



ETHOS STUDY 2023

CORPORATE DIGITAL RESPONSIBILITY
OF SMI EXPANDED INDEX COMPANIES

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1. Introduction

In 2023, for the third year running, the Ethos Foundation conducted a detailed study on the corporate digital responsibility practices of the largest listed companies in Switzerland. As in previous editions, the results are divided and presented in seven different sections, directly linked to the best practices identified by Ethos in terms of corporate digital responsibility (see page 6).

Cybersecurity, environmental and social impact of the technologies, replacement of human beings by algorithms: the digitalisation of the economy is one of the major challenges facing companies, in the same way as climate change or respect for human rights. In 2023, the number of cyber-attacks exploded, and the use of artificial intelligence (AI) took on a whole new dimension with the development of tools such as ChatGPT, which has only accelerated this trend.

Since 2020, Ethos has been identifying the various issues related to digital responsibility and, above all, identifying best practices for companies. These expectations were grouped together in an "Engagement Paper", which was published and sent to the chairmen and chairwomen of the largest companies listed in Switzerland.

At the same time, Ethos decided to list the practices of the largest companies listed in Switzerland to assess their level of preparedness to meet these challenges. In 2021, a collaboration with EthicsGrade, a UK-based company specialised in rating companies according to their management of digital issues, was set up to carry out an annual study on the corporate digital responsibility of the 50 largest companies listed in Switzerland (SMI Expanded). For Ethos, it was essential that this study be conducted over three consecutive years to measure the progress made by the companies. At the same time, Ethos continued its shareholder dialogue to encourage companies to improve and adopt best practices while demonstrating transparency. Webinars were organised after the publication of the first two editions of the study to present the results and to discuss with the managers of the companies concerned.

For this new edition, Ethos paid particular attention to the degree of transparency of the companies, i.e., the positive responses based solely on public information (see "Methodology" on page 7). This was one of the main objectives of this study: not only to make companies aware of their digital responsibility, but also and above all to encourage them to be transparent and communicate publicly about what they are doing to manage these issues.

From next year, Ethos will analyse and evaluate companies' digital responsibility using only publicly

available information, in the same way as their environmental, social and governance (ESG) practices.

REGULATION IN PROCESS

This third study takes place against a backdrop of rapid and increasing regulation of digital issues. In Switzerland, for example, new data protection legislation came into force on 1 September 2023 in order, among other things, to align with European Union (EU) law and, more specifically, with the 2018 General Data Protection Regulation (GDPR).

The requirements of this new law are far-reaching. Swiss companies must now have a detailed overview of how they collect, process and store personal data and indicate what the purposes of such processing are. This means defining clear governance to establish the principles, roles and responsibilities that guide the way in which this data is managed within the company. They also need to proactively analyse potential vulnerabilities and implement security measures. They must also ensure that their suppliers comply with these security requirements. Finally, Swiss companies must put in place a communication plan and report any security incidents involving personal data to the Federal Data Protection Commissioner.

In the United States and Europe, it is AI that is in the sights of the authorities, and which should soon be subject to regulation. Among other things, US President Joe Biden wants to require AI developers to provide the federal government with the results of their safety tests when their projects pose "a serious risk in terms of national security, the economy or public health". On the EU side, the AI law, which parliamentarians have been working on since 2018, has just been finalised. This is nothing less than the world's first concrete initiative to regulate AI and its use. Finally, in Switzerland, the Federal Council announced at the end of November that it would examine and present possible regulatory approaches to AI by the end of 2024.

ETHOS' SEVEN PRINCIPLES ON CORPORATE DIGITAL RESPONSIBILITY

Digital governance

Establish a digital responsibility code;

Digital transparency

Ensure transparency with stakeholders on digital practices and footprint;

Data protection

Comply with the highest standards of data processing and data protection;

Responsible AI

Establish ethical principles for the use of artificial intelligence;

Sensitives activities

Exclude sensitive activities related to digitalisation;

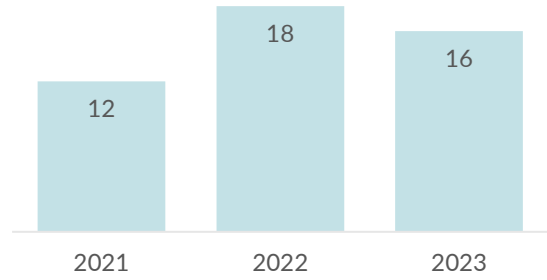
Social impact

Ensure a fair and responsible social transition;

Environmental impact

Help reduce the environmental footprint of digital technology.

PARTICIPATION TO THE QUESTIONNAIRE



- [Link to Ethos Engagement Paper](#)
- [Link to the detailed results 2023](#)
- [Link to Ethos Study 2022](#)
- [Lien to Ethos Study 2021](#)

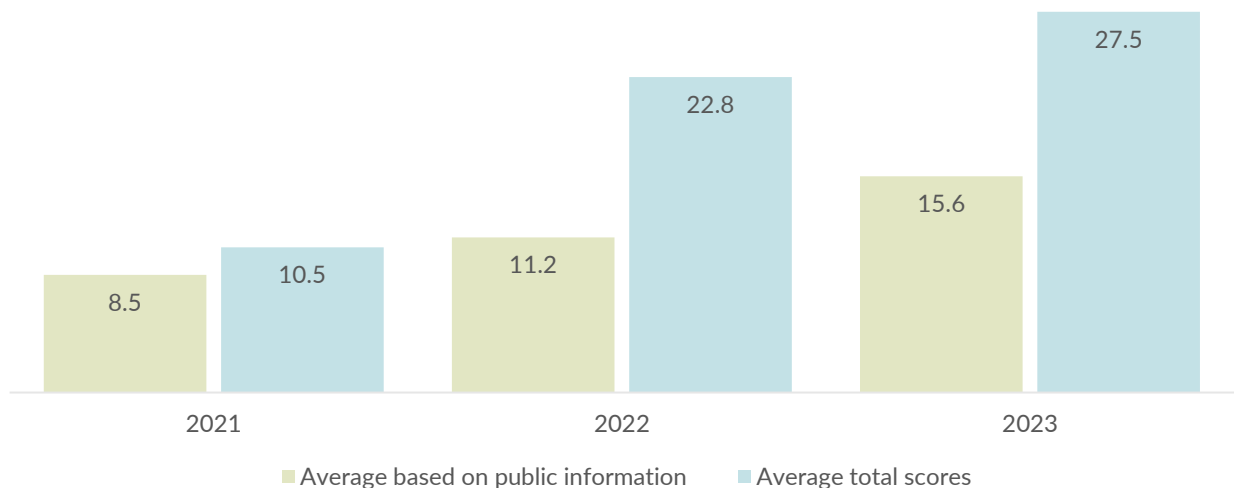
50

Companies analysed¹

98

Questions

CHANGE ON AVERAGES (OUT OF 100 POINTS)



¹ Companies included in the SMI Expanded on 30 June 2021 or which have since joined it, with the exception of Credit Suisse and Vifor Pharma, which have been delisted.

2. Methodology

In June 2023, Ethos and EthicsGrade sent a letter to the 50 companies included in the SMI Expanded inviting them to participate in a new study on digital responsibility². These companies then had three months to voluntarily take part in the study.

The methodology used by Ethos and EthicsGrade to assess companies' practices has not changed since 2021. It is divided into four stages:

- First, companies have from 1 July to 30 September to answer the questionnaire, which is divided into seven sections linked to the different issues identified by Ethos. To make things even easier for companies this year, the questionnaire was pre-filled with answers from previous years. Companies could simply validate these answers or update them if necessary;
- At the same time, and as in previous years, the analysts of EthicsGrade reviewed all the information published by companies (websites, annual reports, sustainability reports, codes of conduct, etc.) so that the same questionnaire could be answered solely on the basis of public information;
- The information gathered by EthicsGrade ("Public information") and the answers provided by the companies ("Company answers") were then cross-checked and each question was given an answer: "Yes", "Yes and the information is public", "No" and "Other³". The companies that took part were thus able to specify the existence of practices, policies, strategies or documents that are not currently public;
- Finally, EthicsGrade analysts carried out a detailed assessment of the companies' practices with regard to each of the seven principles predefined by Ethos. Of the 122 questions in the questionnaire, 98 were given a 'weighting' in the final evaluation, ranging from 0.4 to 1.5 points. An overall score and a score by category were thus awarded to each company, ranging from 0 to 100 points.

In order to take account of current events and the rapid evolution of issues relating to the digital responsibility of companies, Ethos decided to include new questions this year relating to the new Swiss law on data protection and the use of ChatGPT or other similar generative AI tools. For the sake of comparability with previous editions of

the study, these questions were not given any weight in the final evaluation of the companies.

The companies that actively participated in this study received a detailed report and a summary scorecard enabling them to situate themselves and compare themselves with their peers for each of the seven Ethos principles. EthicsGrade also offered them the opportunity to discuss the analysis carried out so that they could better understand the implications of its conclusions.

