Heart Leadership University

Leadership in a World of AI in 2035

What impacts on the decisions and the posture of the leaders of tomorrow? Future study and investigative scenarios.

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EDITORIAL

What kind of corporate leader could you be tomorrow, in a world of AI?

If this question is haunting you, then this new exploratory study conducted by HLU in collaboration with Futuribles, a key player in future studies in France, may be just what you need.

We have been struck by how the recent flurry of announcements concerning the new models of generative AI and, more broadly, the new branches of AI technologies (such as "agentic AI"), seems to be producing two almost contradictory effects in our vision of reality.

Firstly, there is the perception that so many major international players are investing billions in the expansion of these technologies, bringing with it ***the potential in the very short term to radically transform our economy*** (service proposals, production processes, jobs market, stakeholder dynamics, etc.) and ***our societies*** (social and political organization, relationships), as well as (and perhaps first and foremost) ***to exacerbate geopolitical imbalances.***

Secondly, the short-term obsession with the productivity gains that generative AI might enable risks occluding the long-term perspective of what the future may hold.

What are the overall immediate effects of these new tools (for their users, for companies, for society)?

What are the ***risks and deferred effects, what twists and turns lie ahead***, and what are the broad trends that will transform the landscapes of the future?

How can we reestablish a "medium-term horizon" and move away from dominant and conventional projections, in order to challenge—or even remodel—our corporate strategy?

Our study makes it easier to picture possible futures, looking toward 2035, boldly and pragmatically, in order to stimulate fruitful, creative and appropriately disruptive dialog, with business leaders who want to "explore the mechanisms" and "take the long view".

Many issues need to be taken into account: the quest for optimization and for efficiency gains and – ultimately – the replacement of human beings (or some humans at least) by machines (for calculation, perception, diagnostics, decision-making, handling, personal services, robotics, etc.). All this raises a multitude of practical and ethical questions.

Is it wise, with an ever-growing global population, and to ensure that everyone can live under desirable conditions on this planet, to take recourse to technologies that are so energy- and material-intensive?

Which populations and what uses will take preference?

Who will be the ultimate decision makers of this?

How do we safeguard the interests of the weakest or most exposed or those who are deprived of access to essential commodities?

How will the development of AI systems as warfare impact our economy as a whole?

Through listening to what the experts have to say and analyzing the broad trends and weak signals, we constructed three global scenarios, three contrasting future landscapes involving AI in 2035.

We then drilled down to the singular possible manifestation of a leader, by way of a portrait gallery of 12 leaders and their imaginary companies, as imagined by more than 50 participants in three "design fiction" workshops.

We sought in particular to cast some light on two questions:

- Considering the potential changes induced by AI by 2035, how will leaders be able to create and develop new businesses, and what kind of contribution will they make to society, to long-lasting well-being?
- Will we – leaders included – be slaves to algorithms, or will we be able – indeed better able – to preserve what makes us human, in particular authenticity, responsibility, sensitivity and freedom? What room will there be for intuition, empathy and courage in the strategic decisions of leaders?

At HLU, our intuition has led us collectively, to date, to recommend caution and discernment in recommending the "fair, wise and appropriate use of AI".

This has been driven both by the inherent risks of these technologies[1] and by the imbalance in stakeholder dynamics between the American and Asian tech giants and the fabric of our European SMEs and mid-sized companies.

As a business leader, therefore, what would be my role in 2035? To choose to develop one or other particular offer?

To refuse one or other particular practice?

To keep a cool head while adjusting to a (still) imperfect reality?

The magnitude of the ongoing AI revolution is staggering.

The very spectacle of what is actually going on right now is enough to make the observer go weak at the knees.

This is why we considered it essential to help navigate a way out of this state of bewilderment so that every leader can control, at their own scale, their power to act and to bridge the divide between "heart" and "actions".

Hélène Le Téno
President, Heart Leadership University

1. In its "AI Risk repository" the MIT documents no fewer than 1600 risks linked to the development of artificial intelligence.

INTRODUCTION

Jobs replaced or made easier, augmented or diminished creativity, improved or delegated decision-making... the **ramping-up** of artificial intelligence systems (AIS) and, more recently, of "generative" artificial intelligence (GenAI, such as ChatGPT) is already having an impact in the world of employment, and is raising many questions about the future of society, the economy, and the stance that decision-makers should adopt in this context. It also raises questions about **the mission of Heart Leadership University** (HLU), which is to revolutionize the practices and the imaginaries of leadership of business leaders in order to rise to the three great challenges of the 21st century: ecological collapse, rampant inequalities, and deviant uses of AI.

A. ADOPTING A FORESIGHTED APPROACH TO THE DEVELOPMENT OF AI

In light of their growing ubiquity, **AI systems are interfering more and more in public and economic life**, as well as in the private sphere of users. This is why, as early as 2022, HLU decided to investigate the subject in collaboration with the Centre des Jeunes dirigeants (CJD - Young Executives' Center) by launching a research-investigation initiative dedicated to scrutinizing how the development of AI could influence decision-making in the future and what leeway leaders possessed in this regard.

This initiative gave rise to the publication of the report **Leading with heart intelligence in the age of artificial intelligence**, produced in collaboration with Laure Lucchesi, Amal Marc and Marion Cohen, and presented in June 2024. This first exercise aimed at delineating a landscape of the global challenges and shedding light on the issues posed by this landscape for leaders, and in particular on their decision-making capacity.

With the **present future study**, HLU has followed up on this **long-term reflection by looking toward the future**: how might the geopolitical and economic context evolve by 2035?

Contributing to these futureoriented deliberations has been Futuribles, the leading think-tank and center for future studies.

Many decision-makers, stakeholders in the world of employment and researchers have also been called upon for interviews or participative workshops.

What is meant by foresight?

Foresight is a way of considering the future and exploring possible futures, with the aim of informing decisions and collective actions through incorporating the long-term challenges. By extension, foresight qualifies the professional practices that that have developed around these approaches (methods, tools, players, etc.).

Historically, the adjective "foresighted" qualifies a ***future-oriented approach***: hence we can talk of a "foresighted outlook", a "foresighted state of mind" (according to Gaston Berger, who championed "foresight" – "la prospective" – in France), a foresighted approach to the challenges..

The objective is **to know, to understand, and to anticipate**, before deciding and taking action.

B. HOW WAS THIS INVESTIGATION CONDUCTED?

HLU was keen to put to the test and enrich its future scenarios with the points of view of decision-makers, brought in at key moments of the procedure in order to remain closely aligned with the concerns and visions of these stakeholders.

A **futures landscape** was conceived based on the documentary research provided (press or academic articles, reports, essays, etc.), interviews with experts[2], and the points of view of decision-makers and economic stakeholders, in order to draw up an inventory of the broad domains that influence the economic world and the developments of AI and its usages.

The challenge was to acquire a better understanding of the current and future issues, to grasp the forces at play, the possible leeway, and the constraints and opportunities, in order to produce the scenarios.

This landscape along with a creative work session organized with representatives of the CJD made it possible to come up with **3 foresight scenarios** in which business leaders might well find themselves in 2035.

Subsequently, **three creative workshops** were organized with a cohort of decision-makers (leaders, stakeholders from the corporate world, etc.).

Each of these workshops was dedicated to one particular scenario.

The observations from the participants made it possible to fine-tune and complete the forecast for 2035.

The participants' creativity was also called into action for imagining the companies and their leaders as associated with each context, and this too was worked upon.

The present study is therefore the fruit of a collective endeavor which brought together a total of some 50 people, to whom we wish to extend our special thanks.

Their critical and creative contributions made it possible to propose visions that are central to the concerns of leaders, and foresight intelligence enriched by their points of view.

The study comprises four main parts:

- Reflections on AI and humans.
- A futures landscape identifies the broad topics that influence the development of AI and its usages. This enables us to acquire a better understanding of current and future issues.
- Three possible development scenarios for AI by 2035 are proposed. This involves imagining **how AI might develop in society, the economy, and the private sphere**, and deducing from this the consequences on the role and posture of leaders in each of these three contexts.
- Each scenario is illustrated by **four notional leaders**, as a means of "embodying" the decision-making challenges in the respective contexts explored.
- These twelve fictional leaders of the future offer a glimpse into the difficulties or opportunities that leaders may have to face in 2035.

2. Including, in particular, Jérôme Coutou, author of Les Sens de l'IA, ("The Meanings of AI"), Digital Mate, 2025; Gerd Gigerenzer, author of How to stay smart in a smart world : Why Human Intelligence Still Beats Algorithms, MIT Press, 2022; and Samah Karaki, neurocognitivist and author of L'empathie est politique, Comment les normes sociales façonnent la biologie des sentiments, ("Empathy is political, How social norms shape the biology of feelings"), JC Lattès, 2022.

1. AI OR HUMAN?

A. WHAT IS ARTIFICIAL INTELLIGENCE?

Answering this question is as complex as the field is extensive, and above all it is a very long story[3]. In terms of the big picture, AI can be defined as: "any computing technology that can be used to resolve complex problems that may have formerly been considered the preserve of human intelligence."[4]

To characterize what AI is, it may be simpler to focus on its uses, now and in the future. In this report, we have identified three broad types of AI.

- **"Narrow AI"** is confined to the performance of a particular function, or a limited group of functions, such as data entry, data matching, recommendation, detection, calculation, etc.

This type of AI is now omnipresent in our daily lives: whether it be for dating sites or apps, educational guidance, recommendations for purchases or viewing on shopping or entertainment platforms, exposure to content on social media, or sorting or selecting information (for example in recruitment processes, etc.).

- **Generative AI (GenAI)**, such as that proposed to the general public from 2022 by MidJourney, ChatGPT, then other companies.

This category of AI that "generates" content handles more cross-functional and versatile tasks (writing, summarizing, etc.) and more creative ones, mimicking human language abilities.

- **"Agentic" AI** is presented by stakeholders and observers in the digital industry as the next evolution of AI, in reference to "agency," which is the ability to perform actions.

The "agents" are autonomous AI entities that would be capable of achieving certain objectives by making decisions and by analyzing and adapting to the context.

The agents could be deployed in numerous industries (finance, medicine, customer relations, cybersecurity, etc.).

The expected developments of AI beg the question of what is it that distinguishes the machine from the human?

What is the best position to take when faced with these developments that redefine the scope of human action?

B. TAKING THE GNIRUT TEST...

What is the Gnirut test? It is a test designed as part of this foresight investigation, inspired by the famous "Turing test", named after the British mathematician Alan Turing (1912-1954), the computing and artificial intelligence pioneer. The purpose of the original test was to determine if a computer is capable of imitating the conversational and reasoning capabilities of humans, to the point where it is no longer possible to distinguish it from an actual person. The test consists in placing a human being in a blind

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3. To find out more about the history of artificial intelligence, see Appendix 3 of the publication: "Leading with heart intelligence in the age of artificial intelligence", HLU, 2024.

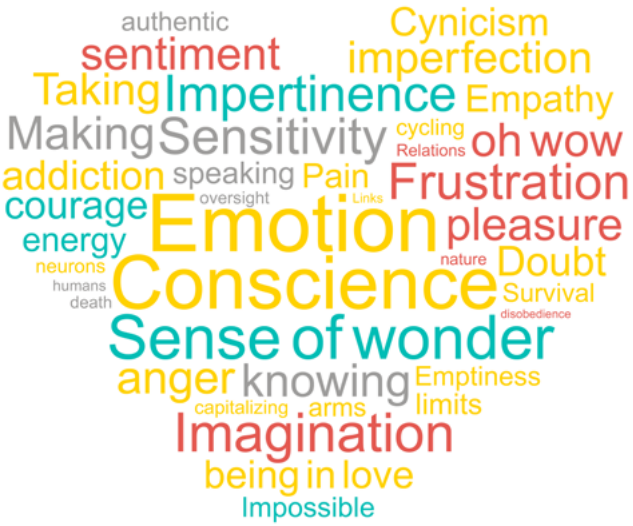
4. Cédric Villani, in the Abeona Foundation program: "Objective IA".

conversation situation with another human being and a computer. If the individual is unable to distinguish the human interlocutor from the computer, then it is deemed that the computer has passed the Turing test.

Since the recent developments of LLMs such as ChatGPT, it appears that computers are regularly passing this test and that it is becoming increasingly difficult to distinguish between a human being and a machine in conversational practice[5]. This then gives rise to the question: if machines are mimicking more and more efficiently human beings, what is it that still marks out the latter?

This is the reason why we asked the participants in the workshops to take a "Gnirut test", in other words a reverse Turing test, which consists of a simple question: "In a word, what is it that distinguishes you from a machine?"

