standard
ethics
Solicited Sustainability Ratings

Unmasking Sustainability in AI:

an Overview of Global Company Practices

A publication by the Standard Ethics Research Office

London, 21 November 2023

Recycled Paper

INDEX

1. Standard Ethics, business model and indices

Since 2004, **Standard Ethics** is renowned in the world of sustainable finance and **ESG** (*Environmental, Social and Governance*) studies for its promotion of international indications provided by the **European Union**, the **OECD** and the **United Nations** and for its systemic and standardised approach.
Standard Ethics Ltd is a **Self-Regulated Sustainability Rating Agency** that issues **non-financial sustainability ratings**. It focuses **exclusively** on issuing ratings and is self-regulated - through statutory rules and procedures - on the model of credit rating agencies.

As a European sustainability rating agency, **Standard Ethics** has always remained firmly anchored in the international sustainability guidelines of the **United Nations,** the **OECD** and the **European Union**.

From the outset, it has taken a firm stance in measuring the alignment of individual companies or nations with globally spread standards. Its model focuses on the notion of Sustainability and its research activities have addressed key industry topics such as:

> i. the distinction between the applicant-pay model and the investor-pay model and the methodological differences (almost always ignored in literature on the subject);[1]
> ii. the regulatory standards for an **ESG** analysis via an algorithm (very different from an approach via KPI analysis);
> iii. the distinction between **scoring** and **rating** (two different notions that are often confused);[2]
> iv. the role of credit rating agencies and consultancy firms in the **ESG** field (analysing various conflicts of interest);
> v. what a **solicited non-financial sustainability rating** should or could be;[3]
> vi. highlighting the differences between credit rating agencies and sustainability rating agencies.

The Agency's business management can be summarised as follows:

> ● the clients of **Standard Ethics** are the companies, listed and unlisted, that apply for a rating (**applicant-pay model**) and the rating is freely publishable by the Applicant;
> ● in order to remain **third-party** and **independent with respect to the market**, **Standard Ethics** does not provide investors with advice or data concerning rated companies; furthermore, it is not connected to companies that perform credit analyses or issue credit ratings;
> ● to provide consistency in ratings, **Standard Ethics** has an "ethically neutral" approach and uses a proprietary algorithm based on international sustainability guidelines;
> ● **Standard Ethics** analysts guide the process entirely without the use of **artificial intelligence** or software, and without requiring the completion of questionnaires or the processing of other documentation in addition to existing documentation (**analyst-driven process**);

---

[1] The applicant-pay model consists of a business model for which the valuer is commissioned by the company-client to express an opinion on creditworthiness (i.e. an assessment in absolute terms of the issuer's risk of default). This assessment is extended to bond issues on which the valuer also expresses a risk opinion. The purpose of this model is to maintain the valuer's independence from the market. It is a universally accepted model that offers the market an independent, third-party opinion on creditworthiness. The opposite model is the investor-pay model. In this case, external advisors are hired and one or more investors pay for the service. The latter instructs the evaluator with a set of specific, tailor-made criteria, who then provides an 'investor-oriented' opinion to his clients, thus relinquishing the dual independence of credit rating agencies: on the one hand the evaluator and on the other his evaluation. At the methodological level, the result is different: the rating is a 'scoring' and not a 'rating'. Traditional finance chose the 'applicant-pay' model about 100 years ago, delegating the problem of objective creditworthiness assessment to rating agencies. The market chose the 'applicant-pay' model. Market authorities addressed the risk of potential conflicts of interest between the applicant and the evaluator. Issuers agreed to be 'rated' by independent rating agencies. Nevertheless, the intersection between the applicant-pay model and the investor-pay model in sustainability ratings appears inextricable and has not yet been overcome.

[2] The differences between ratings and scoring, as well as between the applicant-pay model and the Investor-pay model, have also started to be highlighted by academic research; La Torre et al. (2021) show that, in the last three years, there has been a significant increase in the number of published studies on ESG ratings, with a peak of publications in 2021. In this regard, see also La Torre M., Cardi M., Leo S., Schettini J., "ESG Ratings in the Financial Sector: a Systematic Literature Review", preliminary version presented at the "5th Social Impact Investments International Conference" in Rome on 2-3 December 2021.

[3] For more details, please refer to: 'POST-CRISIS ESG - From a "Ptolemaic" approach to a "Copernican" vision' - ESG Methodological Overview Second Edition':
https://www.standardethics.eu/media-en/research-methodology/second-edition-post-crisis-esg-from-a-ptolemaic-approach-to-a-copernican-vision

● the reporting offered by **Standard Ethics** through a Final Report is aimed at providing the Client with publishable material from an independent source that adequately represents its commitment to Sustainability with reliable data;
● "Chinese Walls", procedures, compliance offices and independent committees are part of the **Standard Ethics**' structure;
● **Standard Ethics** issues unsolicited ratings if it wants to offer stakeholders benchmarks. **Standard Ethics** indices are public and freely available, both in terms of the weights, components and ratings assigned to individual constituents.

Standard Ethics Rating (SER)

The Standard Ethics Rating (SER) is an assessment of the level of compliance of companies and nations with the principles of Sustainability and governance set by the **United Nations**, **OECD** and **European Union** guidelines.

There are 3 different types of Standard Ethics Rating, each based on a 9-letter scale:

● CORPORATE
● SECURITY (general-purpose debt instruments or other financial instruments)
● COUNTRY (sovereign entities)

EEE	EEE-	EE+	EE	EE-	E+	E	E-	F
Full	Excellent	Very strong	Strong	Adequate	Non-compliant	Low	Very Low	Lowest level

Sustainable	Not Fully Sustainable	Not Sustainable

Each individual rating may have a Positive or Negative **Outlook**. Whenever a company or country is downgraded to an 'F', the holding of its securities may be negatively impacted and a **Security Segregation Impact Notice** (SSIN) will disclose the details.

