An Emerging Technology Charter for London

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1. Introduction

The 2021 Mayoral Manifesto pledged to create an Emerging Technology Charter for London: a set of practical and ethical guidelines for the trialling and deployment of new data-enabled technology deployed in public services or the public realm in London (known as smart city technology).

London is a global hub for the research, development and innovation of 5G and future networks, internet of things (IoT) and artificial intelligence (AI). This new digital infrastructure makes internet speeds faster, provides vast amounts of real-time data and allows the processing of data quickly and support a new generation of services and applications. Over the next decade we anticipate an acceleration in the availability of smart city emerging technologies including networks of sensors, cameras, drones, robotics, mobility services, augmented and virtual reality, and automated and algorithmic decision-making. Take-up is also expected to rise rapidly as capability grows, costs lower and even more uses are developed.

Purpose of the Charter

The rapid pace and range of technological change mean that lessons from current smart city deployments and important guidance to buyers, makers and citizens currently is held across different public, research bodies and civil society. By consolidating valuable learned experience together with key resources in a Charter, we aim to:

- set common expectations to buyers and makers to innovate successfully
- give Londoners and their elected representatives a clear framework to ask questions about the technologies proposed or deployed in London
- establish enhanced transparency for Londoners on products and services data protection law considers potentially high risk to privacy.

By setting out the Charter's principles in this way we aim to foster a trustworthy environment for innovation to flourish, and to do so responsibly for the benefit of Londoners.

Operation of the Charter

The Charter sets four principles for implementing technology in London. Drafted by the Chief Digital Officer for London and advised by working group drawn from the Smart London Board, these principles are drawn from London's experience deploying new technologies and the views of innovators and those of Londoners themselves and their elected representatives.

1. Be open.
2. Respect diversity.
3. Be trustworthy with people's data.
4. Be sustainable.

The principles are expressed through a series of suggested measures and examples. These will be added to over time where we see good practice or it is suggested to us. Resources from government departments and other bodies are also consolidated in the Charter.

The Charter is voluntary. All principles should apply to all technologies, but some measures may not - so this acts as a guide to structure and inform discussions around adoption. Individual public bodies may also have their own procedures or ethics frameworks specific to their responsibilities or professions.

The Charter is an agile governance framework for discussing the deployment of smart city emerging technologies. This allows for flexibility and change as technologies, legislation and guidance develops, within the envelope of the four principles now considered as part of the reputational risk management undertaken by innovators and buyers.

Users

Buyers in London local government and public services: we want you to use the principles when buying and using smart city emerging technology, we want you to be clear and consistent on what you expect from the tech sector and how to ask for it. For other buyers, such as landowners or employers, where relevant you can use these principles to align with good practice.

Makers, innovators and technologists: we encourage you to consider the principles in the design and development of any smart city emerging technology that you are seeking to sell into the public sector, particularly technology that will be deployed in the public realm. Early engagement with the principles of this Charter will provide a strong basis for conversations with public sector buyers before and during procurement.

Londoners and their elected representatives: the charter will ensure that data and technology provide value and benefit for individuals, community, and society much more broadly. We want you to be confident in the technology that is being deployed in your city, and have a voice in its design, development and deployment.

2. Emerging Technology Charter for London

2.1 Principle 1: be open

When trialling and deploying emerging technologies, we aspire to work in the open wherever we can, sharing our thinking as we progress and work collaboratively with city authorities, including measures like:

- **setting out in plain English to the public** what the technology is, what it can do, why it is being used and, where appropriate, the legal and ethical basis for doing so. For example, TfL's approach to collecting anonymised wi-fi data on London Underground

- **communicating with local communities** who might be affected by the technology, providing an easy way for the community to talk back to you and make changes

- publishing Data Protection Impact Assessments (DPIAs) on London's Privacy Register. A DPIA is a legal obligation to identify and minimise the risks of a project when it's likely to result in a high risk to individuals. Following the completion of your DPIA, we recommend you fill in a submission form, and request it to be published on the London Privacy Register on the London Datastore to promote public transparency and good practice.

- if a trial or pilot, giving **regular updates** to the commissioning body pre- and post-trial, including reflecting on the successes and challenges of any trial undertaken, for example as advised in TfL's guidance for Connected Autonomous Vehicle trials

- **being clear about any additional functionality** of new technology (especially if software-as-a-service) even if not used, and the circumstances and process by which that functionality could be put to use in the future.