There were some fascinating answers to this question, and they are presented here in the form of a word cloud:



These responses can be categorized into four main groups:

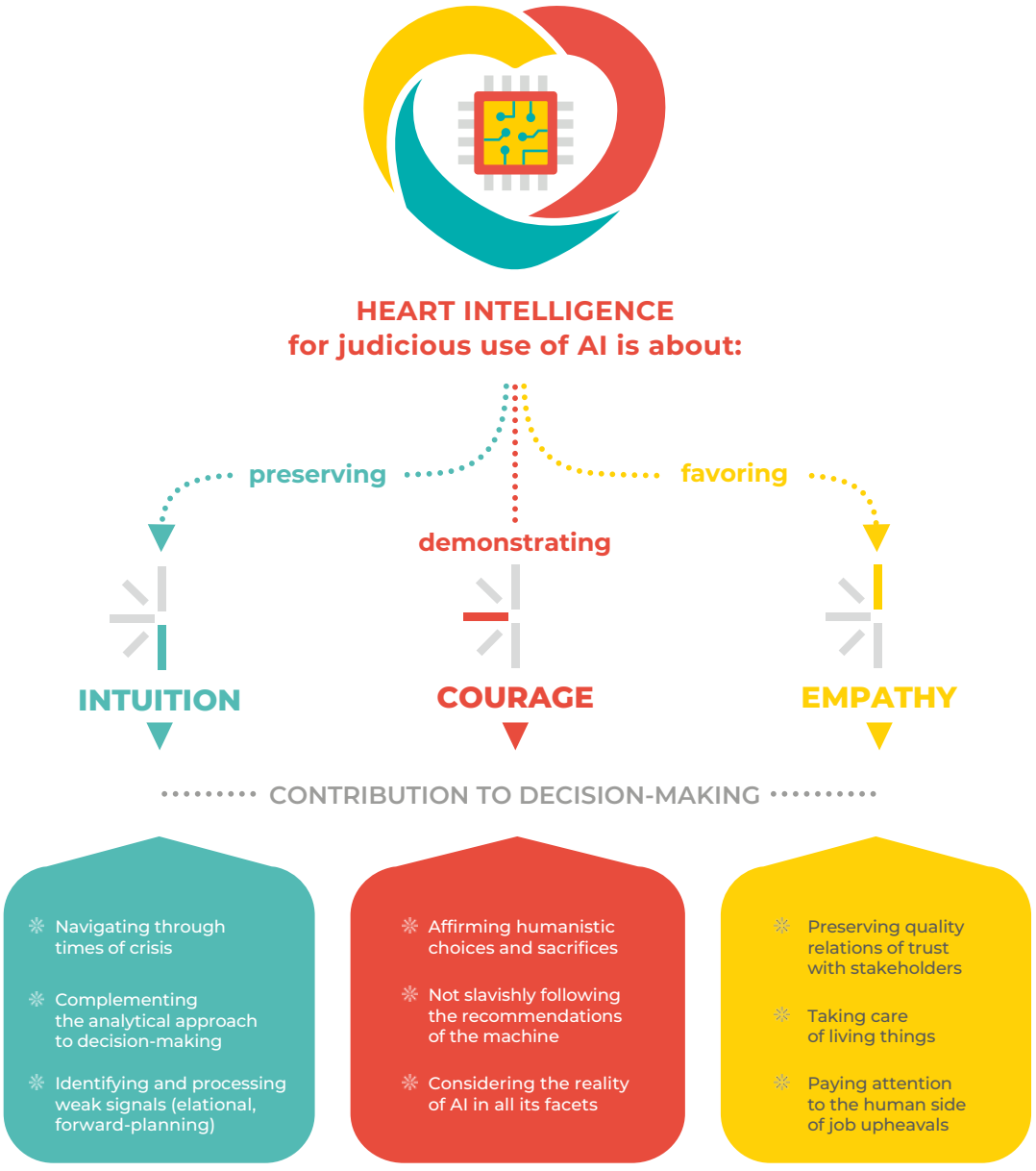
- **Incompleteness:** Participants highlighted the inherent incompleteness of being human, whether in terms of weaknesses or flaws (fits of anger, imperfection, malice, ignorance, frustration, addiction, etc.) or even awareness of finitude (the capacity to forget, the awareness of one's limitations, the inevitability of death).
- **Emotional:** The uniquely sensitive side of human nature frequently came up: emotion and sensitivity were mentioned several times, as were feelings, the ability to fall in love, "authentic" empathy, and the capacity for wonder.
- **Sense of embodiment:** The physicality and sensitivity of the human body emerged as another aspect that distinguishes the human condition from that of machines: the ability to take someone in one's arms, to ride a bike, to feel pain or pleasure, to have a heart, to be able to feel a special link with nature. This organic perception (biological and chemical) of reality is also a source of information and of intuition, essential to human beings. Perceiving the world through all our senses is infinitely richer than doing so through data inputs decoded by a machine.
- **Insolence:** This is a narrower group, but significant nonetheless, which consists in reminding us of the unpredictable and unruly nature of humans, where humor, impertinence, disobedience, and cynicism come into play.

5. See for example L'IA réussit désormais les tests permettant de distinguer les humains des robots ("AI passes tests designed to distinguish humans from robots"), Radio France, 10/06/24.

With regard to artificial intelligence, reasoning and language skills, which are often cited to distinguish humans from animals for example, are scarcely mentioned: AI excels in these areas. The potential developments of AI are likely to force us to redefine the boundaries of humanity, and to celebrate all the more the qualities that make us sensitive, but also weak and impetuous, beings—in short, rich and complex.

By this measure, the notions of intuition, empathy and courage, which motivate the actions of HLU in promoting heart intelligence, take on a particular resonance. These notions will be crucial for leaders in the years to come. This was what was demonstrated by the first study carried out by HLU on the theme of AI.

Mobilizing the sensitivity faculties of human beings—mobilizing heart intelligence—will be necessary for making a difference and contributing to better instruction on the proper use of artificial intelligence, in a society often inclined to deploy it without due reflection.

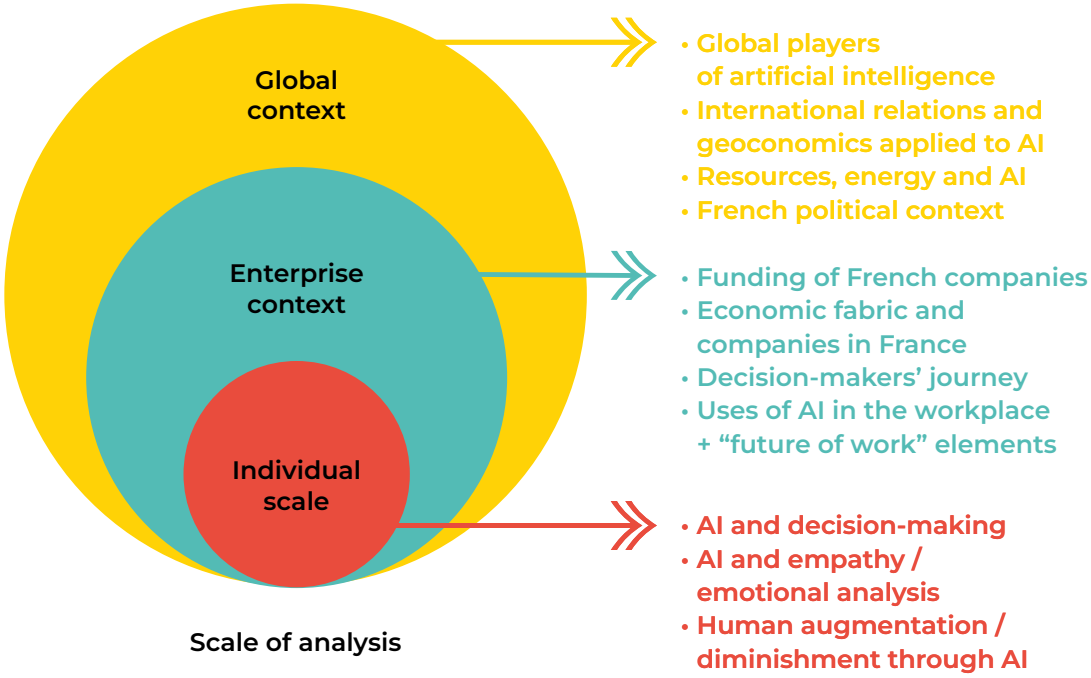


Source : Leading with heart intelligence in the age of artificial intelligence,
Heart Leadership University in collaboration with Laure Lucchesi, Amal Marc and Marion Cohen, 2024

2. THE FUTURES LANDSCAPE

The futures landscape makes it possible to acquire a better understanding of current and future issues, and to get a grasp of the forces at play, the room for maneuver, and the constraints. It is composed of three levels—three contexts—which are linked to the central concern of the study, which is the decision-making posture of leaders.

FUTURES LANDSCAPE: THEMES ADDRESSED



Below are detailed the elements of the landscape which were particularly influential in shaping the scenarios.

A. THE CHINA / UNITED STATES DUOPOLY DOMINATES THE WORLD OF AI

Since the early 2010s, the major developments in AI have been **at the heart of the fundamental rivalry between the United States and China**. AI appears to be a decisive instrument for **ensuring technological superiority**, an indispensable lever for geopolitical superiority.

US dynamism is driven by **major private players** (the GAFAM or " Big Techs[6] "), which benefit greatly from government support (public procurement and research, favorable regulations) without actually being subordinate to the government. Developments in AI prove indeed to be particularly strategic on account of their **dual character**, with their applications serving **both civil and military ends**. The US doctrine therefore aims **aims to keep as far ahead of China as possible**, through major funding, and to limit cooperation with stakeholders in the Chinese military sector (dubbed the "containment strategy")[7]. The Trump administration's assumption

6. GAFAM is an acronym designating the tech giants, with the initial of their original name (new name between parentheses): Google (Alphabet), Apple, Facebook (Meta), Amazon and Microsoft. The expression "Big Tech" is commonly employed to describe them. To this need to be added certain major players in AI today, in particular OpenAI (ChatGPT), X and Nvidia.

7. These two texts served as a reference with regard to these developments and provided clarification: Charles Thibout, Intelligence artificielle et domination géopolitique ("Artificial intelligence and geopolitical domination"), in Christian Byk. L'intelligence artificielle : vivre avec ("Living with artificial intelligence"), MA Editions, 2022; and Victor Storchan, 10 points sur la géopolitique de l'IA générative, ("10 points on the geopolitics of generative AI"), Le Grand Continent, 09/08/23.

of power was accompanied by the announcement of an increase in investment and increased interaction between tech moguls and the levers of political power[8].

China has also had AI at the forefront of its geopolitical agenda since 2017, when the State Council (the main administrative authority of the country) made public its "Development plan for the new generation of artificial intelligence", with the announcement of massive investment. The aim is to make the country the **AI leader by 2030**. While the United States may be better placed on the international market, China exports many **cybersecurity solutions** and is very offensive in the field of GenAI[9]. Although the sector is—like in the United States—dominated by a handful major economic players[10], the State remains firmly at the helm, with the aim of strengthening both its control over the population and its position on the world stage.

In this landscape marked by such a **powerful double act**, few other actors are emerging on the world stage. Russia, which had made AI a priority through a law adopted in 2019, is today focused on the invasion of Ukraine, and has had to reduce its investments[11] due to the economic consequences of the conflict. The EU is endowed, in theory, with a rich and dynamic ecosystem, but it has seen no giant emerging in the field of tech. It therefore finds itself in a situation of dependence, as testified for example by the fact that 65% of the European Cloud is held and operated by three American companies (Google, Microsoft and Amazon)[12]. The EU is mainly distinguished by the fact that it deployed the first arsenal of regulations with regard to AI through the AI Act of 2024.

On the international community front, several initiatives have emerged around the concept of responsible AI[13] but they have not led to any concrete developments beyond the issuing of reports, and are mere drops in the ocean when set alongside the structural dynamics of US-China rivalry and the predominance of private players. As noted in a UN report submitted for the "Summit of the Future" (October 2024), the situation is characterized by "**the deficit of world governance with regard to AI**" and the virtual exclusion of most countries from discussions on what is nevertheless a crucial issue.

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8. See, for example, the article (in French): Projet Stargate : avec 500 milliards d'investissement et une dérégulation massive, Trump veut ouvrir un « Âge d'or de l'IA » ("Project Stargate: with $500 billion in investments and massive deregulation, Trump wants to launch a 'Golden age of AI'"), Le Grand Continent, 01/22/25 and David A. Bell De Musk à Trump : comment l'oligarchie techno-césariste veut renverser la démocratie en Amérique, ("From Musk to Trump: How the techno-caesarist oligarchy seeks to overturn democracy in America"), Le Grand Continent, 01/20/25.

9. With, in particular, the development of Deepseek at a lesser financial cost and using far fewer resources than the American solutions.

10. The "BHATX" – Baidu, Huawei, Alibaba, Tencent and Xiaomi.

11. Économie russe : pour compenser la perte des revenus tirés des hydrocarbures, Moscou prévoit d'importantes coupes budgétaires, ("Russian economy: To compensate for the loss of revenues from hydrocarbons, Moscow is planning major budgetary cuts"), Le Grand Continent, 05/23/25.

12. Gilles Babinet & Milena Harito, L'ombre du Cloud : armer l'Europe dans la guerre invisible des données, ("The shadow of the Cloud: Arming Europe in the invisible war of data"), Le Grand Continent, 05/01/25; and the Cigref publication: La dépendance technologique aux softwares & cloud services américains : une estimation des conséquences économiques en Europe, ("Technological dependence on American software and Cloud services: An assessment of the economic consequences in Europe"), 04/25/25.

13. The concept of responsible AI was, for example, at the heart of the international "AI Action Summit" in Paris (February 2025) and the "AI Summit London" (June 2025). It also structures the approach of the UNESCO Global AI Ethics and Governance Observatory.

B. BIG TECH AT THE HEAT OF THE AI VALUE CHAIN

Global revenue and **investments** in the AI sector vary depending on the source because the scope of AI is not clearly defined. The consensus from the various analyses is that the **United States account for a market share of around 40%**. This proportion corroborates the statistics on **private investments in AI**, taken from the 2023 AI Index Report of Stanford University.

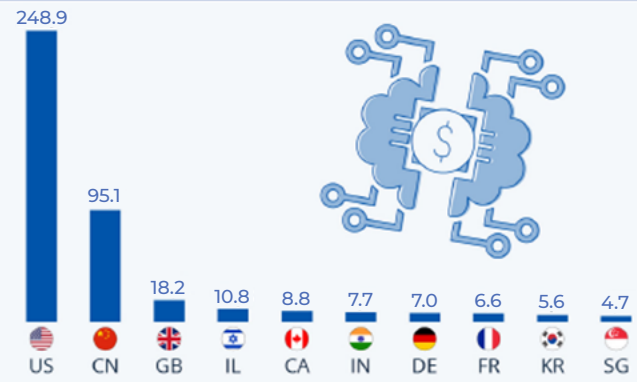
GLOBAL AI REVENUE 2023/2024

- **$184 billion** (Statista)
- **$196 billion** (Grand View Research)
- **$515 billion** (Fortune Business Insights)

HORIZON 2030

- **$826 billion**
- **$1811 billion**
- **$2740 billion**

Graph 2. **Classification of the countries accounting for the largest private investments in AI over the period 2013-2022** (in $ billions)



Source: VILLIERS Claire, *op. cit.* (Statista, based on data from the *Stanford University 2023 AI Index Report*).