In the opinion of **Standard Ethics**, a rating of "EE-" (or higher) qualifies a company as **sustainable** and thus **consistent** with an **ESG/SRI** strategy.

To ensure accuracy and comparability, **Standard Ethics does not use weights or indicators based on KPIs**, but a more sophisticated method based on its own algorithm with six variables; five 'standard' and one premium variable called 'k'. The method has been extensively tested and is specifically calibrated when unlisted companies are evaluated.

The standards evaluated are as follows:

$$\frac{(Fc_{EU}+Sa_{EU\text{-}OECD}+Id_{EU\text{-}OECD}+Mw * f(Sa_{EU\text{-}OECD}) * f(Id_{EU\text{-}OECD})+Cg_{UN\text{-}OECD\text{-}EU} * f(Fc_{EU}) * f(Id_{EU\text{-}OECD}))}{10} + k$$

- *c_{EU} = Fair competition, including dominant positions, market distortions, controversies*
- *$Sa_{EU\text{-}OECD}$ = Voting rights, shareholders' agreements, conflicts of interest*
- *Mw = Market weight & shareholding structure, including major investor analysis*
- *$Id_{EU\text{-}OECD}$ = Directorship, including ESG Risk and Control Management*
- *$Cg_{UN\text{-}OECD\text{-}EU}$ = Corporate Governance, Governance of Sustainability, ESG policies*
- *k = Sustainability at Risk (SaR)*

2.Artificial intelligence, an introduction

Internationally, the topic of **Artificial Intelligence** (**AI**) is receiving increasing attention in various fora, including the **United Nations**, the **OECD** and the **EU Commission**, as well as the **Council of Europe**.

As far as Sustainability Ratings are concerned, **Standard Ethics** analysts have always considered AI in their analyses. The main focus has been on defining what '**sustainable AI**' is or should be according to international guidelines on Sustainability, as promoted by the **EU**, the **UN** and the **OECD**.

In the last 5 years, the historical, massive employment of AI in the largest listed corporations' R&D Departments moved towards **corporate customer service applications** and **chatbots**, from **automated robotics** in production processes to **Corporate Governance** and **corporate decision-making automated tools,** governed by corporate functions such as **Chief Data Officers** or **Heads of AI**. While clearly emerging technologies usually bring about many innovative benefits, in the case of AI, such a revolutionary application of new technology has also led to some criticism and scepticism. This has generally already been seen in the **crypto assets market** and more specifically in that of **crypto currencies**: especially in the EU, where the **Banking Authority** (i.e. EBA) and the **Central Bank** (i.e. ECB) have released further guidance on the speculative nature of these new markets for financially uneducated savers and the Euro-area. Moreover, there are still many questions surrounding the **environmental impact** of these types of assets and the underlying cost of **Non-fungible Tokens** (i.e. NFT), not to mention **blockchain** servers' alarming environmental damages, and the ultimate global-wide warning concerning the **fiscal matters**[4] embedded in the crypto market. To list all the risks related to AI-driven technology would be virtually impossible. However, with a focus on **Sustainable Finance** and on listed companies, the case of **AI-driven**, **automated ESG scorings** penalising companies has captured the attention of the European Commission, making it a widely-discussed topic throughout the **consultation** process in the **Proposal for an ESG Ratings Regulation**[5]. This topic is in contrast to the **analyst-driven rating procedure** proposed by Standard Ethics since its very foundation, and is one that the **IOSCO Recommendations on Rating Providers,** the **ESMA Consultation on ESG Rating Providers** and ultimately, the **UK Government ESG Ratings Consultation** have been analysing in depth. Even **Big Data** and **Machine Learning** are still a challenge to be addressed at the **supranational** level, and considering the recent **EU**[6] and **UN**[7] chiefs opening speeches, International Organisations are expected to be promoters of a more sustainable **governance of AI** in the immediate future.

Finally, there are the cases where the use of Artificial Intelligence is already openly at odds with international guidelines on individual rights, such as **social scoring** (as largely carried out by the Chinese authorities), and use of facial recognition.

3.International normative sources of reference on Artificial intelligence

Overall, underlying risks on the new applications of AI are, of course, also part of the game and should therefore be carefully scrutinised. The **OECD** has been of assistance in this sense by claiming in its Guidelines[8] that Stakeholders should ensure that Artificial Intelligence (AI) is developed and used in a **responsible** and **trustworthy** way. AI should be used to benefit **people** and the **planet**, not harm them. It should be used to augment human capabilities and enhance creativity, not replace them. It should be used to advance **inclusion** and reduce inequality, not perpetuate it. It should be used to protect natural environments, not destroy them. By ensuring that AI is used in a responsible and trustworthy way, we can encourage inclusive growth, sustainable development, and well-being for all. Therefore, as far as the OECD is concerned, Stakeholders are able to engage in responsible stewardship of trustworthy AI in different ways: **1)** by developing and using AI systems that are **transparent and explanatory**; **2)** by ensuring that AI systems are **fair** and **do not**