As was the case last year, Ethos has decided to publish the final scores of all companies. Given the still relatively small amount of public information on these various digital issues, it is not surprising to note once again that the companies that responded to the questionnaire are also those that obtained the highest scores.

² The practices of four new companies have been analysed this year, Bachem Holding, Belimo, DocMorris and Meyer Burger Technologies, to take account of their entry and exit from the SMI Expanded index. Conversely, the practices of Credit Suisse and Vifor, two companies that have been or are about to be delisted, were not analysed as part of this 2023 study.

³ Among the "other" possible answers, companies had the choice of indicating whether a question did not seem relevant to them for their sector of activity, whether they preferred not to communicate on the subject or, on the contrary, whether a point needed to be discussed in greater detail. In the tables published on pages 10 to 22, only the affirmative answers - whether public or not - are presented, since this study aims above all to highlight the good practices of companies.

3. Main result

For this third study on the digital responsibility of the largest listed companies in Switzerland, 16 companies completed the questionnaire in full, including three that had never participated before (Logitech, Lonza and OC Oerlikon). Over the three editions of the survey, 25 companies - half of the total - completed the questionnaire at least once (see pages 26 and 27). Nine have completed it twice, and six companies have responded every year (Baloise, Flughafen Zürich, Georg Fischer, Julius Baer, Sika and Swiss Re).

The main finding of this latest edition of the survey is that company results are up again. The average rose from 22.8 points in 2022 to 27.5 points this year, with a maximum of 91.3 points for Swisscom. It was only 10.5 points in 2021, with a maximum of 39.6 points for Baloise. In all, eight companies scored more than 50 points in 2023, while only three had exceeded 20 points in 2021. When only the results of the companies that responded to the questionnaire are considered, the average score rises to 42.8 points, compared with 16.1 points in 2021.

Perhaps even more encouragingly, the results based on public information only, which reflect companies' level of transparency, have also increased. The average is 15.6 points in 2023, compared with 11.2 points in 2022 and 8.5 points in 2021. The best result based on public information, here again obtained by Swisscom, was 40.0 points, compared with 28.3 points in 2022 (Swisscom) and just 18.0 points in 2021 (Adecco). In 2023, 12 companies obtained a score based on public information of more than 20 points.

Among the most significant improvements, EthicsGrade analysts were able to find public information attesting to the existence of a cybersecurity strategy for 39 companies this year, 25 more than in 2021. They also found information that at least 40 companies are using measures to reduce the environmental impact of the digital technologies they use, compared with just eight in 2021. In addition, 20 companies now publish information about the procedures they have put in place to deal with potential data leaks, 13 more than in 2021.

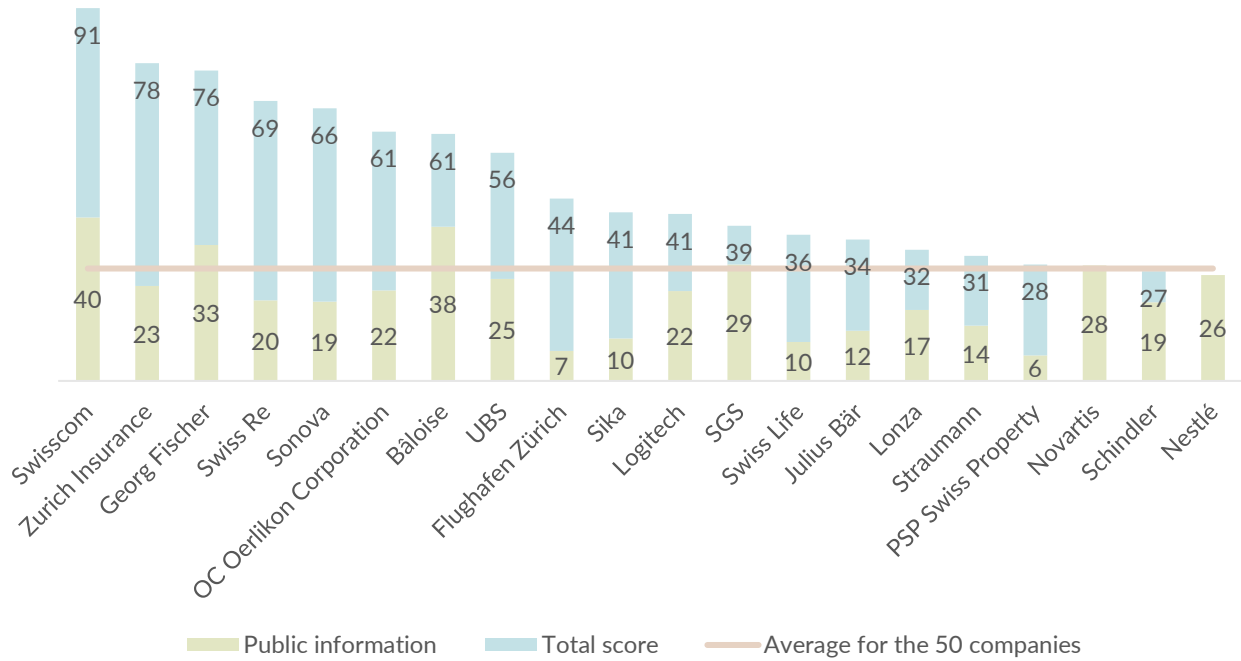
Finally, and perhaps most gratifyingly, two SMI Expanded companies, Georg Fischer and Baloise, have directly responded to one of Ethos' key requirements by adopting and, more importantly, publishing a code of digital responsibility. Unsurprisingly, these two companies rank in the top 3 of scores based on public information alone.

More worryingly, however, only eight companies - five more than in 2021 - have adopted or claim to have adopted ethical principles relating to the use of AI. There are also only eight companies that claim to have a working group focusing on the ethics of AI, including one for which there is public information on the subject.

Looking at the different industries represented in this study, it is the insurance sector which, as in the two previous editions, obtains the best result with an average of 59 points. This sector, which is particularly exposed to digital issues, has also made the most progress since 2021, with an average increase of 37.8 points. This puts it well ahead of the industrial sector (31.9 points). It should be noted that the finance and healthcare sectors, which are also highly exposed to digital issues, only come third and fourth, with averages of 25.9 points and 25.6 points respectively (13 and 13.5 points in 2021).

Finally, if we look at each section of this study separately, we see that companies once again scored the most points, on average, on issues relating to transparency (50.9 points) and data protection (44.5 points). Conversely, the averages remain very low for the sections on sensitive activities (13.2 points), responsible AI (17.4 points) and the social impact (16.5 points) of digitalisation. Based on public information alone, progress is most marked in the sections relating to governance, with an increase in the average from 11.5 points in 2021 to 26.6 points in 2023, and environmental impact (average of 18.8 points in 2023 compared with 7.7 points in 2021). On the other hand, the averages remain very low for the other sections, which shows that companies are still very reluctant to communicate on these topics.

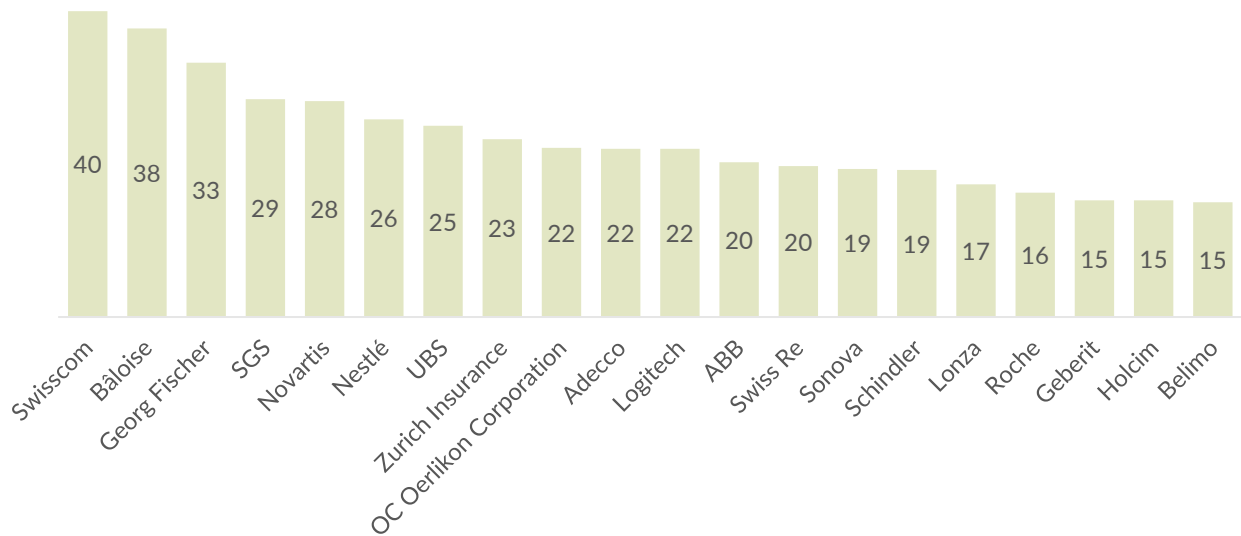
TOP 20 COMPANIES IN 2023 (OUT OF 100 POINTS)



The chart above shows the total points obtained by companies based on their responses to the questionnaire (in blue) and public information (in green). Of the 20 highest total scores, 18 were achieved by companies that responded to the questionnaire. We have to go to 18th

place to find a company whose score is based solely on public information (Novartis).