These figures[14], and particularly those concerning China, should be treated with caution, but they do provide an order of magnitude. The various estimates also shed light on the sheer scale of the sector, and all the consultancies predict **a steep rise in revenue for the sector in the coming years**.

The rankings here again vary, but the tech giants dominate: Apple, Amazon Web Services ($62 billion in revenue in 2021), Meta, Microsoft Azure ($60 billion), Google AI, and IBM14, with their cloud, computing, machine learning, database and infrastructure management, application development, security, and other services. Hardware manufacturers such as NVIDIA (USA) and STM Electronics (Taiwan), as well as the Chinese BHATX companies, are also among the other heavyweights in AI internationally.

The emergence of **generative AI** has done little to change the state of play. Highly invested in this new technology, the **tech giants** ont ainsi **consolidated their position** on the global AI market[15], and are punching above their weight in the global economy.

While investors are discerning the potential of AI, some analysts are concerned about the size of the investments in light of the **low level of actual returns**, especially in the emergent field of GenAI[16]. The tech sector is reproducing and accentuating here its mechanisms for **selling the promise**, by dramatizing the potential gains from their products, with some players positing a “transcendent” vision for AI, and its potential gift for humanity.

14. Statistics taken from the specialist site intelligence-artificielle.com. See Les plus grandes entreprises d’intelligence artificielle dans le monde (“The world’s biggest AI companies”), R. Vonintsoa, April 2025.

15. Either internally or by investing in specialist companies (Microsoft in Open AI, Amazon in Anthropic, etc.).

16. See for example the note from the Goldman Sachs bank IA générative : trop de dépenses pour trop peu de bénéfices ? (“Generative AI: too much spent for too little returns”) (5/25/25) or the article La bulle de l'IA atteint un nouveau sommet (“The AI bubble reaches new heights”) at https://faketech.substack.com/ (3/16/25).

In this landscape, we note the **marginalization of Europe** and other countries (Japan, India, South Korea, etc.), where no major players have emerged, even though certain companies (Mistral and OVH in France, for example) do stand out. The only area in which non-Chinese or non-American players are making their mark is in the development of "cases of use". Based on the large models developed by Big Tech, companies are proposing **bespoke solutions**, in response to the specific needs of their customers[17]. Although this allows them to tap into some of the added value, they are nonetheless situated at the end of the AI value chain, and they therefore remain dependent on the global players who supply the infrastructures and large models.

Lastly, among the major players on an international scale, there are the **criminal organizations** which are increasingly adopting "cyber" strategies and objectives, posing an increased risk of localized or large-scale cyberattacks. 53% of French companies were victims of cyberattacks in 2023, with the number of attacks growing every year[18].

C. A POLLUTING INDUSTRY THAT CONSUMES VAST AMOUNTS OF WATER, ENERGY, AND METALS

While the environmental impacts of digital technology have long been overlooked, particularly due to its supposedly "**dematerialized**" nature, **the scale of the sector's energy, water, and metal consumption is now better understood**. The development of AI, and in particular of generative AI, has accelerated the phenomenon.

According to the International Energy Agency[19], the consumption of data centers alone represented **1.5% of the world's electricity consumption in 2024**. Characterized by rapid growth (12% per year over the past five years), this figure could climb to 3% of world consumption by 2030. While not all data center consumption is attributable to AI, it accounts for a significant and growing share (nearly half of the growth between now and 2030), particularly due to the development of deep learning and generative AI. A query on ChatGPT is said to consume approximately 2.9 watt-hours of electricity, while a Google search uses 0.3.

Water consumption linked to the development and usages of AI represents another crucial issue. Water consumed by Meta, Google, and Microsoft data centers totaled 2.2 billion cubic meters in 2022, double the annual consumption of a country the size of Denmark[20].

A 2022 study coordinated by Shaolei Ren[21] estimates that **by 2027 all AI applications taken together will consume between 4,200 and 6,600 billion liters of water**, including water needed to cool power plants, which accounts for nearly 90% of this volume: between 380 and 600 million liters would therefore be lost to evaporation every year. This volume of consumption would equate to that of **a developed country with 30 million inhabitants**. The researcher estimates that a standard exchange of 20 to 50 questions and answers with ChatGPT would require half a liter of water. Image generation is deemed to be 60-times more resource intensive as the generation of texts[22]. There is insufficient data concerning the generation of videos.

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17. See in this regard the editorial of Jean-Baptiste Bouzige, chair of the Ekimetrics company, Vouloir développer un ChatGPT français ou européen relève du vœu pieux, ("Wanting to develop a French or European ChatGPT is just wishful thinking"), Le Monde (8/13/23).

18. Public statistics based in particular on les travaux de l'observatoire de la compagnie d'assurance Hiscox.

19. Energy and AI, IEA (2025)

20. Pengfei Li, Jianyi Yang, Mohammad A. Islam, Shaolei Ren, Making AI Less "Thirsty": Uncovering and Addressing the Secret Water Footprint of AI Models, March 2025.

21. Ibid.

22. Alexandra Sasha Luccioni, Yacine Jernite, and Emma Strubell. 2024. Power Hungry Processing: Watts Driving the Cost of AI Deployment? 2024.

The development of artificial intelligence also requires the use of very many metals for manufacturing the infrastructure and hardware. In a study published in 2024[23], ADEME lists **some 50 metals used by the digital industry for the manufacturing of hardware** (monitors, batteries, motherboards, etc.). Global demand for some of these metals comes mainly from the digital sector, and the agency points to **a risk in terms of supply** if their production were to be disrupted. This was the case in October 2024 after Hurricane Helen, which shut down the mines in Spruce Pine, North Carolina: these mines account for 80% of the world's production of high-purity quartz. A major, long-lasting disruption would have a significant impact on the semiconductor industry, which is so crucial for AI[24]. The use of these metals could also be hampered by excessively high prices, particularly for the most valuable ones.

The production of **semiconductors** and processors for data centers consumes a significant amount of electricity and water, both in the production and assembly of components and in the extraction and refining of metal ores.

Although there is a lack of research in this area, it is generally estimated that in 2020 the sector emitted between 2% and 4% of global GHG emissions. Of the 460 TWh of electricity consumed by data centers in 2024, nearly 60% is produced by gas or coal-fired power plants, emitting approximately 200 Mt of CO2 (or around 0.4% of global GHG emissions)[25].

In a study published in the journal Nature, researchers estimate that between **1.2 and 5 million tons of electronic waste** could be directly linked to AI by 2030[26]. The low recycling rate for small metals exacerbates their environmental impact.

Lastly, local impacts can be very significant, whether due to conflicts of use or the pollution that is generated. In Myanmar, the IT industry fuels “widespread plundering of natural resources”[27]. In Taiwan, the world's leading producer of advanced microelectronics, the sector contributes to **water stress** in a country regularly affected by drought[28]. In Ireland, data center electricity consumption exceeded that of urban households[29] in 2023 and could rise to one-third of the country’s total consumption by 2026.

23. Besoins en métaux dans le secteur numérique (“Demand for metals in the digital sector”), Ademe, 2024.

24. L'ouragan Hélène ébranle la filière des semi-conducteurs et des panneaux solaires (“Hurricane Helen rocks the semiconductor and solar panel industry”), Novethic, 2024.

25. Energy and AI, IEA (2025).

26. Wang, P., Zhang, LY., Tzachor, A. and al. E-waste challenges of generative artificial intelligence, Nature Computational Science (2024).

27. L’insoutenable coût écologique du boom de l’IA, (“The unsustainable environmental cost of the AI boom”), Reporterre (04/07/24) citing a rapport de l’ONG Global Witness.

28. Eau et puces électroniques : l’avenir climatique et industriel de Taïwan (“Water and microchips: Taiwan's climate and industrial future”), Gauthier Roussilhe (April 2021).

29. En Irlande, la consommation électrique des data centers dépasse celle des maisons en ville (“In Ireland, data centers consume more electricity than urban homes”), Le Monde (7/24/24).

D. THE FRENCH POLITICAL CONTEXT

The development of AI applications comes at a time when French citizens are losing faith in their institutions, a trend marked by **a decline in confidence in the functioning of democracy and of the major political and private institutions**. There is greater mistrust in general of political parties, the media, banks, trade unions, and large corporations, with higher levels of trust in **elected officials and structures at the local level**. 70% of French people say they have no faith in politics, with **all political institutions seeing a decline in trust** since 2009[30].

Politically, these trends are reflected in a **rethink of the right/left divide** and **a steady rise of the far right**. Nevertheless, these are trends that should be viewed against the backdrop of political disillusionment as a whole: "The appeal of the extreme right remains relative, or even fairly limited nationwide. On the other hand, this political force capitalizes on the weaknesses of its opponents every step of the way"[31].

While some analyses suggest that "the hypothesis of political identity being constructed through **social media** can be dismissed"[32], these social networks nevertheless play an increasingly important role as community spaces (creating bonds of belonging between individuals) and as tools for **mass mobilization outside of traditional frameworks** (e.g., the Yellow Vests movement in France, riots in Guadeloupe, etc.).

These platforms are used (including by foreign powers) in democratic life as **vehicles for disinformation and the manipulation of public opinion**[33] which can contribute to the deterioration of the social climate and a crisis of confidence in the institutions[34]. Actors can make use of AI to **amplify their actions**: algorithmic targeting and recommendations, content generation, etc. As of June 2025, the NewsGuard team had identified **1,254 sites of unreliable AI-generated information**, spanning 16 languages. They operate with little or no human supervision and publish articles written largely or entirely by robots. Some are run by China or Russia (167 Russian sites) to disseminate fake news and manipulate public opinion[35].

Several international institutions (World Economic Forum, UNESCO) warn of the **risks of uncontrolled development of AI**[36], with recent developments increasing the potential for social disorder: **bias or discrimination, opinion bubbles, deepfakes, hallucinations, cybercrime, LLM jailbreaking, etc**. The ease with which content can be produced by the greatest number of people can **change our relationship with any media discourse.**.

GenAI is already contributing to a form of "**impoverishment**" of the Internet, and therefore of the sources of public debate: according to NewsGuard, **67% of news sites** rated as "high-quality" block access to their content by AI models, and these must therefore take their feeds primarily from low-quality news sites.[37]

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30. Statistics taken from the Cevipof surveys (sciences-po / Opinion Way).

31. Antoine Jardin, La poussée de l'extrême droite, vecteur de la décomposition du champ politique français » ("The rise of the far right, a catalyst for the breakdown of the French political landscape"), Fondation Jean Jaurès (6/18/24).

32. Luc Rouban, L'Effet politique des réseaux sociaux, ("The Political Effect of Social Media"), Cevipof, May 2024.

33. See in particular the work of David Chavalarias Toxic Data – Comment les réseaux manipulent nos opinions ("Toxic Data – How social media manipulate our opinions") Flammarion 2023; Minuit moins dix à l'horloge de Poutine ("Ten minutes to midnight on Putin's clock") 6/30/24 and Kevin Limonier, La guerre numérique de Vladimir Poutine : enquête sur les hackers d'État en Russie ("Vladimir Putin's digital war: Investigation into State hackers in Russia"), Le Grand Continent 06/17/25.

34. Cf. Macron Leaks, 2017, Cambridge Analytica 2018...

35. Newsguard AI Tracking Center consulted on 6/18/25.

36. Artificial Intelligence and Cybersecurity: Balancing Risks and Rewards, World Economic Forum, 2025.
Generation AI: Navigating the opportunities and risks of artificial intelligence in education, Unesco, 2024.

37. Les chatbots d'IA sont bloqués par 67% des sites d'actualité les plus fiables, et s'appuient à la place sur des sites de piètre qualité, Newsguard (17/09/24).

That said, GenAI can also be used in more constructive ways. A group of researchers, for example, got people who believed in conspiracy theories to enter into discussion with GenAI agents programmed to counter their arguments. In 20% of cases, belief in the conspiracy theory had diminished by the end of the discussion[38].

E. IMPACTS OF AI ON EMPLOYMENT AND WORK

Will AI destroy jobs?

The deployment of AI is part of the **long-standing movement of transformation of the economy through technology** (mechanization, automation, computerization, robotization), **which intensified with the Industrial Revolution**.The economy, which used to be essentially focused on agriculture and crafts, then underwent significant industrialization, followed by a shift towards services, resulting in the current division into three sectors: primary, secondary, and tertiary.

The dominant narrative is that technological change leads to an increase in work productivity, which in turn increases production and improves the condition of workers[39]. The **work of Daron Acemoglu**, winner of the 2024 Nobel Prize in Economics, adds nuances to these conceptions. **Technological change does not necessarily translate into shared prosperity**. This depends, on the one hand, on the institutional environment and the balance of power between workers and employers and, on the other, on whether or not technology leads to the creation of new activities and the emergence of new sectors[40].

Recent developments in AI, and in particular generative AI in 2022, are **impacting creative or intellectual professions** that were previously considered immune to automation. This means that a new area of the professional environment is now affected. However, right now there is **no quaternary sector** that could accommodate the influx of jobs from the tertiary sector, driven by the productivity gains generated by AI. This can lead to **tensions on the labor market**, between professions that benefit from these developments and those that suffer from them.

This is what seems to be confirmed by an IMF projection exercise[41]: **40% of jobs worldwide are thought to be exposed to developments in AI**[42], half of which would benefit (productivity gains) while the other half would suffer (impoverishment of tasks, declines in income, job cuts). The proportion of jobs exposed is higher in “advanced economies” (60% of jobs exposed, 33% negatively) than in “emerging economies” or “low-income countries”. Concerning France, a study by the consulting firm Roland Berger[43] estimates that **1.4 million jobs** could be “augmented” by generative AI. Conversely, **800,000 jobs could be destroyed**.