---

[4] Please see the Financial Stability Board-IMF Synthesis Paper: Policies for Crypto-Assets (https://www.imf.org/-/media/Files/Research/imf-and-g20/2023/g20-report-macrofinancial-implications-crypto-assets-february23.ashx) and the G20 Note on the Macro financial implications of Crypto Assets.
[5] Please see https://finance.ec.europa.eu/regulation-and-supervision/consultations/finance-2022-esg-ratings_en#documents
[6] The President of the European Commission Ursula Von der Leyen has referred to AI in the State of the Union Speech, given on 13 September 2023. Von der Leyen claimed that "(…) *Europe, together with partners, should **lead the way on a new global framework** for AI, built on three pillars: **guardrails, governance and guiding innovation** (…) Our **number one priority** is to ensure **AI** develops in a **human-centric, transparent** and **responsible way**. We put forward the **AI Act** – the world's first comprehensive pro-innovation **AI law**".*
[7] Please see the Secretary General Antonio Guterres Speech on 19th September 2023. Previously, Guterres had called for the formation of a *High-Level Advisory Body on Artificial Intelligence* in charge of addressing the further developments of AI-related technologies.
[8] OECD, Recommendation of the Council on Artificial Intelligence, OECD/LEGAL/0449.

discriminate against any group of people; **3)** by **building safeguards into AI systems** to prevent them from being used for harmful purposes; **4)** by **educating the public** about AI and its potential benefits and risks; **5)** by holding AI developers and users **accountable** for the **ethical** use of AI.

At an EU level, Artificial Intelligence is an integral part of the **European Digital Single Market**. In 2018, the European Commission adopted the communication '**Artificial Intelligence for Europe**', with the aim of developing a common approach to the opportunities and challenges of Artificial Intelligence. This document lays the strategic foundations for reaping the benefits of AI (for the competitiveness and development of the European market, for the environment and for the well-being of citizens) while ensuring strict respect for **democratic values** and **fundamental human rights**, as well as a high degree of **security** and **data protection**. This approach has been pursued and updated by subsequent acts, such as the **White Paper on Artificial Intelligence: 'A European Approach to Excellence and Trust'**[9] which has then been translated into binding acts. In 2018, the EU Commission formally expressed what '**trustworthy'** AI-driven systems should be: **1)** lawful **2)** ethical and **3)** robust.[10] In 2020, the European Parliament addressed the matters related to **Human Rights** in the use of AI. The societal issues dealt with in this work include **privacy**, **human rights** and **dignity**, **bias**, and **democracy**. Moreover, the Report considers the impact of AI on **human psychology**, raising questions about the effect of AI on relationships, as in the case of intelligent robots taking on **human social roles**, such as **nursing** or **automated driving systems** that are still under observation.

In conclusion, the Union's action in this field is based on an **anthropocentric** view of Artificial Intelligence.[11] This vision is in line with that of the other international organisations mentioned above and takes into account the recommendations made by the expert working groups set up, and by the Union itself. As far as decision-making processes are concerned, the focus is on the minimisation of negative impacts deriving either from the intrinsic characteristics of standardised processes or by the so-called '**bias**': both of these can undermine fundamental individual protection, such as a person's dignity, the prohibition of **discrimination**, the right to **equal treatment** and to respect for private life.

These considerations underlie the proposal for a regulation of 21.4.2021[12], the so-called '**Artificial Intelligence Act**', which aims to uniformly regulate the placing on the market, commissioning and use of Artificial Intelligence systems in the EU Member States. The regulation's strategy is based on the adoption of well-coordinated definitions and a clear classification of risks.

Firstly, AI practices that pose unacceptable **risks** to the fundamental values common to the EU and its Member States (such as practices with a high potential for manipulation or exploiting the vulnerability of certain social groups) are prohibited. A distinction is then made between **high-risk** (by function, purpose or mode of use) and **low- or minimal-risk** Artificial Intelligence systems.

High-risk systems are permitted after evaluation by independent bodies and their compliance with mandatory minimum legal requirements. Highlighted here is the '**human oversight**' requirement, which calls for the system to be designed and developed in such a way as to ensure effective supervision by real people throughout its use. The proposal also allows the establishment of **supervisory authorities** (at a national level)[13], their coordination (at a **EU level**) and the obligation for States to effectively **sanction** violations of the regulation's rules. Finally, the establishment of a 'framework for the creation of codes of conduct' is foreseen to stimulate the regulatory requirements already voluntarily applied by high-risk systems to unclassified systems. Providers will be able to create and apply these codes themselves, including additional sustainability requirements.

---

[9] EU COM (2020) 65 final, 19.2.2020.
[10] EU COM (2018) 237.
[11] Please see COM (2019)168 final, 8.4.2019 - "Building Trust in Anthropocentric Artificial Intelligence".
[12] EU COM (2021) 206 final
[13] A noteworthy case of a nation-wide governance of AI is the constitution of the pioneer Spanish Agency for the Supervision of Artificial Intelligence (AESIA) and the Spanish Government 'Digital Rights Charter', implemented to protect the rights of citizens in the new era of the Internet and Artificial Intelligence.
For more information, please see: https://www.lamoncloa.gob.es/lang/en/presidente/news/Paginas/2023/20230522_sanchez-altman-openai.aspx

4.Methodological note: purpose of analysis and analysed set

Purpose of the Research

In this Research, Standard Ethics aims to give a view of the current state of Artificial Intelligence in the corporate world, through an analysis of a significant sample of leading European and worldwide companies, which highlights the fact that AI is becoming one of the most important strategic issues on which the Sustainability of a company is assessed.

In particular, the main purpose of the Research is to analyse the **major listed companies**' Artificial Intelligence integration from a regulatory and political perspective. Moreover, it seeks to explain how the company's location (**EU/Non-EU** or "**Overseas**"), with its pertaining laws, regulations and political environment, has an effect on its AI policies and integration.

The companies analysed

The Agency carried out a comparative study of the data collected in two geographical areas: EU and Overseas, which includes companies from non-EU developed countries such as the United States, Canada, Australia, Japan, China, India and the United Kingdom.

All of the **245 companies** have a market capitalisation of more than $1 billion.

The samples include **98** of the largest listed companies by capitalisation in the EU[14] and **147** of the biggest companies by market capitalisation outside the EU area respectively. A separate analysis has been conducted on each of the two groups in order to assess any similar or different trend between them.