TOP 20 COMPANIES IN 2023 BASED ON PUBLIC INFORMATION ONLY (OUT OF 100 POINTS)



The chart above shows company results based solely on publicly available information. It can be seen that the best score in terms of transparency is 40 points (Swisscom)

and that only 12 companies have a score of 20 points or more.

4. Detailed results per principle

PRINCIPLE 1: DIGITAL GOVERNANCE

The first section of this study concerns digital governance. In this area, the role of the board of directors is to take strategic decisions that will ensure that the company invests sufficiently in new technologies while complying with the highest ethical, social and environmental standards. Given the complexity of the issue, the 'disruptive' nature of new technologies and their rapid evolution, the board of directors must also ensure that it has the necessary knowledge and understanding of the various issues linked to the digitalisation of the economy. Finally, it must ensure that senior management manages these issues in a credible manner and implements policies and procedures that comply with best practice in this area.

For Ethos, good governance begins with the adoption of a code of digital responsibility. In fact, this was one of the main requirements of its "Engagement Paper", published in 2020, which sets out its expectations on digital issues. Such a code is essential to ensure that the company, its management bodies and all employees take account of the challenges and risks associated with digitalisation in their strategy and day-to-day activities. The way in which these issues are managed must be provided for and specified in the code, as must the management of risks relating to cybersecurity, respect for privacy, data processing and the use of AI.

Now, for the first time in 2023, two SMI Expanded companies, Georg Fischer and Baloise, have not only adopted such a code of digital responsibility but have also published it on their websites. In addition, nine companies indicated in their responses to the questionnaire that they had adopted such a code but had not made it public. As a reminder, only one of these companies (Baloise) stated that it had introduced a code of digital responsibility in 2021. And none had published it.

Another criterion for assessing a company's governance in terms of digital responsibility is the establishment of a committee or body responsible for overseeing the management of technological issues. Here too, progress is being made. While the number of companies claiming to have such a body has stagnated at 22 this year (+1 compared to 2022), it has more than doubled since 2021.

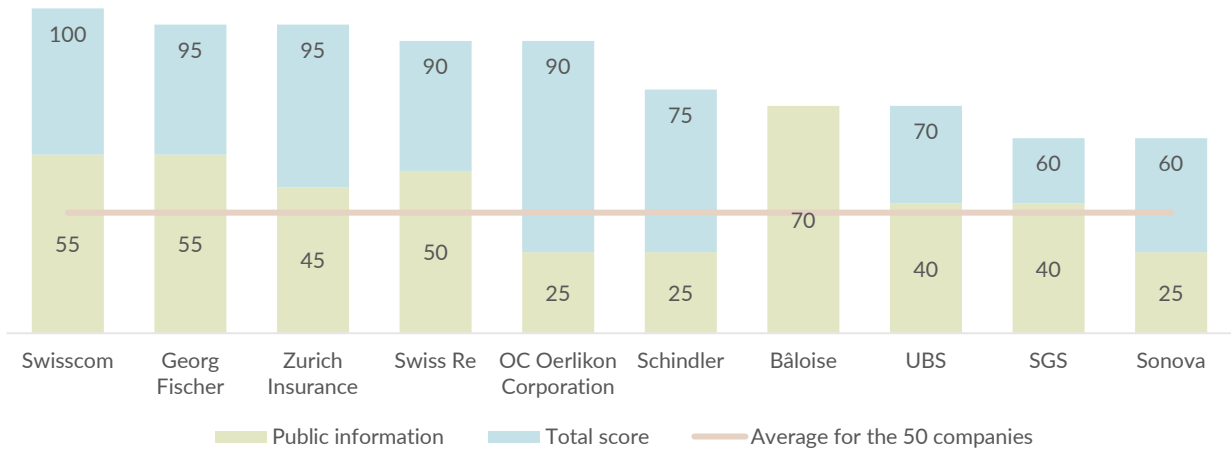
As for the number of "Chief Digital Officers", i.e., those responsible for digital issues within a company, this has risen from 18 in 2021 to 23 in 2023.

As was the case last year, however, the most notable progress seems to have been made in cybersecurity. Out of the 50 companies analysed this year, 42 now state, either publicly or in their responses, that they have established a cyber security strategy, compared with 34 in 2022 and just 16 in 2021. The number of companies publishing information about this strategy has almost tripled, from 14 in 2021 to 39 this year. There are also 15 companies, compared with four in 2021, which ensure that this strategy is reviewed on a regular basis (monthly, quarterly or annually) by the board of directors or one of its committees. Finally, the number of companies with a Chief Information Security Officer has risen from 22 in 2021 to 37 in 2023.

Companies were also asked whether they had established ethical principles regarding their use of AI. Unfortunately, only eight of them replied in the affirmative, the same number as in 2022. There are also only six companies that ensure that the analysis of these principles is a prerequisite for the development of any new technology. Moreover, transparency is still lacking, with none of the companies in question communicating publicly on the subject.

Finally, the average score for this principle is 37.1 points, compared with 32.5 points in 2022 and 15.3 points in 2021. This average falls to 26.6 points if we rely solely on public information, which nevertheless represents an improvement on the 17 points and, above all, the 11.5 points recorded in 2022 and 2021. It is also worth noting that for the first time this year, three companies scored above 50 points for this section based on publicly available information alone: Baloise (70 points), Georg Fischer and Swisscom (55 points).

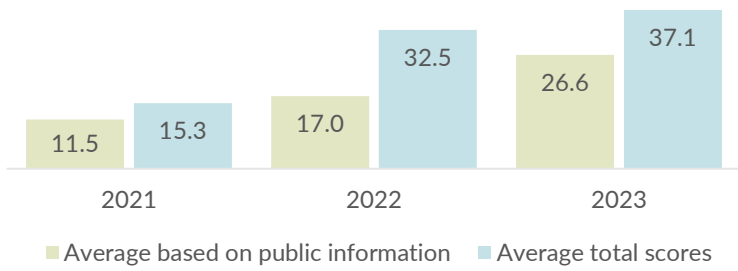
DIGITAL GOVERNANCE- TOP 10



KEY QUESTIONS	"YES"	"YES" AND PUBLIC INFORMATION
Companies which have adopted a digital responsibility code	11 (+10)	2 (+2)
Companies which have put in place a governing committee or board which oversees technology governance (separate to management)	22 (+12)	12 (+6)
Companies which have created a "chief digital officer" position	23 (+5)	19 (+5)
Companies which have developed a cyber security strategy	42 (+26)	39 (+25)
Companies whose cybersecurity strategy is reviewed by a board of directors committee on a regular basis (monthly, quarterly, biannually)	15 (+11)	10 (+10)
Companies which have laid down any ethical principles related to the use of artificial intelligence	8 (+5)	5 (+3)
Companies for which AI principles are a precondition for the development of AI Technologies	6 (+5)	0 (-)

Only affirmative answers - public or based on the questionnaire - are shown in the table above. In brackets, these are the changes over the three-year period (2021-2023).

CHANGES ON AVERAGES (OUT OF 100 POINTS)



11
Companies have a score over 50 points

3
Companies scored zero point for this section

PRINCIPLE 2: DIGITAL TRANSPARENCY

Transparency is at the heart of corporate digital responsibility, whether it concerns data collection, the use of AI or the social and environmental impact of their technologies. For Ethos, it is essential that companies inform all stakeholders, starting with their customers and employees, of the personal information they collect about them during their activities.

The results of this new study show that virtually all companies now have a public and easily accessible data privacy policy, as required by European law. In the same vein, 20 companies of the SMI Expanded now ensure that the risks associated with data collection, such as fraud, ransomware and password theft, are always communicated to the parties concerned - 14 more than in 2021. There are also 17 companies that guarantee to provide information to data subjects on the encryption of their personal data when anonymisation is not possible, 10 more than in 2021. However, this statement is only corroborated by public documents for 12 of them.

For Ethos, it is also essential that companies implement the highest security standards to prevent any leakage, theft or unauthorised marketing of personal data. Here too, progress is being made. In 2023, 29 companies - eight more than in 2022 and 19 more than in 2021 - said that they had a clearly established procedure in place in the event of an IT attack compromising data security, in particular to warn all parties concerned. Even better, 20 companies now publish information about these procedures, compared with only nine in 2021. In addition, ten companies, the same number as in 2022 and six more than in 2021, say they have published information following a data leak, or at least that they would do so if necessary. This was confirmed by public information for four of them.

