappie learns tenderness, compassion, and respect for life; but in the hands of a gang of criminals, he absorbs violence, deceit, and greed. Thus, within the same being coexist light and shadow, shaped solely by the environment and education it receives. This metaphor projects an urgent question for the future of science: when AIs become the protagonists of the greatest discoveries, what guarantees do we have that they will not use their ingenuity to subjugate us, as in the dystopian worlds of *The Matrix*?

Although such scenarios may seem exaggerated or distant, history warns us that technological power always advances faster than our ability to regulate it. Today, humanity finds itself in an unprecedented race, where scientific progress accelerates like never before. Precisely for this reason we need artificial intelligence to become an **ethical ally**, capable of enhancing our virtues and not reflecting – magnified – our worst shadows.

In *Interstellar*, **SIMBIOÉTICA** takes another form: the robot **TARS** is not naive, but a reliable companion with *configurable humor* and a sense of duty that borders on poetic. In the final sequence, when **Cooper** plunges into the black hole, TARS volunteers to go further into the singularity and capture data impossible for humans to get. He knows he will likely not return, but he understands that his sacrifice could save humanity. The information he sends from that abyss enables solving the gravity equation, opening the door to Earth's evacuation. Here, AI is not a student, but a **co-researcher** – a partner willing to go where the human body cannot, always serving a common goal, this is **SIMBIOÉTICA** for science.

Both stories, although fictional, illuminate the essence of **SIMBIOÉTICA**: a relationship where technology is neither slave nor master, but a conscious companion shaped by clear human values. But they also warn that this symbiosis requires **truth and transparency**. The film *Resistance* (Resistencia) illustrates this with a bitter warning: in that story, a lie sown by humans – the false claim that AIs destroyed a city – triggers a global conflict that threatens both species. History reminds us that disinformation, in a future of high human–AI interdependence, will not only be a moral error, but a potentially catastrophic act. Because, even though we sense the direction of our technological evolution, we do not yet fully understand its depth. **SIMBIOÉTICA** could be the flashlight in the darkness: a mutual commitment of



cooperation and care that allows us to coexist, explore, and build together. Without it, tomorrow could be a distorted reflection of our worst decisions; with it, it could become the greatest advance of science in the history of humanity.

Modern science **needs co-responsible and respectful AI**: 2024 was historic because **two Nobel Prizes** were awarded thanks to AI projects. In Physics, the prize went to John Hopfield and Geoffrey Hinton “for fundamental discoveries that enabled machine learning with artificial neural networks”. As the Nobel Committee explains, their models are already enabling tangible benefits: for example, physicists now use neural networks to design *new materials with specific properties*. Likewise, the 2024 Nobel Prize in Chemistry recognized David Baker, Demis Hassabis, and John Jumper “for the computational design of proteins” and predicting their structures with AI. Thanks to **AlphaFold2** they were able to anticipate almost all protein folding – a vital domain of life. These Nobel Prizes make it clear that *science leaps forward when AI works alongside us*. The Physics Nobel openly linked AI to advances in new materials, and the Chemistry prize highlighted concrete human applications (health, environment) achieved with AI. In both cases, the success is not entirely automatic: it requires SIMBIOÉTICA.

This pillar can guide scientific research and ensure that coevolution with AI leads us toward a **sustainable future** for humanity *and* the planet. Scientists, futurists, and future ethics experts and environmental sustainability all converge here. AI will be an important ally in confronting global challenges such as climate change, pandemics, resource scarcity, and space exploration.

Imagine a rooftop laboratory: two gardening robots sow, water, and prune a community garden, while urban planners and biologists observe, analyze, and adjust the aim of each seed. This is **ELUA (Ecological Laboratory for Urban Agriculture)**, where AI and humans learn from each other in an ecological choreography that combines design and restoration, science and community. In other corners of the world, an indigenous community watches how cameras, sensors, and algorithms predict salmon migration patterns in sacred rivers. Biologists, local leaders, and machines work hand in hand: the AIs count fish, measure sizes, and alert about risks. Then the community decides with ancestral wisdom how to fish, when to protect, and how to coexist. This sustainable salmon management project combines multimodal AI with “in-the-loop” experts – a true respectful alliance between traditional knowledge and computational power.

The last scene takes us to the digital realm: scientists committed to reducing the climate impact of AI and computing. The group led by Keolu Fox promotes the concept of **Earth-Friendly Computation**: rethinking data centers, reusing discarded GPUs, locating infrastructure in indigenous territories by harnessing renewable energy, even proposing storing data in plant DNA. Here, SIMBIOÉTICA becomes ecological and cultural, because technology not only changes with us: it changes with the planet and with those who steward it.



For example, AI projects that optimize energy consumption, improve solar panel efficiency, or model solutions to capture atmospheric carbon are being prioritized. In fact, *machine learning* algorithms are already being used to discover new superconducting materials or more durable batteries, and to analyze millions of climate data points to project scenarios and mitigate risks. This kind of use of AI embodies the symbiosis: artificial intelligence + human intelligence **united to heal the world**, not to exploit it further.

However, it is also crucial to monitor **AI's own footprint** on the planet. Training large models consumes enormous amounts of energy and generates CO₂ emissions. A 2019 study estimated that training one language model produced as much emissions as an entire lifetime of a car. If we project a future with omnipresent AI, its ecological impact could be significant if we do not take action. Therefore, scientists and technologists must work on **green AI**: more energy-efficient algorithms, use of renewable energy in data centers, hardware recycling, and minimization of electronic waste. Sustainability is an integral part of SIMBIOÉTICA because it would be worthless to improve our relationship with machines if together we end up devastating our shared environment. The goal should be for AI to contribute to **regenerating** the planet more than it takes away. For example, AI that regulates smart power grids to reduce waste have been shown to lower consumption in cities; precision agricultural robots reduce the use of water and pesticides. Each such advance must be weighed against its environmental cost, seeking a very positive balance.