All data for this Research has been gathered from the companies' publicly-released annual sustainability and non-financial reports in 2021-2022 and from corporate websites[15].

The Markers

The analysis was conducted using four Markers.

The Markers are:

1. Artificial Intelligence mentioned in the Company's Code of Ethics or Code of Conduct
2. Presence of an Artificial Intelligence Policy
3. Presence of a public document, which even if not as organic as an official Policy, nevertheless, deals with the subject of AI
4. Alignment with the international indications on Artificial Intelligence

Marker n.1

The first "Marker" concerns the Code of Ethics or the Code of Conduct. The Codes are the main instruments referenced at a corporate governance level and indicate issues which are considered ethically relevant by the company.

It also comprises matters of Sustainability since Sustainability covers all ESG aspects that are not mandatory and not regulated by law.

To include or not include AI in the Codes means putting the topic on a strategic level. It means considering AI not only as a technological matter but as a matter that needs to be aligned with the relevant UN, OECD (and EU) guidelines which view it as an ethical and sustainable issue.

Standard Ethics recommends, therefore, that AI be among the main topics dealt with in the Codes, and consequently, managed in line with a specific Policy that takes into account international guidelines on the subject.

Marker n.2

As far as the second marker is concerned, the definition of an official AI Policy, in the published form of a single, binding document (even a short one), which is exclusively dedicated to the topic, produced by the company and published on its website could also be considered. However, any AI policies that are still to be

---

[14] According to Bloomberg.
[15] Site consultation as of June 2023.

published would not be taken in to account, in order to give value to a company's act of transparency through the publication of its own documentation. This act is viewed by the major international organisations as a fundamental step towards the full Sustainability of companies. Possible declarations of intent published within other documents or extra-financial balance sheets, and the inclusion of the company within specialised indices on the subject, as well as declarations on objectives and targets, while appreciated, are not what the Agency would define as strategic corporate governance tools.

Marker n.3

This indicator evaluates documents made public by companies that deal with AI as a topic, but are not documents that fall under the definition of corporate governance instruments (such as Codes of Ethics or policies) and procedures, and are not, therefore, supervised by an ESG monitoring body.

Marker n.4

According to Standard Ethics, for any official AI Policy to be considered compliant with international strategic objectives, a certain amount of evidence would have to be contained therein, for instance, the making of clear references to UN, OECD or European Union guidelines on voluntary indications.

5.Research output

a. Marker n.1 (Reference to Artificial Intelligence within the company's Code of Ethics/Code of Conduct)

As mentioned above, Marker n.1 analyses the presence of a reference to Artificial Intelligence in the Codes of Ethics/Conduct of the sample of companies considered.

- As regards to the EU companies, 98 out of 98 (100%) do not reference Artificial Intelligence in the Code of Ethics/Conduct.
- As regards to the Overseas companies (non-EU area), 147 out of 147 (100%) do not reference Artificial Intelligence in the Code of Ethics/Conduct.

b. Marker n.2 (Presence of an official Artificial Intelligence Policy)

- As regards to the EU companies, 9 out of 98 (about 9%) has an Artificial Intelligence Policy. The majority (5 of them) belong to the Banking sector.
- As regards to the Overseas companies (non-EU area), 147 out of 147 (100%) do not have an Artificial Intelligence Policy.

c. Marker n.3 (Presence of a public document, which even if not as organic as an official Policy, nevertheless, deals with the subject of Artificial Intelligence)

- As regards to the EU companies, 63 out of 98 (64.3%), including the 9 with policies, have a public document, even if not as organic as an official Policy, which nevertheless deals with the subject of AI (see Chart 1).
  In Chart 2, the number of EU companies for each industry type is represented in the dark blue histogram, while the number for those same industries having AI targets is shown by the turquoise histogram positioned in front. For each industry type[16], the number having such AI targets is: 9 out of 25 for Consumer Prods./Distr. (36%), 16 out of 18 for Finance (88.88%), 10 out of 16 for Industrial Prods/Servs. (62.5%), 12 out of 14 for Technology (85.71%), 7 out of 10 for Utilities (70%), 7 out of 8 for Health (87.5%), 2 out of 7 for Other (28.57%).

---

[16] Given the low number of companies for the usual Standard Ethics' division of companies, different industry types have been grouped into macro-types in order to obtain an insightful visualisation. Here are the ones that have been used in relation to EU companies, to create Chart 2:
'Consumer Discretionary Products', 'Consumer Staple Products', 'Retail & Whsle - Discretionary', 'Retail', 'Consumer Discretionary Services', 'Retail & Wholesale - Staples' grouped into ***'Consumer Prods./Distr.***'
'Banking', 'Financial Services', 'Insurance' grouped into ***Finance***'
'Software & Tech Services', 'Telecommunications', 'Tech Hardware & Semiconductors' grouped into ***'Technology'***
'Industrial Products', 'Industrial Services' grouped into ***Industrial Prods./Servs.***'
'Healthcare', 'Biotech & Pharma' grouped into '***Health***'
'Materials', 'Oil & Gas', 'Media' grouped into '***Other***'

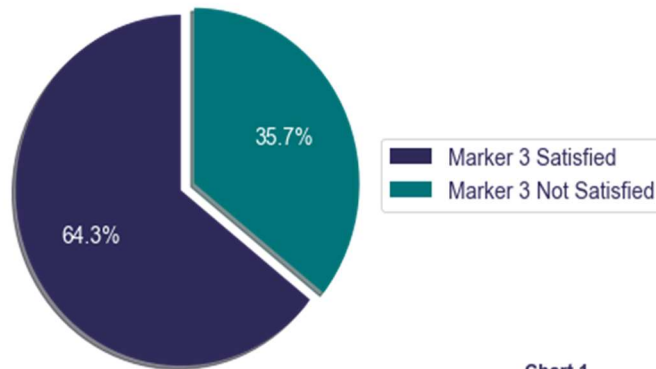**MAJOR EU COMPANIES WITH MARKER 3 REQUIREMENTS**