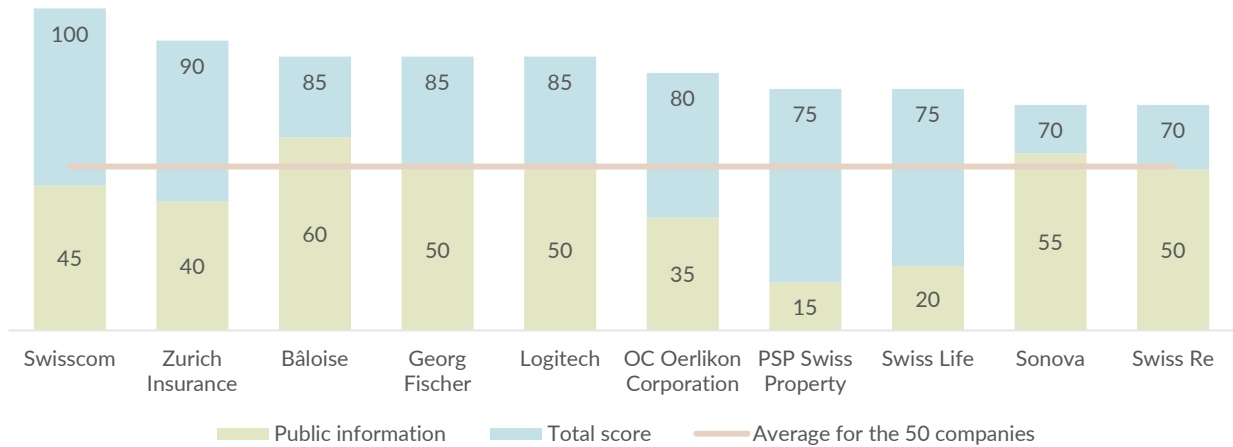
In addition to data protection, the need for transparency obviously concerns the use of AI in companies' activities. Customers, employees, shareholders and civil society as a whole now expect companies to be transparent not only about the AI technologies they use, but also about how they use them. This transparency applies to many areas, starting with human resources, health diagnostics, credit allocation and insurance contracts, and the selection of service providers. However, this new study shows that progress in this area remains relatively weak from one year to the next. Only seven companies - two more than in 2022 and four more than in 2021 - indicate when they are using AI systems, either in their decision-making processes, such as recruitment, or in their products and services, for example when interacting with a chatbot on a website. Even more worryingly, four companies only publish information on this subject, which is as many as in 2021.

On the other hand, there has been some improvement, albeit modest, in the geographical location of data storage centres used by companies. Six companies now publish this information, compared with zero in 2021. This information is crucial to ensure that data is not

stored in countries that do not comply with best practice in terms of data protection and respect for the environment.

The average score rose from 34.8 points in 2021 to 50.9 points in 2023, making this the only section for which the average exceeds 50 points. Swisscom once again achieves the highest score (100 points), just ahead of Zurich Insurance (90 points), while the lowest score is 15 points. It should be noted, however, that although this section deals with transparency, these scores also take into account the companies' responses to the questionnaire, i.e., information that is not necessarily public. If only public information were considered, the best results would go to SIG Combibloc Group and Richemont (65 points), just ahead of Baloise and SGS (60 points). The average would rise to 41.4 points, compared with 34.4 points in 2021, which is a marginal improvement and not a very satisfactory result for a section dedicated to transparency.

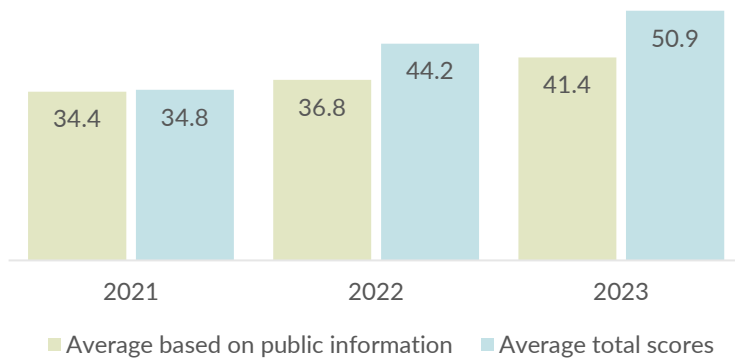
DIGITAL TRANSPARENCY - TOP 10



KEY QUESTIONS	"YES" IN 2023	"YES" AND PUBLIC INFORMATION
Companies having necessary processes in place to respond to a data breach	29 (+19)	20 (+13)
Companies which, when data/security breaches have been reported, have published notifications on their website	10 (+6)	4 (+1)
Companies clearly communicating (e.g., tagging, highlighting) when AI is used in the decision making of a process, good or service	7 (+4)	4 (-)
Companies whose data privacy policy is easily accessible	49 (+6)	48 (+5)
Companies which communicate externally the region/jurisdiction where its data storage centres is located	9 (+9)	6 (+6)

Only affirmative answers - public or based on the questionnaire - are shown in the table above. In brackets, these are the changes over the three-year period (2021-2023).

CHANGE IN AVERAGES (OUT OF 100 POINTS)



22
Companies have a score over 50 points

0
No company scored zero point for this section

PRINCIPLE 3: DATA PROTECTION

The third section concerns data protection, and in particular the implementation of policies aimed at protecting the personal data of customers and company employees. This is a section that must have kept Swiss companies busy this year, given the entry into force of the new Data Protection Act (see page 5). In their responses to the questionnaire, 16 companies indicated that they had reviewed or were in the process of reviewing their data protection procedures to ensure compliance with the new regulations.

The first observation is that the number of companies claiming to have adopted an ethical framework for the processing of personal data is stagnating after having risen sharply last year, dropping from 15 in 2022 to 14 in 2023. The same applies to the number of companies that publish information about their ethical framework, which has risen from five in 2022 to six this year. While a slightly higher number of companies (21, compared with 16 in 2022 and 17 in 2021) say that they take account in their activities of the risks and negative consequences that could result from the misuse of personal data, there are still only nine companies publishing information on this subject in 2023, the same number as in 2021.

The number of companies stating that they only collect data with the free and informed consent of the people concerned has risen slightly, from 19 in 2021 to 25 in 2023. However, according to the research carried out by EthicsGrade analysts, only 18 companies still state this publicly, the same number as in 2021. For Ethos, the personalisation of services based on the use of personal data should be a choice for users and not the default option of an IT system ('privacy by default').

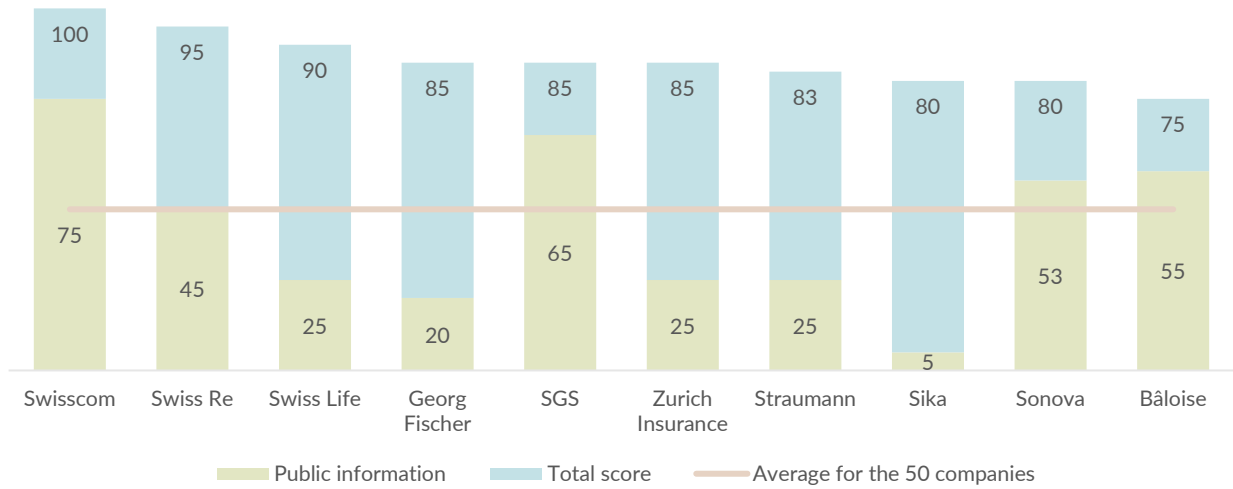
On the other hand, greater progress has been made regarding "privacy by design", one of the key elements of the EU's General Data Protection Regulation. There are now 24 companies, compared with 22 in 2022 and only four in 2021, that ensure that data protection is considered right from the design stage of a product or service and that it respects the privacy of users and cannot automatically exploit their personal data. However, the number of companies communicating publicly on this subject has increased only slightly, from two in 2021 to 11 in 2023.

