Scottish Water Artificial Intelligence Ethics Standard

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Contents

Introduction

Scottish Water aims to use Artificial Intelligence (AI[1]) to automate processes[2] and decisions[3] that help, support and inspire our people and benefit the customers and communities we serve.

AI can bring significant benefits to individuals, communities, and society but if not used correctly can impact in ways that are unintended or cause harm. Therefore, Scottish Water has outlined its approach to AI Ethics to ensure that these technology advances are applied, developed and used in a way that is thoughtful, transparent and responsible. This will ensure:

- **Prevention of Harm:** AI systems have the potential to cause unintended harm due to misuse, questionable design, or unintended negative consequences. Ethical considerations help prevent such harm.
- **Guiding of Moral Conduct**: AI ethics involves a set of values, principles, and techniques that guide moral conduct in the development and use of AI systems. This helps align AI practices with widely accepted moral standards.
- **Ensuring Fairness:** AI can inadvertently replicate human biases, leading to unfair treatment or discrimination. Ethical guidelines help in creating systems that are fair and unbiased.
- **Protecting Privacy**: When AI systems process personal data, protecting privacy rights is paramount. Ethics guide the responsible handling of data to safeguard privacy.
- **Promoting Trust**: Ethical AI fosters trust among users, developers, and stakeholders, through ensuring that AI systems are trustworthy and reliable.

In summary, AI ethics is about ensuring that AI systems are developed and used in a way that is safe, secure, considerate, and environmentally friendly. It is taking a proactive approach to avoid bias, ensure privacy, and mitigate risks, thereby creating a world where AI serves the greater good.

Scottish Water's main intent for applying AI technologies is to improve efficiency and effectiveness for our people and accelerate our decision making leading to the enhancement of our services and environmental responsibility. Our AI use cases will clearly support one or more of Scottish Water's strategic ambitions for Service Excellence, Great Value & Financial Sustainability and Beyond Net Zero Emissions, which together contribute to a Flourishing Scotland. Scottish Water's ultimate aim is to ensure sustainable and affordable services to our customers into the future.

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[1] AI encompasses a broad range of techniques focused on creating intelligent systems, while machine learning ML specialises in developing algorithms that learn from data to make predictions or decisions, and Generative AI leverages machine learning to generate original and realistic content. AI definition – a computer system capable of performing tasks that previously required human intelligence, such as recognising speech, making decisions or solving problems. ML definition – a computer system that can learn and adapt without following explicit instructions, by using algorithms and statistical models to analyse and draw inferences from patterns in data.

[2] The definition of 'automating a process' is where an AI system will replace manual process steps that are repetitive or rule-based that can be done without the need for human intervention or support.

[3] The definition of 'automating a decision' is where an AI system will make decisions without human intervention. It will analyse data, learn from it, and make informed decisions based on that analysis.

Purpose

This AI Ethics Standard will guide use case selection and assessment that will ensure the application of AI is ethical, responsible, and beneficial for our people, our customers, communities and the services we provide. It guides where we will, and will not, use AI systems based on the risk to individuals or our services, through the ethical principles that will apply.

This standard contains the principles that all use cases will be evaluated against and the criteria to pass before it can progress. Every use case will be registered and self-assessed against the standard. Only use cases that pass this initial ethics test will progress to a formal Processing & Privacy Impact Assessment (PPIA). Through the PPIA process, all the threats and opportunities will be detailed and evaluated fully, and risks mitigated through suitable design changes, or a stopping of the use case should the risks be too substantial to mitigate.