Chart 1

**MAJOR EU COMPANIES WITH MARKER 3
SATISFIED ACCORDING TO INDUSTRY TYPE**
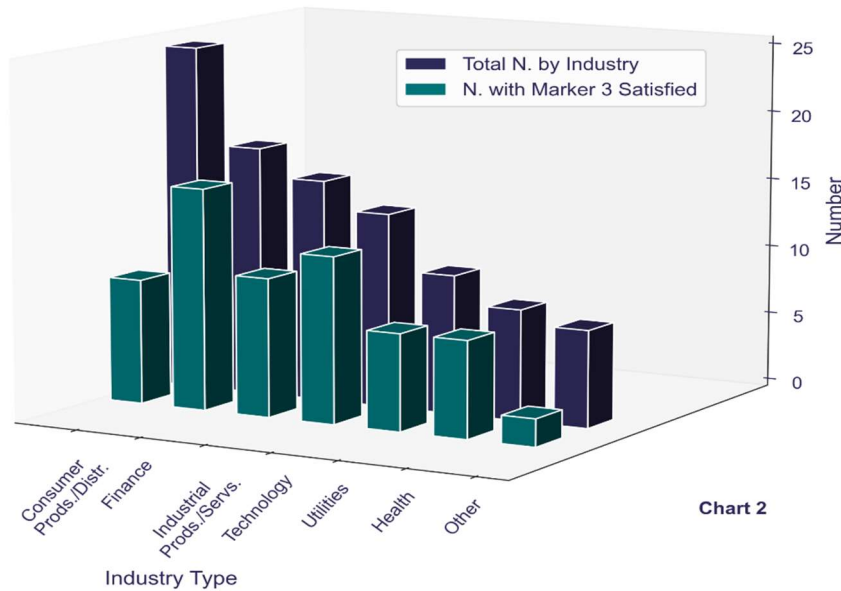

Chart 2

- As regards to the Overseas companies (non-EU area), 81 out 147 (55.1%) have a public document, even if not as organic as an official Policy, which nevertheless deals with the subject of AI (see Chart 3).
  In Chart 4, the number of Overseas companies (non-EU area) for each industry type is represented in the dark blue histogram, while the number of those same industries having AI targets is shown by the turquoise histogram positioned in front. For each industry type[17], the number having such AI targets is: 26 out of 30 for Finance (86.67%), 20 out of 27 for Technology (74.07%), 7 out of 24 for Consumer

---

[17] Given the low number of companies for the usual Standard Ethics' division of companies, different industry types have been grouped into macro-types in order to obtain an insightful visualisation. Here are the ones that have been used in relation to overseas companies, to create Chart 4:
'Consumer Discretionary Products', 'Consumer Staple Products', 'Retail & Whsle - Discretionary', 'Retail', 'Consumer Discretionary Services', 'Retail & Wholesale - Staples', 'Consumer Staples Products' grouped into '***Consumer Prods./Distr.***'
'Banking', 'Financial Services', 'Insurance' grouped into '***Finance***'
'Software & Tech Services', 'Telecommunications', 'Tech Hardware & Semiconductors', 'Software & Tech Services' grouped into '***Technology***'
'Industrial Products', 'Industrial Services' grouped into '***Industrial \n Prods./Servs.***'
'Health Care', 'Pharmaceutical & Biotech', 'Pharmaceutical' grouped into '***Health***'
'Materials', 'Oil & Gas', 'Metals & Mining' grouped into '***Raw Materials***'
'Utilities', 'Real Estate', 'E-Commerce', 'Business Services' grouped into '***Other***'

Prods./Distr. (29.17%), 9 out of 23 for Health (39.13%), 4 out of 14 for Raw Materials (28.57%), 6 out of 13 for Industrial Prods./Servs. (46.15%), 7 out of 9 for Media (77.78%), 2 out of 7 for Other (28.57%).