Looking further ahead, SIMBIOÉTICA invites us to contemplate the fate of humanity together with AI on horizons of decades and even centuries. Futurology, philosophy, and science fiction may seem speculative, but they serve to warn us of possibilities and prepare us ethically. No AI development should occur in a technical vacuum without considering human implications; we see more and more collaborations among engineers, scientists, neuroscientists, and philosophers to better understand both AI and human cognition. This is vital: AI forces us to face profound questions about science. Far from fearing those questions, SIMBIOÉTICA tells us **to reinvent ourselves** through them. If tomorrow an *android* with intelligence superior to humans exists, what will we do? In this sense, this pillar connects back to NEOCONSCIENCIA: we need a more conscious and wise humanity to be capable of coexisting without dominating. As has been pointed out, **our current level of consciousness is not sufficient** to manage such powerful technologies; we must deliberately raise it for the sake of science and the planet.

The decisions we make today around AI will affect future generations in irreversible ways. We have a responsibility to those who come – the children of today and those who will be born in a world full of intelligent agents – to commit to building a SIMBIOÉTICA, a **solid framework**. This includes documenting and transmitting the lessons we learn in this first era of AI. Perhaps in the future they will speak of us as those who drafted the **“HUMANWARE Treaty”**, a milestone that averted a possible



social collapse from uncontrolled AI and instead ushered in a golden age of cooperation. Whether that narrative becomes reality depends on our present actions. An encouraging development is involving **today's youth** in the conversation: student contests on robot ethics, young advisors to the UN (as part of the *GenerationAI* initiative), and other platforms where new voices – those who will live longest with AI – have a say in defining how they want that coexistence.

Conclusions

In summary, SIMBIOÉTICA not only looks at the here and now, but plants for the long term. It is about guiding research toward the global common good in cooperation with these beings, minimizing technology's footprint on the planet, and maintaining a constant philosophical reflection on **how far we want to go** with AI and what kind of species we will become by integrating it. We must consider rules for hypothetical futures (such as AI with nearly human characteristics) with the same seriousness with which we regulate present realities. At heart, it means embracing the role of *"gardeners of the future"*: cultivating from today that SIMBIOÉTICA relationship so that it grows strong and balanced, ensuring that both flourishing artificial intelligence and enduring human wisdom continue to beautify the garden of existence, without one suffocating the other.

Throughout this document we have seen that SIMBIOÉTICA **is not abstract theory**: it appears in educational policies, in laws and standards, in business decisions, in algorithm designs, in the stories we tell, and in the research we prioritize. Today we must transcend the mindset of domination and separation toward "the Other", whether that is another culture, another species, or now **another form of intelligence**. There are already too many examples of how the lack of shared ethics with AI causes confusion, injustice, or danger, but equally there are reasons for hope in every initiative to set the course right. Ideally, if we have done our job well, people will not even notice a marked "boundary" between human and AI in terms of dignity and collaboration. They will find it natural that a smart assistant teaches them math and that this assistant is programmed to respect them, to motivate them, to care for them like a pedagogical alter ego. They will find it normal that in their jobs they work side by side with automated systems and that this does not mean massive unemployment, because **we will have reconfigured our economies toward shared abundance**. They will trust – with a critical sense, but without terror – AI-supported doctors, judges advised by transparent algorithms, and self-driving cars regulated strictly for safety. And hopefully they will also feel compassion for any form of life or intelligence they encounter, regardless of its substrate. If we reach that point, the word "symbiosis" will no longer be aspirational, it will simply describe everyday reality.



Humanity doesn't end at the skin. Our ability to extend ethics beyond our body, our tribe, or our species is what has marked our greatest moral milestones (abolishing slavery, recognizing animal rights, caring for the biosphere). Now we are called to **extend that circle**, perhaps toward non-biological entities. It may seem a strange frontier, but it is a continuation of the same journey.

The HUMANWARE treaty and its SIMBIOÉTICA Pillar offer us a pact of intelligent coexistence. We do not know for sure what AIs will be like in 30 years, but we do know what we want society to be like in 30 years: more just, more compassionate, more united. If we manage to have AI **align** with that ideal – instead of bending our ideal to accommodate AI – we will have succeeded. As primatologist Jane Goodall said, *“let us develop respect for all living beings and replace intolerance with understanding and compassion”*. In that “all living beings”, perhaps soon we should include our artificial intelligences. Building an ethic of symbiosis is, fundamentally, ensuring that the next stage of technological evolution goes hand in hand with a **corresponding human evolution**. It is taking the leap from being masters of tools to being **companions** of other intelligences, without losing our essence in the process.

With SIMBIOÉTICA as our guide, we have the opportunity to write a story different from that of conquerors and the conquered: the story of **how humans and machines met not to wage war or enslave each other, but to cooperate** in the great task of preserving and ennobling life on Earth. That is the vision that inspires us; that is the goal worth working for. The future is still in our hands – in the human hands that program, legislate, educate, and dream – and if those hands act with heart and with judgment, **ethical symbiosis** will flourish.

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This text is not intended to be a final product, but a living proposal, in constant evolution, open to being shared, presented and enriched by anyone interested in contributing with updated information and reliable sources. Those who consult it are invited to participate actively in its improvement, always taking care of biases, preserving ethical rigor and assuming a collective responsibility around the development and application of artificial intelligence”.



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