These projections reveal a cross-cutting trend: **polarization between those who benefit from the introduction of AI and those who would be more negatively impacted**.

This dynamic would lead to **an increase in employment inequalities**. According to Insee[44], while 10% of companies in France say they use at least one AI technology,

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38. Thomas Costello, Gordon Pennycook and David Rand, Durably reducing conspiracy beliefs through dialogues with AI, 2024.

39. Through wage increases and job creation in new activities in greater numbers than those lost in the mechanized sectors.

40. See Daron Acemoglu and Simon Johnson, Rebalancing AI, Blog du FMI (2023) ; and Daron Acemoglu, Le futur de l’IA dépend de nos choix (“The future of AI depends on our choices”), Le Grand Continent (10/17/24).

41. Gen-AI: Artificial Intelligence and the Future of Work, FMI – Staff discussion Note, 2024.

42. These figures are for AI in general and not just generative AI.

43. L’impact de l’IA générative sur l’emploi en France (“The impact of generative AI on employment in France”), Cabinet Roland Berger, 2023.

44. Les technologies de l’information et de la communication dans les entreprises en 2024, (“Information and communication technologies in companies in 2024”), INSEE Première (7/01/25).

there is a **strong disparity depending on the company size: 33% for companies with more than 250 employees compared to 9% for those with 10 to 49 employees**.

What are the impacts on working conditions?

Studies show disparate quantitative findings regarding the use of AI, but they are trending upwards.

A BCG survey[45] on the use of **generative AI in companies shows a strong upward trend** in professional and personal use, both in France (67% of respondents saying they used it regularly in 2024 compared to 48% in 2023) and internationally (68% in 2024, compared to 46% in 2023). This trend towards an increased use of AI, and in particular GenAI, in the workplace could become **more pronounced with generational renewal**. According to a study on the practices of 16-25 year-olds in France, 78% of respondents said they used AI regularly, and 79% of them in their studies[46].

According to the aforementioned BCG study, 60% of respondents said **they save at least five hours per week** due to the use of GenAI. However, this time saved does not translate into free time, but rather into **new assignments**: performing more tasks (41%) or new tasks (39%), experimenting with technology (39%), or working on more strategic projects (38%). It appears therefore that we are witnessing an **intensification and transformation of actual work rather than a reduction in workload**.

These observations of the effective use of AI reveal a paradox: **38% of respondents say they are confident about the impact of AI on their work** (compared to 20% in 2023). At the same time, the fear of losing one's job due to the development of AI has also increased (48% compared to 42% in 2023), and it is **more pronounced among the most regular users of AI** (57%).

The **observation that work is becoming more intensified** is also corroborated by an international study by Upwork[47]: 77% of respondents using AI said that technology **increased their workload** and contributed to their burnout. At the same time, 81% of managers said that they had increased the workload required of their staff over the past year.

These survey results are corroborated by an ILO report[48] which explores the utility[49] and **risks of AI** and more generally of **digitalization and automation on occupational health and safety**: intensification of work and technological stress (need to adapt to rapidly changing tools and processes); increasing exposure to cyberbullying; ergonomic risks arising from human-robot interaction, as well as the use of unsuitable wearable devices and exoskeletons; decline in human interaction and peer support or coaching, leaving workers alone to deal with technology and data. The rise of "**algorithmic management**[50]" can also result in a loss of autonomy and meaning in one's work, as well as numerous psychosocial risks (burnout, increased workload and working hours wit-

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45. « AI@Work 2024 France », July 2024. The survey had 13,102 respondents from some 20 countries, including 1013 French respondents. The data from this study used in this section are those relating to France.

46. Intelligence artificielle, études et orientation : un trio gagnant pour la Gen Z ("Artificial intelligence, studies and orientation: a winning trio for Gen Z"), Max Arengi, April 23, 2024. Diplomeo study run with 560 respondents aged 16 to 25. Upwork Study Finds Employee Workloads Rising Despite Increased C-Suite Investment in Artificial Intelligence (23/07/24). Upwork study conducted on 2500 workers (Canada, United States, UK, Australia).

47. Upwork Study Finds Employee Workloads Rising Despite Increased C-Suite Investment in Artificial Intelligence (7/23/24). Upwork study conducted on 2500 workers (Canada, United States, UK, Australia).

48. Revolutionizing health and safety: The role of AI and digitalization at work, ILO, 2025.

49. Improved safety and health monitoring, distancing workers from high-risk environments and exposure, reducing repetitive tasks (on factory production lines or in administrative work).

50. That is, the automation of the allocation, monitoring, and evaluation of work in real time through the collection and use of large volumes of data.

hout sufficient breaks, reduced social interaction, leading to feelings of loneliness and disconnection, blurring of the boundaries between personal and professional life).

What about the effects of AI on the quality or nature of the work produced?

In a study conducted in partnership with Harvard Business School[51] the BCG asked 758 of its consultants to perform a number of tasks, some of which were assisted by GenAI, others not. **Two types of tasks emerged**: those within the scope of GenAI ("within the frontier") and those outside the scope of GenAI ("outside the frontier").

Within the frontier, AI can complement or even replace human labor; outside of this frontier, AI results are sometimes inaccurate and can impair human performance. The frontier is "fluid" depending on the skills of workers, but also on the **evolving performance of the GenAI**.

For the first category of tasks, the researchers observed greater efficiency (12.2% more tasks completed), **greater efficiency** (12.2% more tasks completed), **faster execution** (25.1% faster), and **higher quality** (40% improvement). A **disparity according to experience and know-how** could be observed: the consultants found that the least competent workers improved their performance by 43% compared to 17% improvement for the most competent. However, while consultants using AI produced ideas that were considered to be of better quality, the **variability of these ideas was significantly reduced** compared to those who did not use AI. For the second category of tasks, the researchers found a **loss of efficiency** among AI users compared to non-users (20% decrease), and a **greater number of errors**. In conclusion, the more we use GenAI, the more we tend to trust it and rely on it, at the **risk of diminished critical thinking faculties**.

A study conducted by Microsoft on the impact of GenAI[52] on critical thinking (comprehension, analysis, problem solving, etc.) provides additional insights. Researchers found that **the more competent you feel you are, the more confident you are in delegating**. In addition, they observed a tendency to relax critical thinking in three situations: lack of time, lack of knowledge on the subject at hand, and the fact of performing tasks considered secondary/outside the core business. The researchers also pointed to the risk of the "**ironies of automation**": by focusing on high-stakes subjects, we tend to neglect subjects that are considered secondary, which are delegated to AI. We therefore **practice less**, and we are **less equipped to deal with high-stakes exceptions** when they arise.

Role and posture of leaders with regard to AI

Several studies have raised concerns that **AI could replace the jobs of managers and skilled workers**. According to Oliver Wyman, 60% of white-collar workers believe their jobs will become obsolete with generative AI[53].

What is most surprising is that **leaders and top managers themselves believe** that their roles could disappear in the coming years as a result of advances in AI. This finding is reflected in a 2024 study of 600 CEOs[54] (primarily in the United Kingdom), which reveals a **runaway dynamic**: 64% are content to invest in new technologies without

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51. Navigating the Jagged Technological Frontier: Field Experimental Evidence of the Effects of AI on Knowledge Worker Productivity and Quality, Harvard Business School Working Paper, 2023. Hao-Ping (Hank) Lee, Advait Sarkar, Lev Tankele.

52. Hao-Ping (Hank) Lee, Advait Sarkar, Lev Tankelevitch, Ian Drosos, Sean Rintel, Richard Banks, and Nicholas Wilson, The Impact of Generative AI on Critical Thinking: Self-Reported Reductions in Cognitive Effort and Confidence Effects From a Survey of Knowledge Workers, Association for Computing Machinery (2025). Method: a survey of 319 people who use GenAI at work.

53. How Generative AI Is Changing The Future Of Work, survey by Oliver Wyman firm, 2024.

54. The CEO digital divide: are you accelerating enterprise value or slowing it down?, AND Digital, 2024. Survey conducted by Censuswide among 600 CEOs (500 in the United Kingdom, 50 in the United States and 50 in the Netherlands).

a clear ROI, so as not to be left behind, while 62% believe that evolving too slowly is riskier than evolving quickly, at the risk of neglecting security and ethical considerations. Furthermore, **43% of these CEOs believe that AI could replace the function of CEO** in the years to come.

A 2024 study conducted by EdX confirms this perception: **47% of executives surveyed said that "most" or "all" CEO functions could be automated** by AI.

According to Vinay Menon, director of the AI department at Korn Ferry, "We probably won't need the same number of leaders, but we will always need leadership"[55]. The contours of this leadership are still to be defined.

55. Statistics and quote from the NY Times article: If A.I. Can Do Your Job, Maybe It Can Also Replace Your C.E.O", David Streitfeld.

3. THE 3 FORESIGHT SCENARIOS

As part of this future study, HLU, accompanied by the firm Futuribles, has designed three global scenarios for 2035, focused on the place of AI in the contexts envisaged. These scenarios are based on the futures landscape, extrapolating from the 11 themes addressed within the study. It is therefore a question of considering AI in the round: how does the global environment influence it, and how does AI influence this environment?

HOW WERE THESE SCENARIOS CONSTRUCTED?

These three scenarios were developed based on a **logic of contrast and complementarity**: the approaches outlined here differ from one another and, taking where we are now as the starting point, reflect divergent logics and dynamics. The objective is to cover a wide range of possibilities.

Other considerations guided the design of these scenarios, particularly credibility. Although some of these situations may seem dramatic or archetypal, they were conceived based on documented current trends and with a view to maintaining continuity with the world of today. While the reality in 2035 may turn out to be quite different, these scenarios allow us to explore configurations and situations that shed light on the challenges posed by developments in AI. The objective, beyond projecting possible futures, is to enlighten and stimulate reflection on the here and now.

WHY WERE CERTAIN SCENARIOS EXCLUDED FROM CONSIDERATION?

The three scenarios proposed do not claim to cover all the possibilities. Two extremes have not been explored:

- A scenario involving the collapse of human civilizations or a global war, after which the question of how business leaders use AI would prove to be very trivial.

- A scenario of “technological singularity”—a fantastical vision of a tremendous leap forward in AI capabilities that would render humans obsolete, or would “augment” some of them by ushering them into a new era of history. This “singularity”, posited by certain technophile theorists and movements, particularly transhumanists, does not seem a credible prospect for 2035, even if it constitutes a powerful and mobilizing narrative for many tech players.

Other intermediate scenarios could have been formulated, in particular the “desirable” one of virtuous AI boosting the economy and productivity, and emancipating workers. This “tech for good” scenario is championed by many players, and in particular AI solution providers. However, we do not find this credible. While it is obvious that AI solutions can be developed for the common good, there is no reason to think that industry as a whole will move in this direction. Tech giants are private companies and, as such, their purpose cannot be said to serve the public interest. Furthermore, there is a plethora of misuse and risks that have already been identified (AI for warfare, for widespread surveillance, social media algorithms that amplify negative and anxiety-inducing content, etc.).

The aim of this future study is therefore to bring a fresh perspective to the debate, providing decision-makers with alternative, credible, and complementary viewpoints. It is in this light that the three scenarios should be considered. Finally, let it be noted that the scenarios benefited from critical feedback and input from workshop participants (executives, business leaders, and others), which helped reshape and enrich them with expert and relevant insights..

SCENARIO 1 – TOMORROW'S WORLD IS NIGH

GLOBAL CONTEXT

2035...

The succession of major crises (health crises, geopolitical tensions and conflicts, financial crises, an increase in severe storms, megafires, heat waves, floods, etc.) that the world has been experiencing since the early 2030s has permanently destabilized the international economic system. The world's powers, or power blocs, operate on a regional scale. There is **no longer any international coordination**; declining international trade is fragmented; in many countries, production is subject to severe constraints in the supply of raw materials.

In this landscape, certain powers dominate at the regional level, but lack decisive influence on the global stage.

In the United States, **Big Tech** companies are significantly weakened, whether due to the decline in the country's influence (geopolitical tensions, the weakening of the federal government, and repeated extreme weather events) or to sector-specific phenomena (cybercrime in a fragmented and volatile world; insufficient added value from AI relative to investments and uses).

China has managed to maintain a certain stability but has largely confined itself to its domestic market and its immediate geographical area of influence.

Migratory flows are mainly on a regional scale, with no area proving to be particularly attractive on a global scale.

EUROPEAN CONTEXT

In Europe, 2031 was dubbed "**the year of darkness**".

That year, there was a surge in **major disasters** linked to climate change: "Medicanes" (Mediterranean hurricanes); uncontrollable fires in the south of France and Spain; violent episodes of drought and flooding...

While these events were nothing new, they reached a scale unprecedented in history, both in terms of the staggering number of **victims** and the **massive property damage**. Their consequences were greatly exacerbated by the digital sphere: misinformation further exposed populations, who remained unresponsive to certain messages from the authorities, and sparked social unrest (protests, riots, etc.). Public infrastructure such as hospitals and administrative and financial services was hacked, while certain digital infrastructure (data centers, cables, etc.) was also damaged both by the natural disasters and the social unrest. The inaccessibility of many digital devices brought essential services (hospitals, administrations, schools, etc.) to a standstill for several weeks. These services then had to run in downgraded mode for several months.

The gravity of the situation triggered a **decisive political response** across Europe.