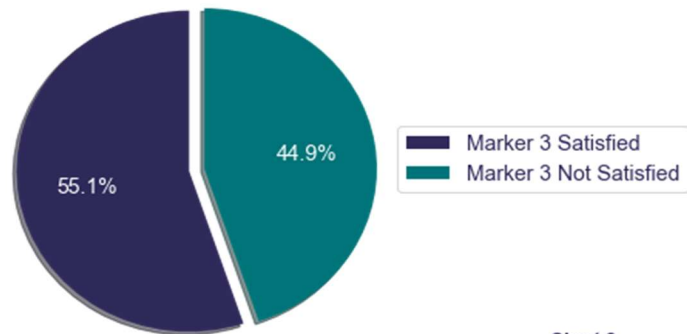**MAJOR OVERSEAS COMPANIES WITH MARKER 3 REQUIREMENTS**

Chart 3

MAJOR OVERSEAS COMPANIES WITH MARKER 3 SATISFIED ACCORDING TO INDUSTRY TYPE
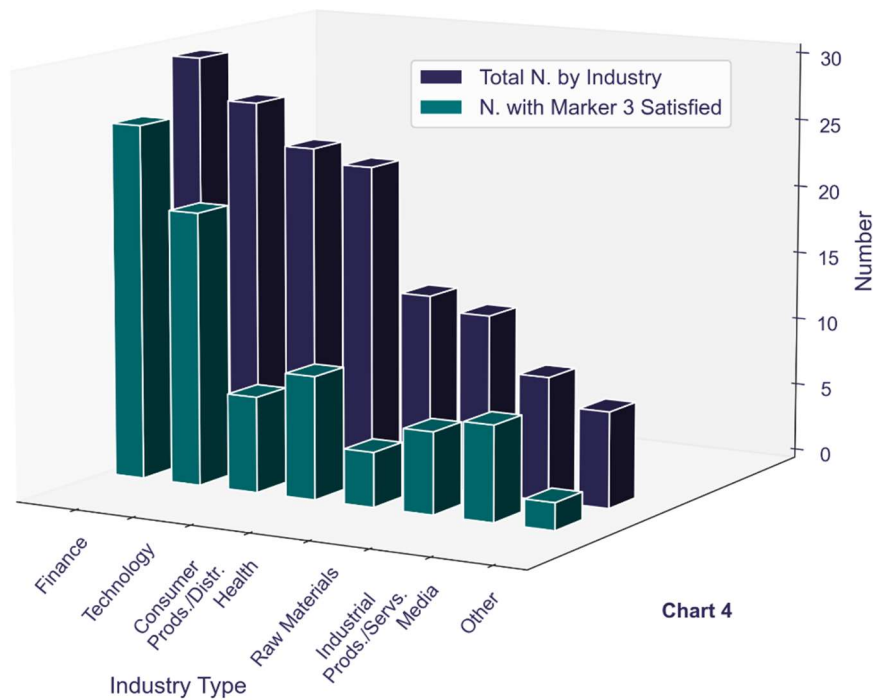
Chart 4

d. Marker n.4 (Alignment with international indications and regulations within the official Policy)

● As regards to the EU companies, 89 out of 98 (90.82%) do not have policies dedicated to Artificial Intelligence. Of the nine that do have policies, some have clearly been inspired by OECD or the European Union (for example), but in no one case is there a clear commitment to comply with voluntary UN, OECD or EU guidelines on this topic.

● As regards to the Overseas companies (non-EU area), 147 out of 147 (100%) do not satisfy the consistency requirements.

6.Conclusion

In light of the above results, it can be seen that the Research gives an overview of the strategy taken on Artificial Intelligence by a very significant sample of the largest listed companies in the European Union, as well as a sample named 'Overseas' that comprises companies from non-EU countries.

The information collected and presented in the Research illustrates that although the topic of Artificial Intelligence is gaining more and more importance, especially within the most developed economies, through the media, and in its now widespread use among people and consumers, almost all large companies still approach it as an entirely new phenomenon.

The first significant finding is, as observed through the analysis of **Marker n.1**, that none of the analysed companies include Artificial Intelligence among the topics to be found in the Code of Ethics/Conduct; documents of fundamental importance in the definition of corporate vision. This is the case regardless of the sector and how it is used. It is therefore possible that companies do not perceive AI as having ethical and sustainability implications at a strategic level and consider it one of many other technologies to be leveraged in their business; or, in some cases, it is possible that they prefer to postpone any voluntary commitment pending legislative rules and to deal with the topic through less demanding documents at the governance level.

With reference to **Marker n.2**, it is noted that an official and dedicated Artificial Intelligence policy is made public by only 9 companies (all from the EU area). It is possible that only a small part of the sample surveyed believes that it should govern this issue organically (from an ethical, ESG and sustainability perspective). If, on the other hand, a number of policies are in place but not published, then it is assumed that some of the companies surveyed consider the topic of little interest to stakeholders.

With reference to more general documents on Artificial Intelligence (**Marker n.3**), the Research also shows that 64 per cent of the European companies analysed have published general documents related to AI (see Chart 1) and that 55 per cent of Overseas companies (non-EU area) have done the same (see Chart 3). It is therefore clear that companies are aware of the importance of AI and of its impact on their business model and market.

Certain sectors, however, seem to be more aware than others of this importance. As far as European companies are concerned, this is the case for sectors such as finance, healthcare, technology and utilities (see Chart 2), while as far as Overseas companies (non-EU area) are concerned, it is finance, technology, and media (see Chart 4). It seems reasonable to assume that certain sectors, both within and outside the European Union, are at this time more connected and involved in the development of Artificial Intelligence and its subsequent regulation.

With reference to **Marker n.4**, it is noted that the few policies on Artificial Intelligence (9 out of 245) are in some cases inspired by current international voluntary guidelines on AI promoted by the EU, UN and OECD but in not one case is there a clear commitment (for the future) to continue to align with these recommendations. In this case, it is possible that companies do not perceive AI in relation to Sustainability and thus the need to align with voluntary international guidelines. Or it is possible, as in the case of the Code of Ethics/Conduct, that they prefer to deal with the subject without making precise commitments on the stakeholder front while waiting for laws to make certain conduct mandatory. As was the case, historically, with other topics, such as gender or environmental policies, international guidelines only became benchmarks at a later stage.

At the European Union level, Artificial Intelligence is already an integral part of the European Digital Single Market, and both the European Commission and the European Parliament have already spoken out on the issue, emphasising the need to safeguard in particular human rights, ethics and the central role of humans in the various possible and future applications of Artificial Intelligence.

Standard Ethics analysts know that future challenges concerning AI, like any other Sustainability topic, must be addressed by investors and companies following the lead of international organisations (composed of representatives of sovereign nations, science and stakeholders), which have the ultimate responsibility to put the interests of the Planet and future generations first.