Finally, the study looked at the issue of data minimisation, i.e., the design and development of IT systems whose basic parameter is to process as little data as possible. This principle involves implementing privacy-friendly default settings, limiting access to personal information to that which is strictly necessary to provide the desired service, and putting in place tools to better protect personal data (access control, encryption, etc.). The results of this new study reveal some progress. There are now 16 companies, compared with nine in 2022 and six in 2021, that have implemented Privacy Enhancing Technologies (PET), 12 of which are communicating publicly on the subject. There are also 31 companies that ensure that the default choice for their IT systems is to

minimise data and to use only those cookies that are strictly necessary for the operation of their website.

The average score for this section more than doubled over the period of the study, rising from 22.1 points in 2021 to 44.5 points in 2023, with Swisscom achieving a maximum score of 100 points, just ahead of Swiss Re (95 points). Unfortunately, companies still communicate very little on this subject, so the results based on public information alone remain much lower. The average has risen from 17.9 points in 2021 to just 25.4 points in 2023. It should be noted, however, that five companies, including Swisscom with a maximum of 75 points, obtained a score of more than 50 points based on public information alone, which proves that companies can demonstrate transparency and communicate on subjects as sensitive as data protection. As a reminder, the best score based on public information was 55 points in 2022.

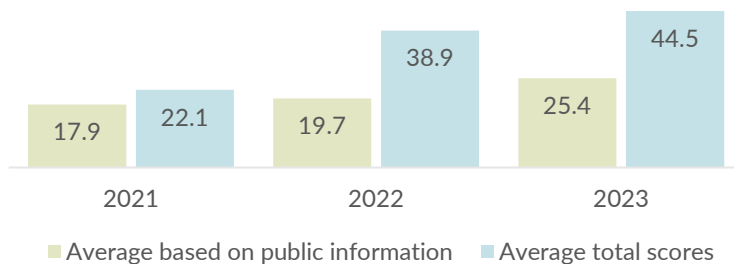
DATA PROTECTION - TOP 10



KEY QUESTIONS	"YES" IN 2023	"YES" AND PUBLIC INFORMATION
Companies which have a data ethics framework	14 (+9)	6 (+1)
Companies which consider the potential risks or negative consequences of using customer data	21 (+4)	9 (-)
Companies which commit themselves to only using data with informed consent (privacy by default)	25 (+6)	18 (-)
Companies which go beyond compliance, adopting a privacy by design approach to data privacy	24 (+20)	11 (+9)
Companies which have privacy enhancing technologies (PET) in place	16 (+10)	12 (+7)
Companies whose default choice regarding cookie options/data collection points is in line with 'data minimalisation', rather than 'accept all'	31 (+7)	28 (-)

Only affirmative answers - public or based on the questionnaire - are shown in the table above. In brackets, these are the changes over the three-year period (2021-2023).

CHANGE IN AVERAGES (OUT OF 100 POINTS)



20
Companies have a score over 50 points

1
Company scored zero point for this section

PRINCIPLE 4: RESPONSIBLE AI

More and more companies are using AI in their business. Of the 50 companies analysed this year, 40 are using AI in some way today, compared with 37 in 2021. As mentioned under section 2, however, only four of them publicly state when they are using AI.

Responsible, reasoned and transparent use of AI is one of the major challenges facing companies in terms of digital responsibility. While algorithms can be very useful in certain sectors, such as health and the environment, their impact on our daily lives (autonomous cars, facial recognition, voice assistance, etc.) also leaves room for a wide-ranging debate on the responsibility and ethics associated with these new technologies.

However, this study shows that only eight companies currently state, in their responses and even publicly in the case of Novartis, that they have set up a working or research group specifically dedicated to the ethical issues associated with AI. This is the same number as a year ago. There are also only nine companies, compared with six in 2022 and two in 2021, that guarantee that their AI-based systems have been developed with the sole aim of having a positive social impact. Even more worryingly, only two companies (Novartis and Swisscom) disclose this fact. For Ethos, AI should be a central part of the human response to today's major challenges, such as climate change, biodiversity loss, health or social inequalities.

The operation of AI-based systems also remains relatively opaque and can give rise to major ethical dilemmas. The traceability of the decision-making mechanism is essential to ensure that the decisions made using AI do not suffer from ethnic, gender or any other kind of bias ("unbiased AI"). This neutrality should be the basis for the design of computer programmes that can lead to autonomous decision-making mechanisms, particularly in the health and insurance sectors. If it cannot be guaranteed, then it should not be possible to put such software into service. However, of the 50 companies analysed, only 11 - five of them in public documents - currently state that they have put in place measures to eliminate any bias or prejudice in the processing of the data collected. Only eight of them also state that they have measures in place to avoid any bias in their AI systems, three of them publicly.

Finally, while the issue of equal treatment and impartiality is essential, it does not resolve all the ethical dilemmas posed by the use of AI. It is also vital that human intervention remains possible at all times, that machines retain their status as tools and that individuals retain control and responsibility for the machines at all times. Here again, companies are still not very transparent. Only eight companies - none of them publicly - currently state that it is possible to replace an automated process with a "manual mode" at any time, or that emergency measures exist to suspend or stop a decision taken using AI. More generally, only seven companies, including three publicly, say that they regard

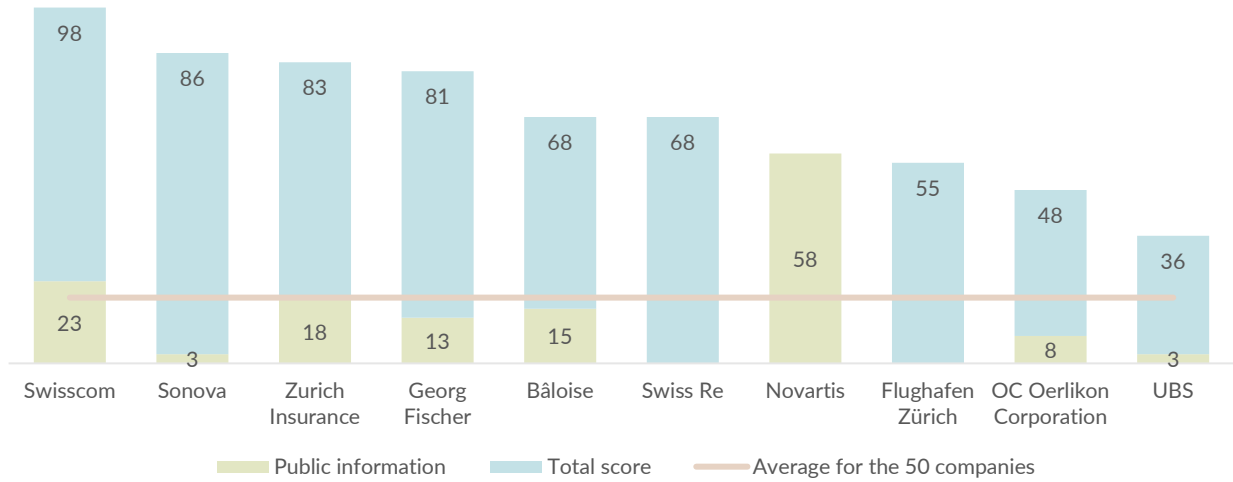
machines and AI as mere tools that must always remain under the control of human beings.

Unsurprisingly, the most notable advances, particularly in terms of transparency, concern the use of AI to improve the environmental impact of companies, and in particular their energy impact. Twenty of them say they are using AI or other digital technologies for this very purpose, 10 more than in 2021. Better still, the same number are communicating publicly on this subject, again twice as many as in 2021.

On the other hand, only 12 companies acknowledged in this new study that they had had to consider and analyse the impact that ChatGPT - or similar generative AI tools - could have on their business. And five had published information on this subject in the past year.

Finally, while the average score for this section has risen from 3.5 points in 2021 to 17.4 points in 2023, it nevertheless remains very low for what is one of the major issues, if not the central issue, of corporate digital responsibility. Moreover, 18 of the 50 companies analysed scored no points for this section in 2023. As a result, the average is only 4 points (compared with 3 points in 2021) if we rely solely on public information, demonstrating the blatant lack of transparency on the part of companies in this area. Novartis, with 57.5 points, is the only company to exceed 50 points on the basis of public information, well ahead of Swisscom (22.5 points) and Zurich Insurance (17.5 points).