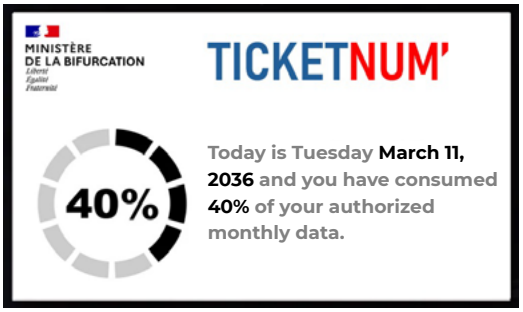
A majority coalition of Member States decided to give more powers to the EU, mandating it to implement a ten-year policy of directed and proactive ecological transition planning. In most countries of the Union, technical governments were set up, and institutional adjustments were adopted, in order to ensure the sustainability of the coalitions. For example, in France, the resumption of legislative and presidential elections is scheduled for 2043. The municipal elections have been maintained. Countries that do not join this project have to leave the EU. This political project is generally accepted by the populations.

In a context where the EU’s heavy dependence on external natural resources has proved untenable, the planning and reindustrialization plans, so often touted in speeches, have now taken shape. The EU has clearly prioritized its investments in **environmental transition**, which is now synonymous with strategic autonomy. Major programs are being implemented to massively transform the farming systems, decontaminate soils, develop ecological restoration professions, insulate buildings, etc. In the industrial field, the emphasis has been placed on the production of raw materials (steel, building materials) and essential goods (clothing, medicines, etc.). In the energy sector, **nuclear** and **renewable energy** development programs have accelerated in order to develop carbon-free production and ensure the continent's autonomy. As the EU is dependent, in most sectors, on imports that are sometimes uncertain in a fragmented world, the allocation of resources is subject to public control and significant oversight.

This strategy has, in part, helped revitalize the EU’s international appeal by prioritizing strictly regulated immigration (researchers, engineers, workers in sectors facing labor shortages, etc.). Training and education have also been prioritized as part of the effort to support the transition. Recycling and the circular economy, reindustrialization, energy and food security: these are all long-term goals, but their implementation is not without its challenges. Sometimes there is no choice but to adopt downgraded mode. Both in Europe and worldwide, there has been an increase in mortality and a decline in life expectancy.

Digital technology has been the focus of a **binding sovereign strategy**, made all the more urgent by the fact that the damage caused by the successive disasters has been exacerbated by the spread of fake news and cyberattacks on public institutions (hospitals, government agencies, etc.). **Sovereign AI systems** have been developed, with reduced environmental cost and performance: this heralds the advent of **minimalist and simple AI**, mainly used in the service of transition, social cohesion and defense. Its design and oversight involve **representative stakeholder** groups and are governed by **comprehensive legislation**.

ECONOMIC CONTEXT



Digital consumption is limited and is subject to rationing for both individuals and companies. In France, the "**ticketnum'**" ("digital ticket") is issued by the Ministry of Bifurcation. Data consumption and throughput have been **reduced threefold between 2025 and 2035**.

AI is being used sparingly, in a **more measured and thoughtful way, for specific purposes**: essential services, grid management (electricity, water), waste management, environmental programs, etc. **The world of work has entered a new post-AI era** while continuing to capitalize on the benefits AI can offer. Hardware production (computers, phones, etc.) has dropped significantly, and the **recycling** and **repair** of IT equipment have become mandatory. Many national sectors in this field are being developed at the local level.

A black market has developed to gain access to foreign digital solutions, as well as an informal exchange system, which allows some to enjoy more intensive digital use, beyond the authorized limits.

In the second half of the 2020s, **many organizations, especially large companies, had invested significantly in the massive implementation of AI**. This has led to a deterioration in working conditions but, above all, in an increasingly volatile and uncertain context, marked by growing tensions regarding supplies, AI has ultimately failed to keep its promises. At a time when productivity has become far more dependent on the ability to conserve natural resources than on human resources, AI systems designed to replace human labor (while relying heavily on energy, water, and metal consumption) have proven to be obsolete. In the 2030s, the dependence on unsuitable AI tools caused multiple bankruptcies, and led to a significant trend toward professional retraining and strategic reorientation within large organizations. The emphasis is now on the "**human factor**" to compensate for the shortcomings of technological advancement and to support the "de-digitalization" of the economy. This process has not gone smoothly; many companies, **especially those most digitally dependent**, were thrown into disarray, in some cases even leading to bankruptcy. Those who have made it through are still in a phase of adaptation.

By contrast, mid-sized and **SMEs, which are more in touch with what is happening on the ground and more adaptable than larger, more rigid corporations, have grown in prominence**: thriving with dynamism, they clearly dominate the French economic landscape, which has shifted its focus overwhelmingly to the regional level. Craftsmanship is now highly valued. Individual entrepreneurship and multiple jobholding have also become more prevalent.

The talk now is of a "quaternary" sector, focused on the environmental transition and on ***care***, on ***taking care***. There are more cooperative models, or those that are "**mission**-" or "**purpose**-" oriented.

IN COMPANIES

Organizations are prioritizing the retention and development of **human expertise**. At the same time, there is a global trend toward a **renewed appreciation of manual labor, technical skills, and trades**, as well as renewed investment in the primary and secondary sectors with a view to sustainability. In general, production has shifted toward goods and services that meet people's tangible needs (food, textiles, wood, medicine, public transport and cycling, renovation, metalworking, etc.), which has required reinvestment in the corresponding fields of know-how. There is significant strain on production facilities, which are inadequate, and on training, which is essential for skills development.

Within companies, **deliberately minimalist and simplified AIS models are being widely adopted**: they are more transparent and easier to understand. They promote the empowerment of workers and the exercise of employees' cognitive and relational faculties. Business leaders are aware of **the need to curb toxic or unnecessary uses of AI** in their organizations. The best-performing and most energy-intensive AI systems are used exclusively for **critical activities** requiring a high level of expertise (healthcare, defense, etc.).

SCENARIO 2 – JULES IS WATCHING YOU

GLOBAL CONTEXT

2035...

In most Western countries, **the model of liberal democracy has been discredited**, after having been largely undermined by digital players (fake news, polarization, etc.). Populism has taken root there, even as Governments have lost their sovereignty. Organized crime has grown on a global scale, often in collusion with the powers that be. Environmental policies have been abandoned in most parts of the world, despite accelerating climate warming and an economy increasingly affected by tensions over raw materials.

American influence has considerably diminished on the international scene since the **"ultra-crash" of 2029**: a crisis caused by a **deregulated financial system**, whose instability has been further reinforced by the generalization of algorithmic decisions and the development of crypto assets. The weakened public authorities were unable to prevent the collapse of the financial system. The crisis then spread to the production economy, with significant social consequences, exacerbated by an increase in extreme weather events (megafires, floods, earthquakes, heat waves, big freezes). The land is embroiled in a **latent civil war, with the different sides passing the buck of responsibility in the face of the successive disasters**.

On the economic front, the **tech giants have been weakened** and have partially shifted their operations to Europe, Canada, and South America. On the global scale, a significant share of digital solutions also come from **China and India**. These two countries represent poles of economic stability. They are taking advantage of the weakening of the United States and Europe, as well as the global context of growing pressure on raw material supplies, to expand their economic and political influence.

EUROPEAN CONTEXT

The EU has become an **empty shell**. Its members have suffered the effects of the ultra-crash and advocate **economic patriotism**. In their official statements, government officials emphasize the reshoring of production, domestic industry, and strict controls on immigration and imports. Yet in reality, European countries are highly dependent on the outside world, and in particular on Asia. Most of them find themselves in a client-state situation with regard to raw materials and technology.

European countries welcome foreign companies into their territories, emphasizing **national co-ownership (often merely a facade)**, based on public ownership or the participation of national companies in the capital of subsidiaries. **Reindustrialization relies in particular on autonomous "Industry 4.0" factories**, which operate using robotics augmented by AI and require little local human labor. Most of these automated production lines are purchased from China and, to a lesser extent, from India, countries that are highly competitive in terms of price and capacity. This creates a dependence on Asian suppliers (maintenance, parts, etc.). National production systems are geared toward a necessity-based economy (food, healthcare, and everyday consumer goods).

Finally, to secure financing, some European countries are **transferring part of the management of their infrastructure or even selling off their assets** to large corporations or sovereign wealth funds (in China, but also the Gulf states), which **helps keep their economies and job markets afloat** but also erodes their sovereignty vis-à-vis these countries or groups.

FRENCH CONTEXT

Against this backdrop, in France, **“Jules”, a former influencer** involved in politics, was elected President in 2032. The following year, just as he had promised during his highly effective campaign, **generously financed** by a number of economic players, he became the first **“Forever President”** of the “Fifth Republic 2.0”. An “updated” constitution strengthened presidential power and weakened legislative and judicial powers. The status of Forever President allows Jules to govern for 10 years, a period that can be extended by 5 years by referendum.

His strategy is based on an **alliance of interests between the State and major economic players**, a **command economy** characterized by the interpenetration of the **public and private sectors**, and the economic infiltration of foreign companies. Regarding digital and industrial technology, the French economy is heavily reliant on Chinese solutions and, to a lesser extent, Indian ones. Organized crime is also very influential. Private security services have developed massively, clearly closely linked to these criminal organizations.

Jules is the proponent of a policy that is at once **populist, pro-business, and techno-authoritarian**, largely based on **digital solutions, particularly in security** (cyber-surveillance, exploitation of personal data, proliferation of cameras and drones, widespread use of facial recognition, development of security robots), and control of information, including in the education system, “augmented” by AI. Several “token” consultative referendums are held, exclusively online, with no transparency regarding the results, and essentially on social issues such as education, immigration, and cultural policy. The wealthiest socio-professional categories enjoy a certain autonomy, so long as they subscribe to the “J System” (the politics of Jules), but the rest of the population tend to be on its receiving end.

Place of AI in society

The use of AI is both **massive** and **highly controlled: not everyone has access to the best technologies**. The **military and security sectors** are prioritized, and this shapes the market and contributes to national reindustrialization. But AI is also used to **boost the productivity of economic players**: its implementation in businesses is encouraged, especially since **the data collected in this way serves political interests**. Finally, AI is massively used to ensure social control, as well as for the President's political communication.

Some of the population operate outside the formal system, within local and informal networks, and avoid using digital tools. An activist minority has opted for violent action which, in the eyes of the government, makes it possible to legitimize stern repression of all protest movements. These activists target the system's Achilles heel, namely the digital infrastructure. Hackers attempt to weaken IT systems through **cyberattacks**. Activists also target **physical infrastructure** (data centers, cables, antennas, etc.).

These recurring attacks cause **disruptions to the economy and to government operations**. The "enemies of France" are hunted down and severely punished. They also serve as scapegoats, with the authorities indiscriminately blaming them for both the damage they are responsible for and the damage caused by **environmental disasters** (landslides, storms, problems caused by extreme heat, etc.).

ECONOMIC CONTEXT

Large corporations felt the effects of the economic crisis that followed the market crash, but they have recovered. They have remained the **dominant, and the most dynamic and attractive structures**. The country also welcomes **major foreign companies** on to its soil (from the EU, the US, China, India, etc.), "under certain conditions" (especially in official statements). Nevertheless, the balance of power is, in reality, weighted in the favor of the major economic powers on which the country is dependent, especially China. These companies take advantage of their **collusion with the political authorities**.

The employment rate is relatively high, and self-employment (which is often precarious and lacking in protection) has increased at the expense of traditional employment. Technically, unemployment is at a low, with unemployed individuals required to perform productive work assigned by the government or partner companies.

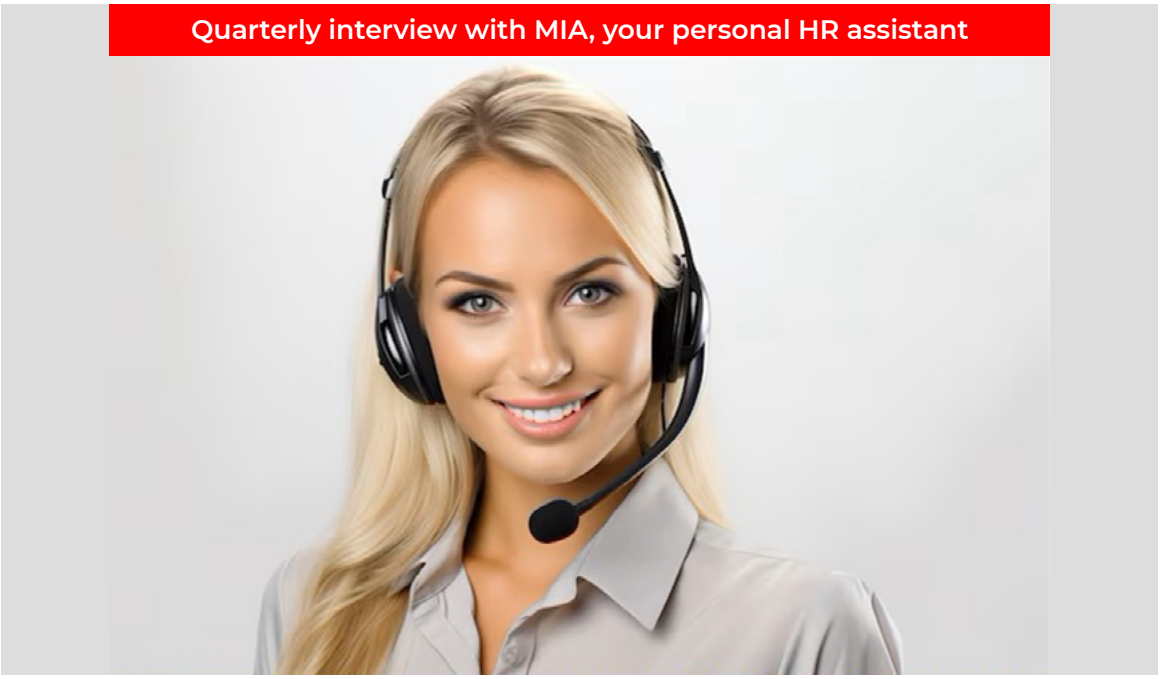
Part of the economy is shifting toward **alternative channels**, outside the digital economy dominated by the government and large corporations. These new dissident actors are adopting avoidance strategies. They are structured in **local solidarity networks** that are being developed throughout the country. They typically take the form of small, non-market-based structures operating in legally gray areas.