Principle 2: Respect diversity

Together with other leading digital cities in Europe and North America, London strongly believes that human rights principles should be incorporated by design into digital platforms which serve our city. The Charter suggests:

- adopting **user-centre design princinples** when developing and testing new technologies. This approach focuses on the needs of users at every stage of the design of new technology, and ensuring feedback is continually appraised and used for improvement

- hiring a **more diverse and inclusive workforce** and benefit from the lived experience of Londoners in your team, for example by joining City Hall's Technology Design Lab

- for public bodies, setting out how the technology or service meets the Public Sector Equality Duty for example:

    - consideration of the impact the technology may have on any existing services - if the new technology replaces an existing service then provision should be made for continued access to this service by people who do not have either the required device or skills to access it by the new route

    - explicitly considering any potential bias, notably but not exclusively racial bias arising from the data, system or decision

    - if certain groups are excluded from the benefit of new technologies, the technology should have a clear reason why it does not serve these groups.

- addressing the value, need or harm addressed by the new technology by using techniques to consider the potential consequences of the product or service on people, communities and the planet

- **human rights** issues can be considered in procurements across the public sector, according to government guidance. Bidders may be excluded from public contracts where they have violated certain environmental, social and labour laws, including on human rights matters.

2.2 Principle 3: Be trustworthy with people's data

London requires safe, secure and useful ways of using and sharing data which build trust among our partners and citizens. Living the spirit, not just the letter of UK data protection (UK GDPR) means seeing the requirements as deep ethical obligations as well:

- considering not just to how the data is used, but what human processes or decisions are subsequently based on it, for example using established **data ethics tools**, see resources

- ensuring **privacy by design** from the design stage through the lifecycle of new products and services:

    - **making it easy** for a user who does not wish for their data to be used in a particular way, or wishes to opt-out at a later stage, to do so and be clear about how long the data will be held for

    - ensuring that the **collection of any personal data is justified** and mindful that even if you don't mean to identify people in your smart places projects, if you can distinguish them from other individuals it will trigger data protection law

    - maintaining **high quality data standards** with complementary metadata so it is clear where the data comes from and how it was collected.

- **use of biometric data: t**he UK Information Commissioner's Office (ICO) sets a very high bar for use of biometric data such as Live Facial Recognition Technologies, in public spaces by non-law-enforcement bodies: including consideration of bias, the potential impacts on rights and freedoms of citizens, and demonstrating that other less intrusive measures cannot reasonably achieve the same purpose. If these technologies cannot meet the tests set out by the ICO then they should not be deployed in London

- **compliance with the latest connected places cyber-security guidance** issued by the National Cyber Security Centre and the relevant steps in the UK Government's Technology Code of Practice. Ensure that there are plans to maintain cyber-security of the technology and data during its entire lifetime.

2.3 Principle 4: Be sustainable

Emerging technologies have a physical, not just a virtual footprint. London wants new technologies to be as sustainable as possible, contribute to the Mayor's goal to be a net zero carbon city by 2030, and sympathetic to the public spaces that make our city great:

- follow the **Business Climate Guidance in the counting for the entire life-cycle impact of the technology**, including its design, use and eventual retirement. This may include de-carbonising production, considering energy use in data processing and an end-of-life plan for hardware
- through our planning policies we **encourage the use of smart technologies to gather data** on the performance of the built and natural environment, including water and energy consumption, waste, air quality, noise and congestion. Non-personal data of this kind in public places can be **shared with the London Datastore** to ensure pan-London insights can be gained
- over many decades, London has evolved, resulting in an extraordinary web of distinctive residential streets, squares, markets, parks, offices, and industrial and creative spaces. Consideration should be given to the impact on neighborhood amenity of any hardware installed in the public realm, and having a plan for its removal and responsible disposal when it reaches the end of its useful life.

3. Resources

Important government guidance

- **design:** Government Service Standard helps teams to create and run great public services

- **purchasing**: Technology Code of Practice, a set of criteria to help government design, build and buy technology and Digital Marketplace Guidance for buyers and suppliers of cloud technology, digital outcomes, digital specialists, user research participants and labs.
- **AI guidance**: public sector Data Ethics Framework Guidance for public sector organisations on how to use data appropriately and responsibly when planning, implementing, and evaluating a new policy or service; Information Commissioner's Office Guidance on Artificial Intelligence and Data Protection and AI and data protection risk mitigation and management toolkit
- **cyber security**: Connected Places Cyber Security Principles and Security-minded approach to Smart Cities sets out the latest UK government guidance.

Writing in Plain English

- GDS content guidance on how to write well for your audience, including specialists
- ICO/Turing Institute guide to explaining decisions made by AI.

Open approaches and standards

- Turing Way community materials on use of open, robust and reproducible approaches and standards.

Useful data ethics frameworks

- Open Data Institute's Data Ethics Canvas; the Nesta AI decision-making framework; Digital Catapult's Lessons in Practical AI Ethics; or the joint guidance produced by the Office of AI, GDS and Turing Institute.

AI ethics training

- Elements of AI supporting people to learn what AI is and Ethics of AI how to start thinking about AI from an ethical point of view are free MOOCs developed by the University of Helsinki.

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