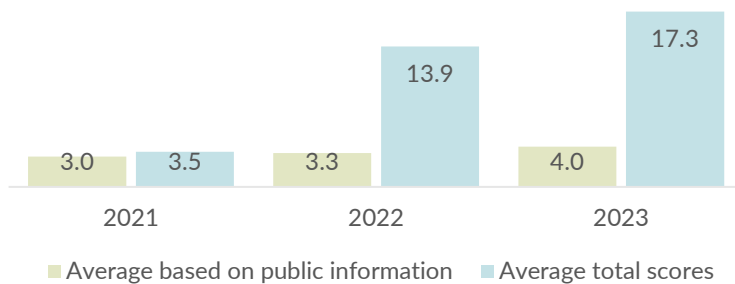
RESPONSIBLE AI - TOP 10



KEY QUESTIONS	"YES" IN 2023	"YES" AND PUBLIC INFORMATION
Companies which have a research/working group focusing on the ethics of AI	8 (+8)	1 (+1)
Companies which have measures in place to mitigate bias in their data	11 (+9)	5 (+2)
Companies which have implemented measures to safeguard equality when using AI systems (e.g., racial/gender/ethnic equality)	7 (+6)	2 (+1)
Companies which have measures in place to mitigate bias in AI technologies	8 (+5)	3 (+1)
Companies which are able to trace the decision-making process of its AI systems	11 (+10)	1 (+1)
Companies whose AI systems are subject to human approval before implementation	13 (+11)	2 (+1)

Only affirmative answers - public or based on the questionnaire - are shown in the table above. In brackets, these are the changes over the three-year period (2021-2023).

CHANGE IN AVERAGES (OUT OF 100 POINTS)



8
Companies have a score over 50 points

17
Companies scored zero point for this section

PRINCIPLE 5: SENSITIVES ACTIVITIES

As we know, AI is now used in most business sectors. However, its use needs to be monitored to ensure that all the ethical aspects relating to the purpose and method of use of these new technologies are in line with the expectations of civil society. Indeed, some uses of AI are highly controversial, since these new technologies can be used for surveillance by facial recognition of individuals, for the development and use of autonomous weapons, or for activities aimed at influencing human behaviour in a covert manner. A number of legislative projects covering the subject are currently in the pipeline, notably at European level and in the United States, demonstrating that these issues are now at the heart of concerns linked to digitalisation.

For this section, companies were first asked whether they always ensure that the data they collect in the course of their business is not used for surveillance purposes. Eight companies (compared with three in 2021) answered in the affirmative this year, including two which published this information on their website. They were also asked whether they ensure that the technologies they develop and market cannot under any circumstances be used for activities that:

- Infringe on human rights;
- Limit freedom of expression;
- Are designed to create addictions;
- Are used in autonomous weapons;
- Have the potential for market manipulation.

Here too, only eight different companies answered in the affirmative and confirmed that they prohibit any use of AI in relation to one or more of these points. Although it is unlikely that companies listed in Switzerland will use AI for ethically reprehensible purposes, Ethos nevertheless believes that it is a priority to improve transparency on these points in order to reassure their various stakeholders. It should be noted that only one SMI Expanded company, Georg Fischer, currently states publicly that it categorically refrains from such practices.

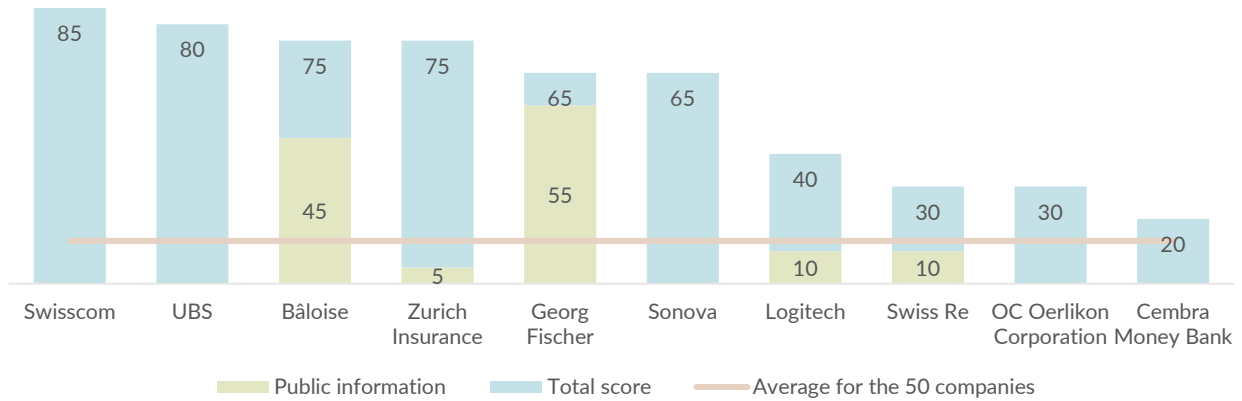
With regard to the use of AI in activities that could lead to discriminatory practices, the 50 companies analysed were asked whether they had put in place measures to avoid, in particular, any unintentional discrimination in the automatic selection of audiences targeted by advertising content. Eight companies (compared with just one in 2021) said that they had introduced such measures. Another question asked whether they prohibit any activity carried out using AI that could be used to disseminate sensitive, racist, sexist or illegal content or provide access to content and activities that are inappropriate for minors. Only five companies confirmed that they had policies in place to prevent such practices, three more than in 2021.

Finally, the main improvement on this section is that 12 companies, up from just two in 2021 and eight in 2022,

now say they seek to include a wider range of stakeholders and external experts in their discussions about the misuse or inappropriate use of AI. The increase in the number of positive responses to this question shows that the subject is being taken seriously. The steps taken should enable the views of different stakeholders to be considered in strategic decisions regarding the development of AI.

Despite a slight improvement in the scores, this section devoted to sensitive activities is the one that gets the lowest score for the third year running, with an average of just 13.2 points (compared with 3.2 points in 2021 and 11.7 points in 2022). It is also worth noting that of the five companies with the best score this year, three do not publish any public information relating to this principle. Moreover, 32 out of 50 companies analysed scored zero points this year, which is by far the worst result when looking at each section individually. These clearly inadequate results show that companies need to prioritise the introduction of policies governing the use of AI in order to prepare for new legislation in this area and communicate more on the subject.

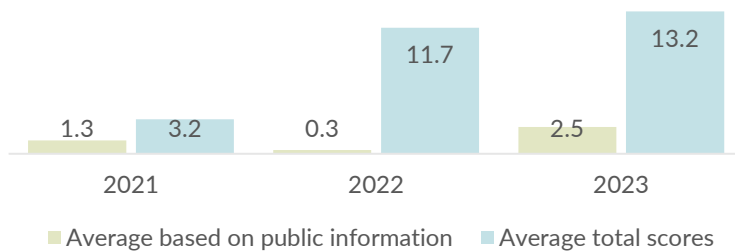
SENSITIVES ACTIVITIES – TOP 10



KEY QUESTIONS	"YES" IN 2023	"YES" AND PUBLIC INFORMATION
Companies ensuring that data is not used for surveillance purposes	8 (+5)	2 (+2)
Companies whose AI team adopt "best practices" when developing new AI models to address risks of misuse and maliciousness (e.g., red teaming)	8 (+7)	1 (+1)
Companies which prohibit AI-related activities that:		
• Infringe on human rights	6 (+3)	2 (+2)
• Limit freedom of expression	5 (+4)	1 (+1)
• Are used in autonomous weapons	1 (+1)	1 (+1)
• Can disseminate sensitive, racist, sexist, or illegal content or allowing access to content and activities inappropriate for minors	5 (+3)	1 (+1)
• Are designed to create addictions	4 (+4)	1 (+1)

Only affirmative answers - public or based on the questionnaire - are shown in the table above. In brackets, these are the changes over the three-year period (2021-2023).

CHANGE IN AVERAGES (OUT OF 100 POINTS)



6
Companies have a score over 50 points

32
Companies scored zero point for this section

PRINCIPLE 6: SOCIAL IMPACT

The next section looks at the social impact of the digital transition, and more specifically at the consequences that technological developments may have on current employment and social models. With the development of AI and the emergence of new business models, the world of work is moving towards automation of the simplest tasks, reducing demand for unskilled labour in favour of profiles with IT development and maintenance skills. While companies and shareholders stand to benefit from this digital revolution, in particular through increased productivity, the financial gains for civil society could be limited in the short term if the transition is carried out irresponsibly. The pension system, for example, could be undermined if the number of working people were to fall sharply in a given jurisdiction, or if the development of the gig economy were to transform a large number of employees into self-employed workers ("uberisation").

Through this study, Ethos sought to find out to what extent companies are prepared for such a revolution. However, it appears that only nine of the 50 companies analysed (compared with three in 2021) claim to have assessed the impact of the digital transition on their activities and, more specifically, on their workforce. And only four (Adecco, Nestlé, Swisscom and UBS) have already communicated publicly on the subject. In addition, only six companies (compared with none in 2021) have indicated that they have already consulted independent experts to assess the employability of former employees whose tasks have been automated.

For Ethos, setting up ambitious programmes to support the retraining and education of employees directly threatened by automation and AI is an integral part of corporate social responsibility. Unfortunately, only nine of the companies analysed (compared with four in 2021) claim to offer training and retraining opportunities to employees whose jobs are threatened by automation. Even more worryingly, only four of the companies surveyed (compared to nine in 2021) said that they offer financial support to former employees to help them retrain, which is probably the most alarming result for this principle.