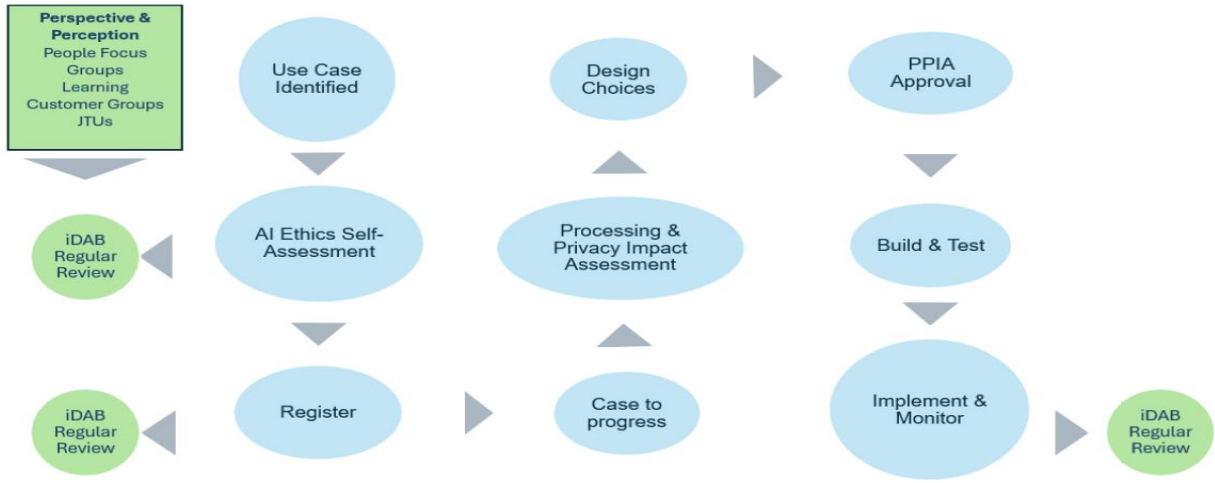
The AI Governing body will be Scottish Water's Information and Data Approval Board (iDAB)[4] that oversees data and information processing, privacy and protection. Executive governance and oversight will be through Scottish Water's Executive Leadership Team (ELT) and the Audit and Risk Committee (ARC).

This AI Ethics Standard is not a static or fixed document, but rather a dynamic and evolving one, that will be reviewed annually by iDAB, and updated according to the changing needs, learning and expectations of our people, stakeholders and the public we serve. This will include evaluation of use cases the standard allows and limits. This will help Scottish Water to measure the effectiveness of balancing threat with opportunities that benefit our people, customers and services. There will be intentional discussions based on learning from inside and outside Scottish Water by iDAB.

There will be regular[5] engagement with our people, joint trade unions (JTU) and customers through various groups to continually listen and adapt to changing perspectives and perceptions of AI. Scottish Water will also ensure analytical developers who are building AI models undertake regular training and learning, particularly to ensure conscious awareness of bias.

[4] iDAB is chaired by the Head of Corporate Data & Compliance; membership: Director of Governance & Data Protection Officer, Director of Digital, Customer Service General Manager, Reward, Policy & Employee Relations Manager, Head of Business Analytics, Head of Corporate Risk

[5] Engagement plan is available from the Head of Corporate Data & Compliance



Principles

Scottish Water will ensure our ethical principles as outlined below are met for all AI use cases. These principles are a public declaration of the ethical values that are important to Scottish Water as an organisation that serves the people of Scotland. The purpose of these principles is to promote the responsible and beneficial use of AI which minimises harms and threats and ensures use cases foster trust, confidence, and acceptance of AI with our people and our customers. These principles apply to both SW developed AI and 3rd party developed AI.

Scottish Water will ensure that all use cases land in either the green or amber zones and will avoid use cases that bring threats that are beyond our AI Ethics principles.

Green Zone	Amber Zone	Red Zone
Do More Of **Use cases that automate processes only, and never automate decisions. These cases will always enable a human to apply expert interpretation to reach a decision or where it can provide choice for our customers whether they wish a human or automated interaction.**	**Continual Monitoring** **Use cases where AI automates either process or decisions that require ongoing monitoring to detect failures, bias or unexpected results and be able to promptly act.** **Example: career pathway suggestions or identifying priority services for our customers**	**Avoid** **Use cases where the outcome could impact our people or our customers, or our critical services in an adverse way, or where the data required is particularly sensitive.** **Example: deciding a promotion or using data that describes health issues.**