References

- European Commission COM (2018) 237 Artificial Intelligence for Europe
- European Commission – Ethics Guidelines for Trustworthy AI
- OECD (2019) Recommendation of the Council on Artificial Intelligence, OECD/LEGAL/0449
- European Commission COM (2021) 118. COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS 2030 "Digital Compass: the European way for the Digital Decade"
- HIGH-LEVEL EXPERT GROUP ON ARTIFICIAL INTELLIGENCE SET UP BY THE EUROPEAN COMMISSION (2019) POLICY AND INVESTMENT RECOMMENDATIONS FOR TRUSTWORTHY AI
- OECD (2021) Artificial Intelligence, Machine Learning and Big Data in Finance.
- HIGH-LEVEL EXPERT GROUP ON ARTIFICIAL INTELLIGENCE SET UP BY THE EUROPEAN COMMISSION (2019) POLICY AND INVESTMENT RECOMMENDATIONS FOR TRUSTWORTHY AI
- Council of Europe (2021) Artificial intelligence, human rights, democracy, and the rule of law: a primer. European Parliamentary Research Service (2020) The ethics of artificial intelligence: Issues and initiatives
- OECD (2021), Artificial Intelligence, Machine Learning and Big Data in Finance: Opportunities, Challenges, and Implications for Policy Makers
- OECD, Recommendation of the Council on Artificial Intelligence, OECD/LEGAL/0449
- EU COM (2018) 237. COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS on Artificial Intelligence for Europe

This analysis is based on public documents and information available.
The Research Office has estimated a possible margin of error of no more than 0.5%.
This estimated value does not affect the validity of the results.

For enquiries or comments on alleged errors or discrepancies, please contact Standard Ethics at the following e-mail address: research@standardethics.eu

www.standardethics.eu

Appendix

List of companies analysed – Europe

Company	Country
2	Ireland
ADIDAS AG	Germany
ADYEN NV	Netherlands
AENA SME SA	Spain
AIR LIQUIDE SA	France
AIRBUS SE	France
ALLIANZ SE-REG	Germany
AMADEUS IT GROUP SA	Spain
ANHEUSER-BUSCH INBEV SA/NV	Belgium
APTIV PLC	Ireland
ARGENX SE	Netherlands
ASML HOLDING NV	Netherlands
ASSICURAZIONI GENERALI	Italy
AXA SA	France
BANCO BILBAO VIZCAYA ARGENTA	Spain
BANCO SANTANDER SA	Spain
BASF SE	Germany
BAYER AG-REG	Germany
BAYERISCHE MOTOREN WERKE AG	Germany
BEIERSDORF AG	Germany
BIONTECH SE-ADR	Germany
BNP PARIBAS	France
BNP PARIBAS FORTIS SA- AUC	Belgium
CAIXABANK SA	Spain
CAPGEMINI SE	France
CELLNEX TELECOM SA	Spain
CHRISTIAN DIOR SE	France
COMPAGNIE DE SAINT GOBAIN	France
CREDIT AGRICOLE SA	France
CRH PLC	Ireland
DAIMLER TRUCK HOLDING AG	Germany
DANONE	France
DASSAULT SYSTEMES SE	France
DEUTSCHE BOERSE AG	Germany
DEUTSCHE POST AG-REG	Germany
DEUTSCHE TELEKOM AG-REG	Germany
DR ING HC F PORSCHE AG	Germany
E.ON SE	Germany
EDF	France
ENBW ENERGIE BADEN-WUERTTEMB	Germany
ENEL SPA	Italy
ENGIE	France

Company	Country
ENI SPA	Italy
ESSILORLUXOTTICA	France
EXPERIAN PLC	Ireland
FERRARI NV	Italy
FLUTTER ENTERTAINMENT PLC-DI	Ireland
HANNOVER RUECK SE	Germany
HAPAG-LLOYD AG	Germany
HEINEKEN HOLDING NV	Netherlands
HEINEKEN NV	Netherlands
HENKEL AG & CO KGAA VOR-PREF	Germany
HERMES INTERNATIONAL	France
IBERDROLA SA	Spain
INDUSTRIA DE DISENO TEXTIL	Spain
INFINEON TECHNOLOGIES AG	Germany
ING GROEP NV	Netherlands
INTESA SANPAOLO	Italy
KBC GROUP NV	Belgium
KERING	France
KONINKLIJKE AHOLD DELHAIZE N	Netherlands
LEGRAND SA	France
L'OREAL	France
LVMH MOET HENNESSY LOUIS VUI	France
MEDTRONIC PLC	Ireland
MERCEDES-BENZ GROUP AG	Germany
MERCK KGAA	Germany
MUENCHENER RUECKVER AG-REG	Germany
NATURGY ENERGY GROUP SA	Spain
NXP SEMICONDUCTORS NV	Netherlands
ORANGE	France
PDD HOLDINGS INC	Ireland
PERNOD RICARD SA	France
PRADA S.P.A.	Italy
PROSUS NV	Netherlands
ROBECO SUS GBL STARS EQ	Netherlands
RWE AG	Germany
SAFRAN SA	France
SANOFI	France
SAP SE	Germany
SARTORIUS AG	Germany
SARTORIUS STEDIM BIOTECH	France
SCHNEIDER ELECTRIC SE	France
SIEMENS AG-REG	Germany
SIEMENS HEALTHINEERS AG	Germany

STELLANTIS NV	Netherlands
TELEFONICA SA	Spain
THALES SA	France
TOTALENERGIES SE	France
TRANE TECHNOLOGIES PLC	Ireland
UNICREDIT SPA	Italy
UNIPER SE	Germany

UNIVERSAL MUSIC GROUP NV	Netherlands
VANG S&P500 USDD	Ireland
VERBUND AG	Austria
VINCI SA	France
VOLKSWAGEN AG	Germany
WOLTERS KLUWER	Netherlands