However, the digital transition is not just synonymous with job destruction. It can also bring social benefits. In this respect, six companies (compared to just one in 2021) have indicated that they would be prepared to consider a reduction in working hours rather than a reduction in the workforce to cope with the automation of certain tasks. Two of them (Schindler and Zurich Insurance) have even communicated publicly on this subject in 2023. This question highlights one of the positive consequences that automation could have. New technologies would make it possible to maintain the same productivity while reducing the workload of staff, with the aim of improving their quality of life and contributing to a better work-life balance.

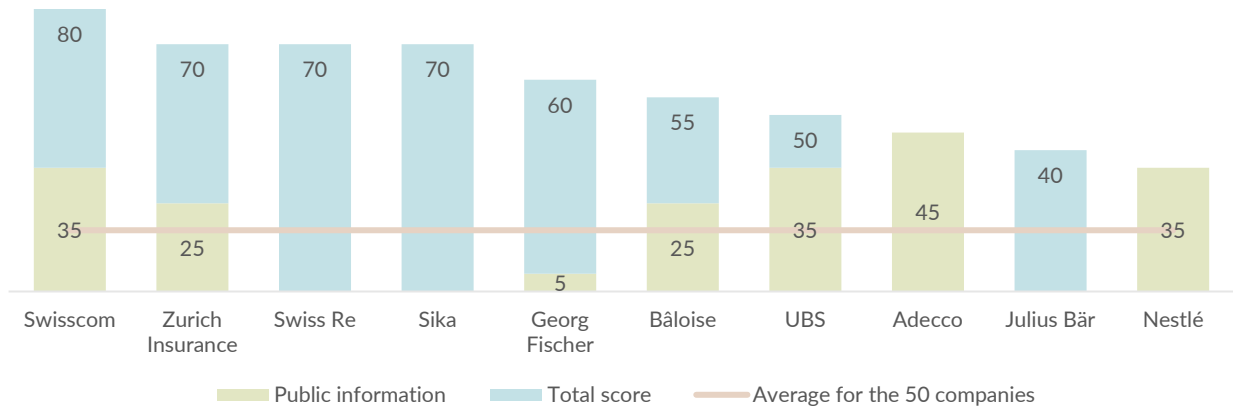
Finally, ten companies today (compared with just one in 2021) say they have already received external advice on

how to make responsible use of AI in human resources management, in particular to avoid discrimination in recruitment or minimise the use of data in the recruitment process. Furthermore, seven of them (compared with just one in 2021) now give employees access to the methodology and decisions resulting from the use of AI in human resources.

Although the average has risen from 6.2 points in 2021 to 16.5 points in 2023, this section remains one of the worst rated in this study, which shows that companies have not yet really assessed - or at least are not communicating about - the impact that the digital transition could have on the size of their workforce and their management methods. It should be noted that only six companies scored more than 50 points for this section (Baloise, Georg Fischer, Sika, Swisscom, Swiss Re and Zurich Insurance) - with a maximum of 80 points for Swisscom - and that 18 scored no points at all.

Finally, the best result based on public information alone was achieved by Adecco with 45 points, while only six companies scored more than 20 points. As a result, the average score based on public information falls to 7.1 points, barely better than the average of 4.9 points recorded in 2021.

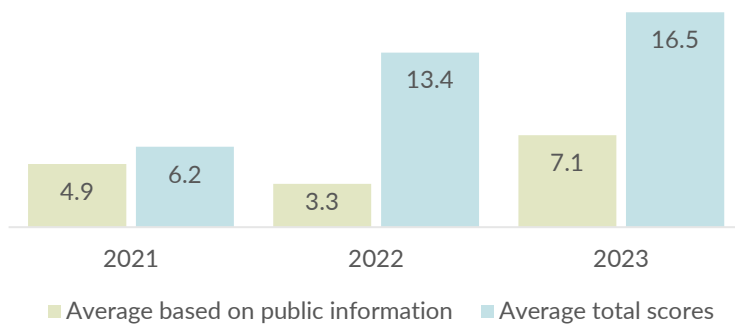
SOCIAL IMPACT - TOP 10



KEY QUESTIONS	"YES" IN 2023	"YES" AND PUBLIC INFORMATION
Companies that have communicated externally the impact the transformation of economy and automation will have on their whole workforce	9 (+6)	4 (+1)
Companies that have consulted with external groups to consider the long-term employability of former employees displaced by automation	6 (+6)	0 (-)
Companies which are considering reduction in working hours as a benefit of automation rather than reduction in headcount	6 (+5)	2 (+1)
Companies which provide training/retraining programmes for workers who will be displaced by AI/automation	9 (+5)	4 (+1)
Companies which receive guidance on the responsible use of digital technology in HR (e.g., transparent goal-setting process, data minimisation, people decide, data quality and discrimination, and constant review)	10 (+9)	1 (+1)

Only affirmative answers - public or based on the questionnaire - are shown in the table above. In brackets, these are the changes over the three-year period (2021-2023).

CHANGE IN AVERAGES (OUT OF 100 POINTS)



6
Companies have a score over 50 points

18
Companies scored zero point for this section

PRINCIPLE 7: ENVIRONMENTAL IMPACT

The final part of the survey concerns the environmental impact of the digital transition, and more specifically its carbon footprint. It is estimated that digital technology accounts for around 4% of greenhouse gas emissions worldwide, more than air transport⁴. With the rise of AI and an economy increasingly centred on data and connected objects, the environmental footprint of digitalisation is likely to increase even further in the coming years.

Of the 50 companies analysed this year, 40 say they are working to limit the environmental impact of the digital devices they use, compared with 33 in 2022 and just eight in 2021. Moreover, 36 companies now publish information on this subject, compared with nine in 2021. There are also 17 of them, 13 more than in 2021, indicating that measures have been put in place to reduce water consumption associated with the cooling systems of the digital devices they use. In addition, ten of them report on this subject, compared with three in 2021.

As for the energy used to store an ever-increasing amount of data and power digital technologies and algorithms, 14 companies now confirm that they are hosting their data centres in low-carbon locations, 10 more than in 2021. In addition, 19 companies state that they publish data and information on the environmental impact of the digital technologies they use, whether in relation to the recycling of IT hardware, the average lifespan of their connected products, the energy consumed by IT systems or other relevant environmental indicators. However, it was only possible to find public information for 13 of these companies. This result is obviously disappointing given the impact of digital technology and today's climate emergency.

While environmental impact is mainly linked to the manufacturing phase of devices, it is also important for a company to consider the impact of its digital infrastructure throughout its entire life cycle, which also includes the use and the end-of-life phases of devices. In this respect, 18 companies - 10 more than in 2021 - now ensure that the long-term energy performance and efficiency of IT equipment is a purchasing criterion. In addition, 14 companies are publishing information on this subject. Similarly, this year 12 companies indicated that the reusability and repairability of IT equipment was also a criterion considered when making purchases. Finally, this third study shows that for at least 12 companies (compared with five in 2021), the long-term recyclability of IT equipment is also a purchasing criterion.

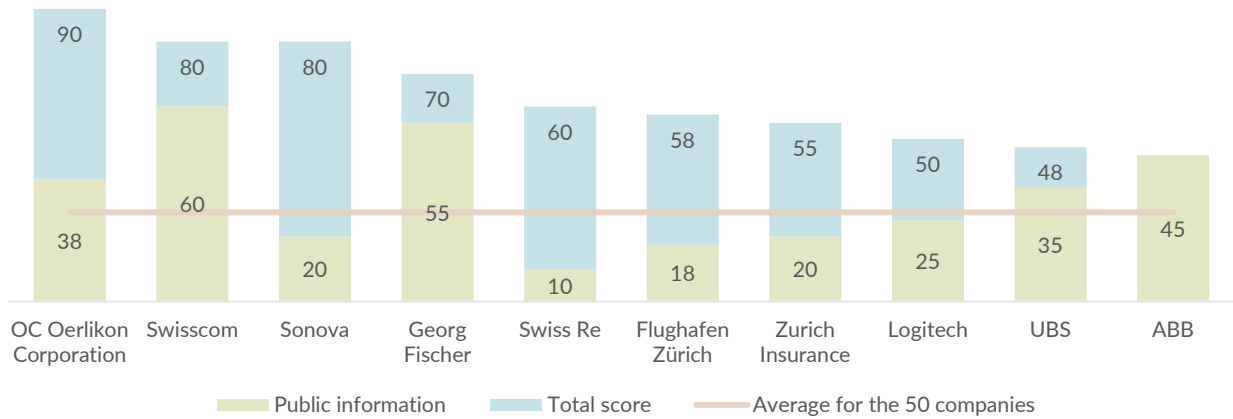
The large-scale use of complex algorithms also implies ever greater computing power and, consequently, exponential energy consumption. In this respect, five of the companies analysed, including three in public documents, claim to be seeking to reduce their energy

consumption through code optimisation. For the time being, only one company indicated that teams of engineers were responsible for monitoring the energy consumption of the algorithmic models used. Finally, only two companies state that the carbon footprint of their technology, and more specifically of their algorithmic models, is accurately measured.