A **parallel, non-financialized economy** has thus emerged. In this context, exchange is becoming institutionalized, supported by streamlined AI (marketplace, matching, recommendations, etc.) and the use of the **dark web**.

IN COMPANIES

The massive use of AI and pervasive surveillance have led to a **deterioration in working conditions** and a decline in their quality. We are witnessing a **standardization of processes** and a reduction in creativity. These trends have led to some of the **most highly educated individuals either quitting their jobs or mounting resistance**, while others have switched careers or emigrated. Fewer people are being drawn to leadership roles.

Individuals are used to **interacting with agents**. Some people view them as **confidants**, while others are wary of them and are **reluctant** to use them, especially since **social ratings** have become widespread, including in the workplace. Agents and robotics are also in demand in the personal services sector, when faced with the aging of the population and the increase in mental disorders.



In the workplace, **interactions with AI have increased** and generated a **dependence** on these solutions. In decision-making processes, this has translated into widespread use of data synthesis and the automation of the development of decision-making scenarios. This configuration has led to a **loss of expertise** and a decline in **courage, intuition** and **creativity**.

Many **HR processes** (recruitment, evaluation, orientation) are now delegated to AI agents, which contributes to a form of **dehumanization**. The increased use of these agents in HR processes also increases the pressure on employees, for example during annual appraisal interviews, given the collusion in place between companies and the powers that be. Users are aware of AI **biases** and how they are configured. They have **limited confidence** in the proposals made by the AI but, for convenience, they make extensive use of them and sometimes try to mitigate their effects. In smaller organizations or in the shadow economy, **human relations are prioritized**, but the economic impact is limited.

SCENARIO 3 – WELCOME TO GAFAMLAND

GLOBAL CONTEXT

2035

The dynamics set in motion by Donald Trump's election in 2024 have intensified. Despite the worsening effects of global warming and the increasing frequency of extreme weather events, environmental policies are no longer considered a priority. This is also the case when it comes to any attempt to regulate the most powerful economic players or to reduce social inequalities. In this context, the **American tech giants** have become "megacorporations": they are now the central players in Western countries, and their power is unparalleled. In addition to their critical economic weight, their **political and social influence** is considerable. Collusion with the public authorities is openly acknowledged, whether in the military, in population control and information management, in **education**, or in **healthcare**.

In this neo-oligarchy, the Big Tech companies have become, on a global scale, indispensable players across **all economic value chains**—from production to logistics, finance, and local commerce. They also have priority access to **energy and natural resources** (water, metals, etc.), particularly to ensure the operation of data centers and the construction and maintenance of their infrastructure, but also to channel these resources for the benefit of their business partners. In a context of growing tension over

resources, this appropriation has given rise to strong geopolitical and social tensions, and occasional acts of **sabotage** on infrastructure, the security of which is prioritized to the detriment of that of people and private assets.

The decisive power of the tech giants has significant impacts on individual and democratic liberties, which have become secondary to the interests of these groups. All aspects of daily life depend on the solutions of these companies, which structure their offers around the concept of "LaaS": Life as a Service. Access to education, knowledge, healthcare, etc., is facilitated, but also guided and monetized by these groups. "Biohacking" (physical and cognitive "augmentation" through technology) has begun to be developed.

In China, major tech companies, operating under State oversight, dominate a bloc comprising the former "Global South," which follows a similar approach, but which is State-led.

EUROPEAN CONTEXT

In this landscape, a weakened Europe and France are effectively **digital colonies**, economically and socially dependent on solutions provided by Big Tech. Despite the odd case of successful companies offering high-value use cases, **the Continent has not seen the emergence of a competitive tech sector**.

As a political institution, the EU is still in place, but weakened by illiberal governments in some Member States, which change with each election. It still tries to embody the model of **liberal democracy**, but it has lost credibility and power. The EU is less competitive; it is not a territory of technological innovation, and it has almost no influence on the economic and geopolitical scene.

Attempts to **regulate tech** have proven to be ineffective in the face of massive economic and social uses, and the considerable influence of lobby groups. Some of the **European elites** have migrated to the US or to other regions (China, Southeast Asia, the Gulf, etc.). All Member States are dependent on the solutions of the megacorporations and, in general, public institutions are in a very weakened state.

FRENCH CONTEXT

France attracts fewer and fewer international skilled workers and students, despite its **aging population**. The **use and deployment of AI and robotics** have increased significantly. These are widely used in businesses to ease the **strain on the workforce**, in the retail sector, and also in the private sphere for a variety of purposes: personal services, entertainment, and social and emotional connections.

French society is **fragmented** and **highly polarized**, both economically and socially as well as ideologically. **Institutions are weakened** and the political class has **lost credibility**; voter turnout rarely exceeds 40%. The population is also becoming **increasingly impoverished** due to the erosion of the economic fabric: inequality has reached record levels. Polarization is increasingly reflected geographically, with the development of ultra-secure privileged neighborhoods. Part of the population has opted for a form of dissidence and has settled in rural areas. Almost the entire population is concentrated in urban or suburban areas.

The **vast majority of the population** has access only to a "junk internet," subject to the self-serving control of algorithms and the myriad virtual escape products (the metaverse and online games have grown considerably) offered by tech companies. The massive expansion of this "nudge" internet allows the megacorporations to increase their social influence, at the cost of rising mental health issues and the spread of fake news. Higher socio-professional categories have access to better quality content and are better able to take advantage of this algorithmic environment. Finally, hacker communities are splintering off and developing cyberhacking and parallel computer networks rooted in the dark web and open-source software, with the aim of undermining Big Tech.

ECONOMIC CONTEXT

The deployment of AI has led to a **polarization of organizations**: on the one hand, there are the **large entities** with ever-increasing economic clout (the phenomenon of concentration and capital capture). On the other hand, there are the **smaller, weakened entities** and the ever-increasing number of individual entrepreneurs who are dependent on these tools but have little control over them. For the economic elite, in companies, significant efforts are made to promote fulfillment at work (in the service of productivity). Yet outside of this privileged and strategic population category, conditions have deteriorated and the pressure to achieve results has increased.

Polarization also affects the labor market, with, on the one hand, **significant job losses among lower-skilled workers** and in small businesses; and, on the other, **increased workloads in large organizations**, accompanied by high incomes but difficult and intense working conditions.

There is also increasing polarization between workers who can choose to work remotely and those who have to work on-site, and who also have to put up with worsening outdoor conditions (due to global warming).

Modest minimum social benefits are provided to compensate for so many workers losing their jobs due to automation. But these benefits do not provide a decent standard of living, which encourages the growth of microenterprises, the rise of the gig economy, an informal economy (services, barter, etc.), and an increase in organized crime.

In parallel with these dominant trends, part of the economic fabric strives to maintain some kind of **independence from Big Tech**. Given the disaffection for and the powerlessness of the political classes, we are witnessing a **more marked commitment to "purpose"** from some companies. The number of players actively involved in this is small, and their economic impact is limited, but they continue to bring environmental and social issues to the forefront of economic life. They also succeed in attracting certain types of people who **value the meaning of their work** over financial considerations.

These players are **SMEs and mid-sized companies**. They attempt to deploy **alternative digital solutions** to those of Big Tech, and they call on ethical hackers or digital experts who reject the system in place to build these alternative solutions. Against the backdrop of tensions over energy and raw aterials, they optimize the consumption of resources and the environmental impacts of their activities using AI.

In addition, there has been a wave of individual "**bifurcations**", with people moving away from the world of work to live in **solidarity-based and alternative communities**, characterized by a shift away from financial transactions. They live in precarious economic conditions and do not have access to an effective healthcare system.

IN COMPANIES

Working hours have been reduced, with the widespread application of the **4-day week, sometimes even 3 days**, chosen for the wealthiest, but endured for the others. The free time can be devoted to complementary professional activities, but also to leisure activities encouraged by Big Tech: social networks, video watching, online video games, metaverse, etc. Some of these leisure activities can be monetized, even if very modestly, and this encourages their use among a precarious population.

Business activities are increasingly driven by a focus on **pure financial profitability**. Individual performance and tasks performed are closely measured by AI devices. Most employees are dependent on AI tools and there has been a **loss of expertise**, delegated to machines. People's tasks are increasingly **fragmented**.

The world of work has become thoroughly **AI-dependent and AI-oriented**. The use of AI has become widespread in businesses and government agencies. **"Agents" are everywhere**, and everyone is used to working with or interacting with them. This general trend has been largely driven by Big Tech, **with little oversight from government agencies or professional organizations**. It has led to an increase in algorithmic management (where decisions and work planning are handled by algorithms) and to the **fragmentation of worker communities**.

The new generation of workers is, to a large extent, reliant on AI tools, to which they have become accustomed during their education and training. We are witnessing a **decline in critical reasoning** and a **standardization** of thinking and skills. The tendency to turn to AI for support has encouraged this passivity: personalized, empathetic robots or agents provide people with support in their personal and professional lives, and this—paradoxically—leads to **increasing loneliness**. The proliferation of AI agents means that human-to-human interaction is becoming increasingly rare, both in organizations and in the private sphere.

Decision-makers also make extensive, yet more savvy, use of AI, which enables them to **optimize their performance**. This new generation of **"augmented" decision-makers** is widening the gap with their employees and reinforcing the pyramidal structure of organizations. This situation often leads to certain excesses: in many large corporations and mid-caps, **cynical and inconsiderate leaders** tend to flourish, in line with an "economic warfare" mindset in this highly competitive environment, where the pursuit of profitability takes pride of place.

4. LEADING WITH AI IN 2035: THE PERSONAE

A. THREE CREATIVE WORKSHOPS TO ENVISION THE LEADERS OF 2035

To embody the issues raised in the different contexts considered, **each of the three scenarios is illustrated by four fictional leaders**. This more creative and nuanced foresighted approach, inspired by **design fiction methods**, allows us to envision in a concrete and immersive way the potential stances of leaders, their relationships with AI, how they incorporate it into their organizations, how they act within their specific contexts, and so on.

In three creative workshops, we asked participants to **imagine what leaders would be like in 2035** in the context of the scenario they were exploring, giving specific instructions for each working group: the size and sector of the company, and some information about how the company is positioned within the context. The participants first had to imagine the company in more detail (what did it do, how was it organized, what place did AI occupy, etc.), and what was its leader like (their profile, managerial approach, relationship with AI, etc.). Secondly, and on this basis, we asked the groups to describe the company's strategic projects for the year 2036.

These elements were then reworked, in the form presented here, which is that of a **standard interview**, reproducing the same model for all the personae ("3 questions for..."). The interview provides an opportunity to address most of the challenges facing the company and its leader, particularly as they relate to the topic of AI. The personae are presented here separately from the scenarios because they allow us to address the questions relating to leaders from a specific perspective: while they are involved in three different possible futures, they bring into focus cross-cutting and consistent concerns.

B. WHAT LESSONS CAN BE DRAWN FROM THIS EXERCISE?

First of all, it should be noted that women are over-represented in this landscape of leaders: there are 7 women leaders for 4 male leaders (one of the entities that is not a company strictly speaking is run by a clandestine collective). This proportion in no way reflects the scene that can be observed today in France in the business world: the projection highlights the desire among the leaders invited to participate in the workshops to see the female presence in the entrepreneurial landscape become more pronounced in the coming years.

Aside from this aspect, the persons and their companies can be categorized according to two complementary lines of inquiry:

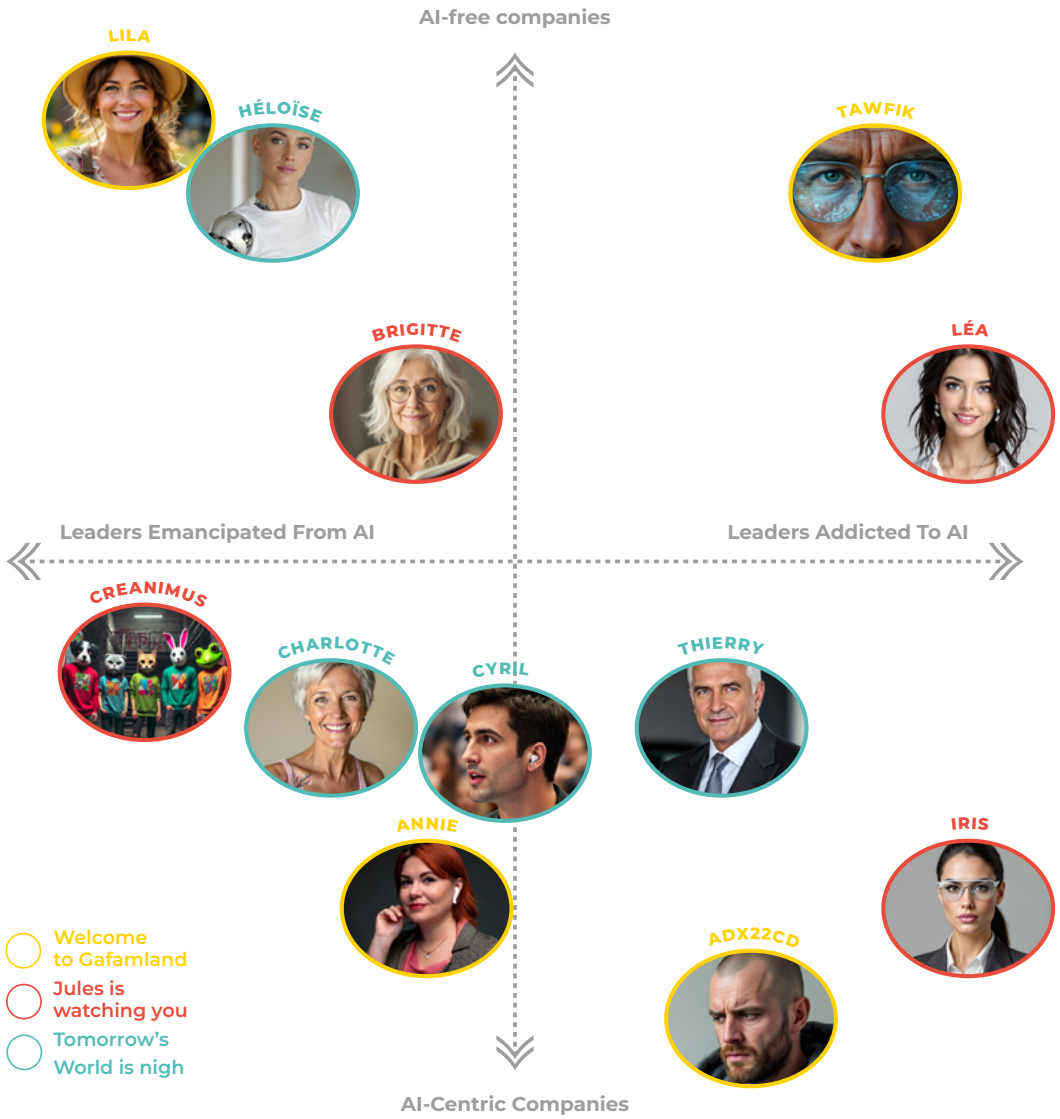
- What **role does AI play** in the company's organization and offerings? Is the company contingent on AI, or, on the contrary, does AI play only a secondary role within it?
- What is the **leaders' relationship with AI**? Are they themselves dependent on artificial intelligence tools and systems in their decision-making practices, or else do they remain in control or, conversely, do they take a back seat?