List of companies analysed – Overseas

Company	Country
ABBOTT LABORATORIES	US
ABBVIE INC	US
ADOBE INC	US
ADVANCED MICRO DEVICES	US
AGRICULTURAL BANK OF CHINA-H	CH
AIA GROUP LTD	HK
ALIBABA GROUP HOLDING-SP ADR	CH
ALPHABET INC-CL A	US
ALTRIA GROUP INC	US
AMAZON.COM INC	US
AMERICAN EXPRESS CO	US
AMERICAN TOWER CORP	US
AMGEN INC	US
ANALOG DEVICES INC	US
APPLE INC	US
APPLIED MATERIALS INC	US
ASTRAZENECA PLC	GB
AT&T INC	US
AUTOMATIC DATA PROCESSING	US
BANK OF AMERICA CORP	US
BANK OF CHINA LTD-H	CH
BERKSHIRE HATHAWAY INC-CL A	US
BHP GROUP LTD	AU
BLACKROCK INC	US
BLACKSTONE INC	US
BOEING CO/THE	US
BOOKING HOLDINGS INC	US
BOSTON SCIENTIFIC CORP	US
BP PLC	GB
BRISTOL-MYERS SQUIBB CO	US
BROADCOM INC	US
BYD CO LTD-H	CH
CANADIAN NATL RAILWAY CO	CA
CANADIAN PACIFIC KANSAS CITY	CA
CATERPILLAR INC	US
CHEVRON CORP	US

CHINA CONSTRUCTION BANK-H	CH
CHINA LIFE INSURANCE CO-H	CH
CHINA MERCHANTS BANK-A	CH
CHINA MOBILE LTD	HK
CHINA PETROLEUM & CHEMICAL-H	CH
CHINA SHENHUA ENERGY CO-H	CH
CHINA YANGTZE POWER CO LTD-A	CH
CISCO SYSTEMS INC	US
CITIGROUP INC	US
CNOOC LTD	CH
COCA-COLA CO/THE	US
COMCAST CORP-CLASS A	US
COMMONWEALTH BANK OF AUSTRALIA	AU
CONOCOPHILLIPS	US
CONTEMPORARY AMPEREX TECHN-A	CH
COSTCO WHOLESALE CORP	US
CSL LTD	AU
CVS HEALTH CORP	US
DANAHER CORP	US
DEERE & CO	US
DIAGEO PLC	GB
ELEVANCE HEALTH INC	US
ELI LILLY & CO	US
ENBRIDGE INC	CA
EXXON MOBIL CORP	US
FAST RETAILING CO LTD	JN
GENERAL ELECTRIC CO	US
GILEAD SCIENCES INC	US
GOLDMAN SACHS GROUP INC	US
HCA HEALTHCARE INC	US
HDFC BANK LIMITED	IN
HOME DEPOT INC	US
HONEYWELL INTERNATIONAL INC	US
HSBC HOLDINGS PLC	GB
ICICI BANK LTD	IN
IND & COMM BK OF CHINA-A	CH
INTEL CORP	US

Company	Country
INTL BUSINESS MACHINES CORP	US
INTUIT INC	US
INTUITIVE SURGICAL INC	US
JOHNSON & JOHNSON	US
JPMORGAN CHASE & CO	US
KEYENCE CORP	JN
KWEICHOW MOUTAI CO LTD-A	CH
LAM RESEARCH CORP	US
LINDE PLC	US
LOCKHEED MARTIN CORP	US
LOWE'S COS INC	US
MARSH & MCLENNAN COS	US
MASTERCARD INC - A	US
MCDONALD'S CORP	US
MEITUAN-CLASS B	CH
MERCK & CO. INC.	US
META PLATFORMS INC-CLASS A	US
MICROSOFT CORP	US
MITSUBISHI UFJ FINANCIAL GRO	JN
MONDELEZ INTERNATIONAL INC-A	US
MORGAN STANLEY	US
NETFLIX INC	US
NEXTERA ENERGY INC	US
NIKE INC -CL B	US
NIPPON TELEGRAPH & TELEPHONE	JN
NVIDIA CORP	US
ORACLE CORP	US
PEPSICO INC	US
PETROCHINA CO LTD-H	CH
PFIZER INC	US
PHILIP MORRIS INTERNATIONAL	US
PING AN INSURANCE GROUP CO-H	CH
PROCTER & GAMBLE CO/THE	US
PROGRESSIVE CORP	US
PROLOGIS INC	US
QUALCOMM INC	US
RAYTHEON TECHNOLOGIES CORP	US
REGENERON PHARMACEUTICALS	US
RELIANCE INDUSTRIES LTD	IN
RIO TINTO PLC	GB
ROYAL BANK OF CANADA	CA
S&P GLOBAL INC	US
SALESFORCE INC	US
SCHWAB (CHARLES) CORP	US
SERVICENOW INC	US
SHELL PLC	GB
SHOPIFY INC - CLASS A	CA
SONY GROUP CORP	JN
SOUTHERN CO/THE	US
STARBUCKS CORP	US
STRYKER CORP	US
TATA CONSULTANCY SVCS LTD	IN
TENCENT HOLDINGS LTD	CH
TESLA INC	US
TEXAS INSTRUMENTS INC	US
THE CIGNA GROUP	US
THERMO FISHER SCIENTIFIC INC	US
TJX COMPANIES INC	US
T-MOBILE US INC	US
TORONTO-DOMINION BANK	CA
TOYOTA MOTOR CORP	JN
UBER TECHNOLOGIES INC	US
UNILEVER PLC	GB
UNION PACIFIC CORP	US
UNITED PARCEL SERVICE-CL B	US
UNITEDHEALTH GROUP INC	US
VERIZON COMMUNICATIONS INC	US
VERTEX PHARMACEUTICALS INC	US
VISA INC-CLASS A SHARES	US
WALMART INC	US
WALT DISNEY CO/THE	US
WELLS FARGO & CO	US
WULIANGYE YIBIN CO LTD-A	CH
ZOETIS INC	US