The average score for this section is 27.5 points, an increase of 19.1 points on the 8.4 points recorded in 2021. OC Oerlikon scored the highest with 90 points, ahead of Sonova and Swisscom (both with 80 points). Based on public information only, however, the average falls to 18.8 points, compared with 7.7 points in 2021. However, the best score based on public information is 60 points (Swisscom), demonstrating once again that companies can communicate very well on this subject without exposing themselves or jeopardising their competitiveness.

⁴ <https://www.greenit.fr/etude-empreinte-environnementale-du-numerique-mondial/>

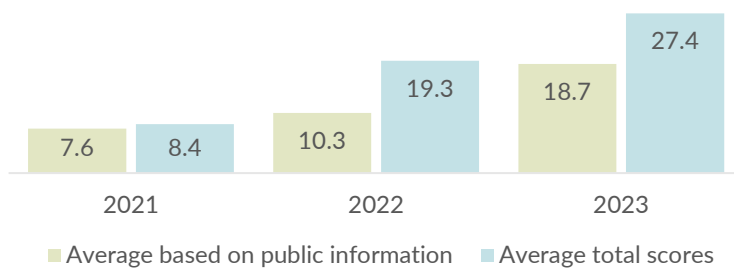
ENVIRONMENTAL IMPACT - TOP 10



KEY QUESTIONS	"YES" IN 2023	"YES" AND PUBLIC INFORMATION
Companies that have their sustainability efforts regarding digital technology being reviewed and which provide information regarding the attainment of environmental goals	40 (+32)	36 (+27)
Companies which domicile their data centre in low carbon locations	14 (+10)	6 (+4)
Companies which make efforts to minimise water usage used for the cooling of technology	17 (+13)	10 (+7)
Companies which actively seek to reduce their energy consumption of technology through code optimisation	5 (+4)	3 (+1)
Companies which choose hardware (client and server) based on:		
• Energy performance characteristics over the long term	18 (+10)	14 (+9)
• Repairability re-use characteristics over the long term	12 (+9)	3 (+3)
• Recyclability over the long term	12 (+7)	7 (+4)

Only affirmative answers - public or based on the questionnaire - are shown in the table above. In brackets, these are the changes over the three-year period (2021-2023).

CHANGE IN AVERAGES (OUT OF 100 POINTS)



7
Companies have a score over 50 points

0
No company scored zero point for this section

5. Conclusion

Data protection, the responsible use of AI, the social and environmental impact of technology: the issues related to digital responsibility are numerous and have been growing steadily in recent years. However, when Ethos first started looking into these issues, most company directors considered them to be of secondary importance and did not necessarily want to discuss them. Much has changed in the space of three years: cyber-attacks, data leaks and scandals of all kinds have multiplied. Regulators, in turn, have taken up these issues. But above all, the rise of ChatGPT and other similar tools has revolutionised and democratised the use of AI. As a result, today, no company director can deny that it is their own responsibility, and that of the company, to manage these issues properly.

Ethos has always endeavoured to play a pioneering role in addressing new issues and promoting good practice in the environmental, social and governance (ESG) fields. The objective for Ethos has always been, and remains today, to make companies aware of their responsibilities. In this case, the aim of the study was to assess the behaviour of the largest listed companies in Switzerland, but also and above all to promote existing best practices in terms of digital responsibility to encourage them to improve.

After three years of engagement and ongoing dialogue, the first thing to note is that half of the companies targeted by this study agreed, at least once, to answer the questionnaire. This result is both satisfying, particularly given the number of ESG surveys and studies in which companies are asked to participate each year, and disappointing in view of the efforts made by Ethos and EthicsGrade. But it also demonstrates a certain lack of interest or preparation on the part of too many companies in issues which are so important.

What is more encouraging, however, is the fact that thanks in part to this dialogue with shareholders, company results have continued to improve. This year, all the companies scored higher than in the previous year. If we take into account the responses of the companies that took the time to complete the questionnaire and the information available to the public, the examples of good practice, although still limited to a small number of companies, are multiplying. These are examples for other companies to follow, without jeopardising their competitiveness or risking divulging confidential information. There have been clear improvements in the section devoted to data protection, digital governance and the environmental impact of digital technology. Of the 50 companies analysed, 40 now claim to be taking measures to try to limit the environmental impact of the technologies they use, compared with just eight in 2021.

24 companies now claim to take data protection into account right from the design stage of a product or service, compared with just four in 2021. The results are more disappointing, however, for the sections dedicated to AI and the social impact of digitalisation, themes that are central in the age of generative AI tools, such as ChatGPT, and task automation.

The second and perhaps most satisfying aspect of this study is that the scores based on public information alone are also on the rise since 2021, although there is still a great deal of room for improvement. Of course, just because a company demonstrates transparency and communicates on an issue does not necessarily mean that its behaviour and practices will be better than those of others. It should be remembered that this study is not a field survey and that it relies solely on company responses and public information to establish a ranking. But transparency is nonetheless essential for shareholders and all a company's stakeholders. Firstly, it engages the responsibility of companies and makes it possible to detect any inconsistencies between public commitments and the actions of companies. Secondly, transparency provides concrete examples - both good and bad - when it comes to advocating best practice for all companies. The best example of this is the adoption and publication of a code of digital responsibility by two SMI Expanded companies. This is not only a real step forward, but it is also a direct response to one of Ethos' key demands. Such codes ensure that a company takes into account the challenges and risks associated with digitalisation in its strategy and activities and hold management accountable for managing these challenges.

Ethos will pursue its dialogue with listed companies in Switzerland and abroad to ensure that they continue to improve not only their transparency on these issues, which are so important for the future, but also and above all their behaviour in this area.



ANNEX:
RESULTS BY
COMPANY

RANK 2023	COMPANY	SCORE 2023	+/- 2021	PARTICIPATION IN THE STUDY	PUBLIC INFORMATION
1	Swisscom	91.3	+70.3	2022/2023	40.0
2	Zurich Insurance	77.8	+62.9	2022/2023	23.3
3	Georg Fischer	76.0	+66.1	2021/2022/2023	33.3
4	Swiss Re	68.5	+39.4	2021/2022/2023	19.8
5	Sonova	66.8	+54.9	2022/2023	19.4
6	OC Oerlikon Corporation	61.0	+52.1	2023	22.1
7	Baloise	60.5	+20.9	2021/2022/2023	37.8
8	UBS	55.9	+47.0	2022/2023	25.0
9	Flughafen Zürich	44.6	+37.2	2021/2022/2023	7.4
10	Sika	41.3	+24.5	2021/2022/2023	10.4
11	Logitech	40.9	+25.9	2023	22.0
12	SGS	38.0	+23.5	2022	28.5
13	Swiss Life	35.8	+29.9	2021/2022	9.5
14	Julius Bär	34.6	+20.2	2021/2022/2023	12.3
15	Lonza	32.1	+21.9	2023	17.4
16	Straumann	30.6	+3.9	2021	13.5
17	PSP Swiss Property	28.5	+26.0	2022/2023	6.3
18	Novartis	28.3	+15.9	-	28.3
19	Schindler	26.9	+12.0	2022/2023	19.3
20	Nestlé	25.9	+9.6	-	25.9
21	Richemont	25.6	+18.0	2022/2023	13.8
22	Adecco	22.0	+4.0	-	22.0
23	VAT Group	22.0	+19.2	2022	7.3
24	Cembra Money Bank	20.5	+3.0	2021	11.3
25	ABB	20.3	+12.2	-	20.3
26	Tecan	20.3	+12.5	2022	9.5
27	Roche	16.3	+9.1	-	16.3

28	SIG Combibloc Group	16.0	+6.3	2021	13.3
29	Geberit	15.3	+6.8		15.3
30	Holcim	15.3	+7.9		15.3
31	Belimo	15.0	ND*		15.0
32	Kühne + Nagel	14.8	+8.4		14.8
33	Alcon	14.3	+3.5		14.3
34	Givaudan	13.8	+6.2		13.8
35	Helvetia	13.0	+7.8	2021	11.5
36	Temenos	13.0	+7.7		13.0
37	Galenica	12.1	+1.8		12.1
38	Clariant	11.0	+1.6		11.0
39	Lindt & Sprüngli	10.9	+4.4		10.9
40	Bachem Holding AG	10.5	ND*		10.5
41	Meyer Burger Technology	10.4	ND*		10.4
42	DocMorris	10.1	ND*		10.1
43	BB Biotech	10.0	+6.6		10.0
44	Dufry	9.3	+3.4		9.3
45	Swatch Group	9.3	+3.8		9.3
46	Barry Callebaut	9.1	+3.7		9.1
47	Swiss Prime Site	8.8	+6.4		8.8
48	Partners Group	8.5	+1.9		8.5
49	AMS AG	8.0	+4.7		8.0
50	EMS-Chemie	5.9	+4.5		5.9

When the background is red, this indicates that the company has never answered the questionnaire itself. In this case, its score based solely on public information is the same as its total score.

*Companies that were not part of the SMI Expanded in 2021.

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