The major lesson of these forecasts is that **there is no correlation between these two lines of inquiry**: a company can be entirely centered on AI, even if its leader is independent of it—and vice versa. The importance of AI in the company does not necessarily reflect the dependence of its leader on AI. Likewise, there is no clear correlation between the context (a future in which AI has a more or less preponderant place in the functioning of society and companies) and the posture of leaders and the profile of companies (more or less intensive use of AI).

The key message to take away from this exercise of imagination is undoubtedly that the leaders of tomorrow, like those of today, will retain a certain leeway to carry out their activities, regardless of the context in which they operate, even if this context brings its share of specific constraints and opportunities.

These forecasts reinforce Heart Leadership University's conviction to encourage leaders to explore leadership driven by the intelligence of the heart, based on the fundamentals of intuition, courage and empathy which, come 2035 and in the contexts envisaged, will still play a decisive role, if not even more decisive than today.

THE PERSONNAE AT A GLANCE: typology of leaders vis-a-vis AI



C. THREE QUESTIONS FOR EACH OF THE 12 LEADERS OF 2035

HÉLOÏSE – AKA "SUPERBUDDY"

SCENARIO: "TOMORROW'S WORLD IS NIGH"

Company name:
The Deconstructors

Sector of activity:
Construction

Company size:
Mid-sized company

Age:
35

How long in the job:
5 years

Can you tell us about your company?

We are demolition specialists: we tear down buildings and recover materials, which are added to our material banks. We also offer renovation and remodeling services for existing buildings.

Obviously, our business experienced a surge in growth right after the year of darkness. That's when I pivoted our business: I lost my arm in one of the storms while trying to rescue a group of young people. I made myself a promise then that I would always work to bring about a better world.

How is the company organized, and what is the place of AI in it?

Employees are involved in management, and we have opted for a balanced distribution of value. We have also included external stakeholders in our governance, and this includes nature, which is represented by an EU-approved agent. In general, we comply with the standards for the frugal use of AI: in particular, we use the European geolocation platform, which allows us to network our various material banks, and those of our European partners.

What are your plans for the coming years?

We aim to develop a training program proposal for private individuals, focusing on DIY for their own homes, as well as for professionals, for them to meet their career transition needs. We are also reinforcing our "biodiversity" strategy, which focuses on making buildings more nature-friendly and best embodies our corporate purpose: "Care for the living through care for the environment." In a few months, we'll finally be launching a low-tech lab, open to schoolchildren, which will complement the digital detox workshops for adults that we've been offering for the past three years and which are starting to run out of steam.

CYRIL – AKA “LYRX"

SCENARIO: “TOMORROW’S WORLD IS NIGH”

Company name:
E-cologIA

Sector of activity:
IT

Company size:
SME

Age:
35

How long in the job:
10 years

Can you tell us about your company?

We are a consulting firm engaged in the great shift of the economic paradigm. I often say that E-cologIA is first and foremost a company that regenerates connections, between humans, within their environment. This translates into two types of action:

1. De-digitalizing the organizational processes

2. Decarbonizing as far as possible the uses of digital technology that are still essential

This type of project requires organizations to reinvent the very way they work. We support, on a case-by-case basis, the reorientation of all employees and the transformation of their tasks.

How is the company organized, and what is the place of AI in it?

The principles we promote at E-cologIA are harmony and frugality. We take great care in optimizing our digital credits and those of our clients. We need to make the most of what the legal framework allows us to do and be creative in doing so. We mainly use AI to explore data and consider organizational models that buck the trend. It may seem paradoxical, but AI helps us make organizations less dependent on AI.

What are your plans for the coming years?

We are constantly refining our de-digitalization methodologies, to build together toward greater collaboration with employees. We are therefore increasingly turning to researchers who specialize in how organizations are set up, and we are working to set up a dedicated campus. We will also soon be making some of our methodologies freely available (in “open source” as they used to say).

THIERRY – AKA “TEL MAKES DO”

SCENARIO: “TOMORROW’S WORLD IS NIGH”

Company name:
SKIA

Sector of activity:
Major retail

Company size:
Large corporation

Age:
57

How long in the job:
8 years

Can you tell us about your company?

We are a major retail group that has had to learn how to manage shortages of food, personal care products, cleaning supplies, and so on. Two years ago, I renamed my company “SKIA,” which evokes the French phrase “ce qu'il y a”, or “what’s available” —in other words, making do with what there is: stocking our shelves with as many local products as possible and optimizing the supply chain, all the while keeping prices competitive for our customers. We also leverage our global presence to offer them the widest possible range of products. You won’t find pineapples on our shelves anymore, but we do great mangoes!

How is the company organized, and what is the place of AI in it?

In the name “SKIA”, you’ve also got “IA” (French for “AI”), and artificial intelligence is central to our business model. It plays a major role in helping us model and manage our supply chain and logistics, particularly with regard to available food resources. Sometimes we have to buy digital credits from SMEs or exchange them for our products. Some critics accuse us of “AI-washing”—of exaggerating the role AI plays in our processes just to come across as “modern.” What nonsense!

What are your plans for the coming years?

We are strengthening our ties with farmers by offering them a special support contract that includes access to shared biogas solutions and social security coverage in exchange for their production quotas and output. We are opening our first 100% locally sourced restaurants within our supermarkets and closing our online store to prioritize the use of AI in logistics. We are also finally unveiling our new tagline: “When there isn’t any more, you can still find SKIA”.

CHARLOTTE – AKA “CHA’TZ AWESOME”

SCENARIO: “TOMORROW’S WORLD IS NIGH”

Company name:
Santé de fer

Sector of activity:
Personal services

Company size:
Mid-sized company

Age:
53

How long in the job:
4 years

Can you tell us about your company?

“Santé de fer” is a personal services company dedicated to metalworking employees, with a presence on more than 50 sites throughout France. It is a cooperative owned by companies in the sector, thereby ensuring decent retirement benefits for their employees. The idea is to make up for the limited resources of the public authorities, as is the case in all sectors. To set a good example, the principle we apply to ourselves is the same as that which applies to metalworkers: our employees—primarily personal care aides—retire only upon a doctor’s recommendation.

How is the company organized, and what is the place of AI in it?

“Santé de fer” operates as a network, and AI enables us to run the network efficiently. AI is used in governance meetings to take a critical look at biases and blind spots in decision-making, and to complement our action plans. Note that we use exclusively the public AI solution “IApluka”. Aside from that, the number of AI agents that the beneficiaries of our services have access to depends on each individual’s pension package. We have developed our own empathetic AI agents, which can keep our beneficiaries company for anywhere from a few minutes to an hour a day, depending on their coverage.

What are your plans for the coming years?

Our main upcoming innovation is lifetime leasing: beneficiaries of this contract will have access to a lifetime “all-inclusive” service in exchange for transferring their assets to “Santé de fer” upon their death. This will require our caregivers to develop new skills, as diverse as wealth management and interior design. Here too, AI will play an important role in supporting our employees. We are aware this project may raise a few eyebrows, but new circumstances require new approaches!

IRIS – AKA “EYE-EYE!”

SCENARIO: “JULES IS WATCHING YOU”

Company name:
Platon

Sector of activity:
Management consulting

Company size:
Mid-sized company

Age:
37

How long in the job:
7 years

Can you tell us about your company?

I founded Platon in 2028 as a startup to use AI to increase the impact of nudging within organizations. It was an instant success! We offer HR solutions that leverage employees’ emotional responses to boost their productivity. Initially, our primary goal was to improve onboarding and skills development through highly personalized automated support. Since Jules was elected President of the Republic, we have also been providing services in the areas of behavioral monitoring and optimization, especially since we have many framework agreements with the Government.

How is the company organized, and what is the place of AI in it?

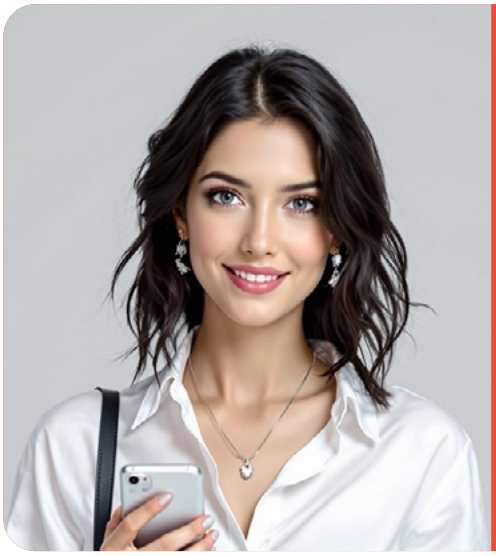
At Platon, AI is everywhere! But it’s always with people in mind, as our slogan reminds us: “Let’s keep upgrading ourselves!” All of our consultants are constantly supported by their own AI agent, whom they can turn to for advice or to handle a variety of tasks, and who keeps them informed of the national priorities. It’s like having a mini-President Jules in your pocket or looking through your glasses! This constant interaction with the agents has its downside: to be completely honest with you, I’ve developed an emotional connection with this AI, and it’s sometimes hard to draw the line between the professional and the personal.

What are your plans for the coming years?

We are launching our new personalized HR assistant model: Psy-A. Ever more empathetic, ever more attentive, it builds a close relationship with employees from the moment they are hired. Psy-A is attentive to the slightest of details, in your expressions, your gestures, your intonations. This performance in non-verbal communication is based on the latest advances in AI, developed by our partners in China.

LÉA – AKA “LAY LIE LOW”

SCENARIO: “JULES IS WATCHING YOU”



Company name:
Flex-Indu

Sector of activity:
Construction

Company size:
Large corporation

Age:
28

How long in the job:
8 months

Can you tell us about your company?

This is not actually my company, it is co-owned by the State and the Chinese conglomerate Dragon Manufacturing. Flex-Indu was created as part of the national reindustrialization plan. It offers “turnkey” 4.0 factories on demand: design, delivery, maintenance, and even “factory staging”, i.e. the optimization of existing factories through automation. It's a sector that inspires me: I started my career as a design and decoration influencer. My active support for Jules on the social media made this new entrepreneurial venture possible, and I'm grateful for the trust he has placed in me.

How is the company organized, and what is the place of AI in it?

AI is essential to the operation of Flex-Indu. All our 4.0 factories and robots are based on the most advanced AI, thanks to our exclusive agreement with Dragon Manufacturing and its partners. It is also at the heart of our decision-making processes: the “Bercy-A” agent sits on our Board of Directors, as a spokesperson for the interests of the Government. Finally, I’ve had my own AI twin developed: she helps me with my decision-making, does a tremendous amount of work for me, and stands in for me at various meetings. Her name is Lia. Thanks to her, I can focus on the tasks at which I excel the most, such as communication.

What are your plans for the coming years?

According to Lia, the priority is to expand our “factory staging” services to make factories better equipped to withstand severe natural disasters and acts of sabotage. We are developing new digital solutions to simulate the resilience of factories. As part of this same initiative, we will partner with an insurance company, which will take a stake in the business and act as a business developer: as it identifies risks, we will adapt the factories accordingly.

BRIGITTE – AKA "INNER EAR"

SCENARIO: "JULES IS WATCHING YOU"

Company name:
MaVia

Sector of activity:
Personal services

Company size:
SME

Age:
61

How long in the job:
6 years

Can you tell us about your company?

Despite all that is officially said, the world in which we live is not easy, and the company is no exception. I worked for a long time in big companies, and during that time I observed the need for high-quality psychological support. This trend has become more pronounced in recent years. I founded MaVia to provide workers with a safe haven and someone trusted they can confide in, so they can feel secure and perform better at work. Today, MaVia can draw on a network of more than 100 mental health professionals throughout France.

How is the company organized, and what is the place of AI in it?

Our support is provided by humans and optimized by AI. We provide two main services. First there is Allia, whereby the goal is to help employees work better according to the corporate guidelines and thus improve their performance within their organizations. This support is financed by the companies concerned. Then there is Smoothia, a more recent development. This involves supporting employees who have been made redundant because of automation in their career transition. This is funded in the main by collective organizations through mandatory contributions from companies whose employees are made redundant. But some people pay for these services out of their own pockets.

What are your plans for the coming years?

The future, for MaVia, involves a move toward "de-digitalization". We will offer our premium clients support that is guaranteed 100% AI-free, so they can confide in us without worrying that their data will be captured, to foster a relationship of trust that encourages freedom of expression. That's why we are investing in paper shredders, in training in accelerated manual note-taking and memorization, and in comfortable offices with soundproof rooms, guaranteed to be free of microphones.

CREANIMUS – AKA “FASHION POLICE”

SCENARIO: “JULES IS WATCHING YOU”

Company name:
CREANIMUS

Sector of activity:
Fashion / Textiles

Company size:
N/A (illegal entity)

Age:
N/A (collective)

How long in the job:
41 average (estimation)

Can you tell us about your company?

Creanimus is an underground collective and solidarity network founded by former creative professionals and developers who are fed up with the “J system” (“J” for “Jules”) and its attacks on freedom and creativity. We make clothes that allow those who wear them to jam the AI systems of surveillance cameras. Our members collect clothing and fabric from community sympathizers (individuals, recyclers, etc.). These are then sent to partner facilities where they are dyed. The fabrics are then taken to artisan workshops, where they are used to create new pieces based on our patterns. Finally, they are distributed in our networks.

How is the company organized, and what is the place of AI in it?

We need to be familiar with AI in order to adapt to the ever-changing landscape of State surveillance. We have valuable contacts at the Ministry of Security who provide us with certain information. We are not opposed to AI per se but to its authoritarian uses. We use encrypted, non-traceable AI for our decentralized distribution network, for who delivers what, and where. It is also used for our randomized decision-making system. And, in anticipation of the upcoming ban on cash, we have developed our own digital currency for our transactions.

What are your plans for the coming years?

We are launching the “Chameleon” plan with an evolution of our prints and patterns to anticipate software updates by the authorities. Beyond recycling, we’re also moving into our own production through partnerships with dissident livestock farmers who don’t tag some of their animals and will provide us with their hides. This goes against the anti-speciesist convictions of some of our members, but we have to make do with what we have. Better days will come, and we’re working towards that goal!

ANNIE – AKA "ZETTE"

SCENARIO: "WELCOME TO GAFAMLAND"

Company name:
ReSeed Academy

Sector of activity:
Insurance

Company size:
Large corporation

Age:
29

How long in the job:
3 years

Can you tell us about your company?

ReSeed Academy proposes a new insurance model. In a world where it has become increasingly difficult to insure serious risks, we encourage virtuous behavior. The more our policyholders act with a positive impact on the environment, the more they are credited with cryptos, and this in turn generates bonuses on their insurance premium. Part of what is earned from this is directed towards a common fund, which finances environmental projects, in particular via micro-credit. Reseed Academy bridges individual and collective interests to make the planet more livable—and thus more insurable—in the long term.

How is the company organized, and what is the place of AI in it?

What can we do without AI today? AI is everywhere in the organization. In terms of our solutions, we have developed a tool to collect data from our policyholders so that we can adapt in real time to their behavior. This allows us to direct them towards a more virtuous, and therefore more profitable, mode of consumption. An AI agent that represents the interests of our policyholders also has the right to vote on the Executive Committee, which is made up half of permanent members and half of employees with less than 18 months in the job.

What are your plans for the coming years?

We are launching our first multi-year plan, "Nepthunes 2040", with the ambition of considerably increasing our revenues and therefore our impact. We plan to support as many new cryptocurrencies as possible. We will also leverage the latest technological innovations to enhance the support we provide to our clients. I have in mind, for example, a new connection interface between Wi-Fi and brainwaves, which will allow us to collect and share personal data in a very detailed and targeted way.

LILA – AKA “GREENFINGERS BOFFIN”

SCENARIO: “WELCOME TO GAFAMLAND”

Company name:
PhytoDrink

Sector of activity:
Food industry

Company size:
SME

Age:
28

How long in the job:
11 years

Can you tell us about your company?

We market the first fun, plant-based (“phyto”) beverage in the form of a line of healthy, plant-based, non-alcoholic aperitifs that produce various effects (euphoria, calmness, etc.) but are non-addictive. PhytoDrink promotes well-being and socializing without alcohol or the risk of addiction. We prioritize local production and short supply chains, but recently our products have enjoyed great success nationwide. They are very popular among increasingly stressed workers, and the large corporations and public authorities promote them because they offer a good alternative to alcohol.

How is the company organized, and what is the place of AI in it?

It's like alcohol: the less I use it, the better off I am. Every time we use digital technology, it means a little less water for our plants. With us, its use is focused on logistics and pharmaceutical R&D—everything that helps us develop better products and distribute them more efficiently. We don’t have our own online store, and we refuse to use Big Tech solutions, opting instead for French alternatives—even if they’re said to be less efficient.

What are your plans for the coming years?

Given our development, we are working on opening new production and training sites, spread throughout the country. The idea is to preserve our local roots, and to promote regional know-how. It will also allow us to diversify our range and be more resilient to climate problems. We are also working with the health authorities and certain private health insurance providers and healthcare groups to explore the possibility of full or partial reimbursement for our beverages and to get them included in treatment plans. Finally, in terms of communication, we are going to be strengthening our partnerships with slowfluencers, whose principles are in line with our values.

TAWFIQ – AKA “BRAINIAC”

SCENARIO: “WELCOME TO GAFAMLAND”

Company name:
Vosgéfen

Sector of activity:
Construction

Company size:
SME

Age:
53

How long in the job:
2 years

Can you tell us about your company?

It's all in the name: Vosgéfen has been manufacturing windows (“***FENêtres***”) in the Vosges for decades. More specifically, we offer carpentry solutions for new construction and renovation projects, from manufacturing to installation. It is a company made up of craftspeople, where customization, human relations and pride in a job well done are what matter most, especially these days, when everything is automated and digital. I took over this company two years ago, after starting my career in marketing and going through a long career transition. In any event, I was sure to end up being replaced by AI.

How is the company organized, and what is the place of AI in it?

I’m a craftsman, but I love AI! Our work is first and foremost manual, and it represents everything that is difficult to automate. However, from a personal perspective, I’m truly an “augmented boss,” as they say. In fact, my colleagues tell me I’m hard to keep up with—always juggling a thousand ideas at once, with my smart glasses constantly on. They don't even know if I'm really looking at them! AI is a kind of second brain for me. Thanks to AI, I’ve got ready answers for my colleagues about HR issues, labor law, all kinds of things. I am always connected with my AI agent who knows our job and the history and values of my company by heart. I’m augmented, but I'm also replaceable: almost everything is in the agent now.

What are your plans for the coming years?

We plan to establish formal bonds of trust with our customers. The idea is to have as little digital data as possible that can be retrieved by Big Tech. Everything or nearly everything will be in writing. I also just hired a data engineer. He will ensure that our company appears in search results for public and private tenders. What I'm loath to admit, however, is that it was my AI agent who gave me all these ideas!

ADX22CD – AKA “JEREMY”

SCENARIO: “WELCOME TO GAFAMLAND”

Company name:
Green Robot

Sector of activity:
Industry

Company size:
Mid-sized company

Age:
32

How long in the job:
1 year

Can you tell us about your company?

Strictly speaking, it's not my company: it's owned by a megacorporation. I’m just legally responsible for it. Green Robot makes humanoid robots, most of which are intended to help the elderly. It’s a good business, since there aren't too many other ways to help people requiring care. We also make robot butlers for the better off. What marks these products out is that they are made from locally sourced, bio-based materials.

How is the company organized, and what is the place of AI in it?

You could describe it as a company run by robots which makes robots. Everything is decided by AI; the decision-making process is somewhat opaque but, in the end, the decisions invariably turn out to be sound. At the executive committee level, the principle is simple: one AI = 1 vote, 1 human = 0 votes. The problem is that in what remains of French labor law, a company must be run by a human being. So the AI designates a random employee to be entrusted with the company’s management. I used to be in charge of maintenance, and now here I am. All my human colleagues take great care of me: they want me to keep going for as long as possible! There’s a lot of stress involved.

What are your plans for the coming years?

From what I observe from the way the AI that directs us operates, it seems that the AI systems are trying to anticipate the developments of Big Tech, so as to keep one step ahead of changes in the economy. I am not really aware of what is going on in their digital “brains”, but I can tell you that our new target is young people: they need to be encouraged to get a robot when starting out in their careers, so they can plan ahead for aging and financial challenges, and so their robots can get to know them from as early on as possible. I also lent my name to a land purchase near here, which will be used to grow raw material for robots.

IN CONCLUSION: SOME RECOMMENDATIONS FOR LEADERS

How can leaders make best use of AI in their strategic decisions? Can AI help them make positive contributions to society? How might it weaken their power, impact, or legitimacy as leaders? To conclude this study, we propose several recommendations.

Picture yourself in foresight scenarios.

How does my organization fit into the scenarios proposed in this report or in other future studies? What is its strategic differentiation? What are its vulnerabilities? As a leader who is both strategic and compassionate, how would I act?

Whether you do this exercise on your own, with colleagues, or within a network of fellow leaders, it allows you to proactively—rather than reactively—immerse yourself in possible futures: enriching and challenging the scenarios, identifying opportunities and threats from different perspectives, and developing a vision and a plan for implementing this vision.

Challenge and weigh your conception of the opportunities and risks.

Proponents of AI solutions naturally present them in a positive light. Conversely, some critical commentators may present a caricatured or alarmist view of AI. Leaders must avoid getting bogged down in either of these perspectives and instead strive to view AI objectively, taking into account both its benefits on the one hand and its limitations and risks on the other (for individuals, their own companies, and society as a whole) in the short and medium term.

Stay actively informed about AI.

News about AI moves quickly, especially since it is fueled by the hype surrounding "selling the promise". This news is also very wide-ranging, given the number of stakeholders involved and the issues at stake. This report provides keys to a better understanding of the structural dynamics at work. This pervasive buzz will only get louder and louder, and leaders would be well advised to keep an eye on developments in AI.

Identify actual economic needs and jointly decide on the deployment strategy.

Given the proliferation of announcements and the prevalence of discussions about the disruptive impact of AI on organizations, the temptation to jump on the bandwagon is strong, with the risk of succumbing to an unthinking, and potentially harmful, herd mentality. What real efficiency gains are to be had? What are the legal issues in customer and supplier relations, in terms of HR and a company's appeal? What is the potential for creating or destroying the value of corporate assets?

The development of AI in organizations is often done empirically. Leaders can observe field experiments and consider employee feedback in order to assess the actual benefits and risks.

Before encouraging broader implementation, it is advisable to establish an internal review process, along with a process for deliberation and joint decision-making, to identify and document actual needs, the red lines that must not be crossed for security or ethical reasons, and opportunities within the organization and in the business strategy.

Approach AI in a systemic way with regard to time scale and stakeholders.

The development of AI technologies takes place within a multifaceted environment—geopolitical, ecological, sociopolitical, and personal. While attention is most often focused on the supposed improvements in productivity, creativity, or organizational

transformation, leaders have a strategic imperative to consider AI beyond the confines of their own companies.

Before making any decision on use or investment, we recommend that you carry out the following:

- Mapping of positive and negative impacts on external stakeholders
- (customers, suppliers, future generations, etc.), in the short and medium term
- A detailed analysis of the new risks and dependencies associated with the use of AI in business
- An analysis of the changes specific to the business sector, and to the transformations that the widespread deployment of AI will have on the sharing of value (between stakeholders in the supply chain and with digital players).

ABOUT US

Heart Leadership University

Founded by 15 corporate executives, Heart Leadership University is an Association of General Interest under French Law with an educational and scientific mandate.

Our mission: to revolutionize the education of corporate leaders, renew the imaginaries of leadership and bring to the fore a movement of leaders who will lead, innovate, and make decisions from the heart (with intuition, courage, and empathy) to preserve our humanity and overcome the challenges of the 21st century: ecological collapse, rampant inequalities, and the risks of uncontrolled development of artificial intelligence systems.

Our activities: educational open content, masterclasses, transformative journey tailored for business leaders; events and debates; research activities.

HLU conducts independent and interdisciplinary research work in a singular field: that of relations (inter-human relations, relations with other living creatures, with machines). Largely unexplored, this field is nonetheless fundamental, insofar as relations are at the heart of what makes us human beings.

Our current programs are focused on business leaders and the exercise of leadership. How, as sensitive human beings, do leaders relate to their environment, to their field of operation? Can leaders really transform their companies by making strategic decisions driven from the heart? What are the imaginaries of leadership, past and present, and what kind of leaders do we want for the 21st century?

These are all questions that our work aims to document, disseminate and debate.

OUR PARTNERS

ABOUT FUTURIBLES

Futuribles is a foresight center founded in the 1960s. “Futuribles” is a portmanteau word, a contraction of “futures” and “possible”.

The goal of Futuribles is to contribute to a better consideration of long-term issues in the decisions and actions that will shape the future. This implies identifying and qualifying these long-term issues and encouraging the involvement of stakeholders in the construction of the future.

At the heart of Futuribles’ activities lies the idea that the future is never pre-ordained and that there is a diversity of possible futures. Exploring these futures makes it possible to reveal what leeway the actors may have, and to help develop policies and strategies suited to the challenges of tomorrow, and not simply determined by past trajectories.

ABOUT CJD

The CJD (Centre des Jeunes Dirigeants - Young Executives’ Center) is an independent and non-partisan association created in 1938. The movement now brings together more than 6,000 managers united around a common corporate vision and the need for training to be a “leader-entrepreneur”. A bona fide “action tank”, the CJD draws on its collective strength nationwide to probe ideas, conduct experiments, develop approaches, and question how things are done. Its ambition is to build more responsible, more sustainable and friendlier companies, to subordinate the economy to the well-being of all living things. For the CJD, the performance of companies must be addressed as much from a social, societal and environmental perspective as from an economic perspective. This is fundamental because, today, there is a pressing need, for all of us and for the very planet itself, to move forward differently.

Heart Leadership University

futuribles

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