

An Emerging Technology Charter for London

Introduction

In July 2020 the Mayor of London tasked the Chief Digital Officer for London and the Smart London Board to draft a Charter to guide emerging technology in London, drawing on our existing experience and developed by innovators and the public.

Following initial discovery and discussion, the Greater London Authority (GLA) has developed a draft Charter which sets the following principles:

1. Establish common, open and trusted ways of working between innovators, public services and Londoners when trialling and deploying new technologies
2. Respect equality, diversity and human rights and act lawfully in the design and use of emerging technology
3. Collect, manage, use and share data legally, ethically and securely
4. Support the long-term recovery of the city from COVID-19

The document sets out:

- Context behind the Charter and ambitions
- How it should be used and who it is for
- The Charter, its principles and what we encourage you to do
- How the GLA supports innovators

What do we mean by emerging technologies?

London is fast becoming the global hub for research, development, innovation and commercialisation of technologies that blur the lines between the physical and the digital world, enabling us to interact and use data to solve problems in new ways. These technologies are supported by [new digital infrastructure](#) such as 5G & future networks, artificial intelligence (AI) and internet of things (IoT) that make the internet faster, provide lots of data, and allow us to process these large amounts of data quickly. Imagine a London where a network of sensors manage congestion or the number of heavy vehicles at peak hours? Or a smart energy system that can monitor the load on the electricity network and tell you the best time to use your washing machine or charge your electric vehicle?

The kinds of emerging technologies we might see include the common place of use augmented reality, increased use of autonomous vehicles, remote operated machinery, and smarter, more efficient deliveries. These future technologies and services will use faster access to and processing of data, better connectivity and Artificial Intelligence to build new products and applications that can meet the needs of Londoners. The ubiquity of and real time data created by next generation connectivity will present challenges that are unique to emerging technologies and will not have been felt at the same scale previously.

The GLA is looking for new technology to support our ambition to make London an even better place to live, work and visit. Central to this is trustworthiness in how technology is trialed and deployed.

Examples of new digital infrastructure and emerging technology

Artificial intelligence and machine learning - This might include, when a computer is programmed to simulate human intelligence to make decisions, carry out tasks and learn from it.

Virtual Reality and Augmented Reality - when a computer makes you feel like you are somewhere else, or adding things to the real world.

5G networks- the next generation of mobile technology to speed up connectivity.

Sensors - such as air quality sensors, bat monitoring sensors, or footfall sensors.

Internet of Things (or 'IoT') - connects devices like air quality or energy sensors, street lights or machinery to the internet and uses software so that they can collect and transfer data.

Computers making decisions using algorithms - For example when a human asks a computer to make a decision based on instructions and data the human has provided.

Smart mobility - or 'self driving cars' are vehicles that can sense its environment and process this information very quickly to make very fast decisions to operate without human involvement.

Our ambition for this Charter

London is a world-leading smart city and we see its future as a global testbed for innovation. It is therefore right that City Hall considers new technologies that could affect how we deliver public services, support our economic recovery, and improve transport and public spaces, and how we work now and into the future.

We want to promote user-centred design of new services, ensure these are open to everyone and meet the highest standards for all Londoners, including privacy and cyber security.

Who is this Charter for?

This Charter sets out the expectations of the **makers** and **buyers** of new technology. It provides the principles for implementing technology in London in a way that will maximise the benefits to the city and Londoners. The charter also explains what innovators need to do to ensure new technologies trialled in the city meet these principles. It is intended as a resource for **Londoners** more generally, making clear what they can and should expect of new technology.

It is important to note, we expect everyone to follow all relevant laws and government guidance. The Charter is not a checklist, but a guide to inform conversations between makers of new technology, buyers of new technology, and the possible users of new technology - Londoners themselves.

- **Buyers** - Local government and public services: we want you to use the principles when buying and using new 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, 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 new 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 service buyers.
- **Londoners** - the Charter will ensure that data and technology provides value and benefit both for individual citizens, communities, and society more broadly. We want you to be confident in the technology that is being deployed in your city, have a voice in its design, development, and deployment.

We want all of you to have a say in the development and evolution of this Charter, by reflecting on the principles outlined to see if they are fit for purpose.

Draft Emerging Technology Charter for London

This draft Charter affirms London's collective ambition for the development and adoption of emerging technologies that benefit London and Londoners.

Principle 1: Establish common, open & trusted ways of working

When designing, developing, trialling and deploying emerging technologies, we aspire to work in the open wherever we can, sharing our plans and experience, working collaboratively with other organisations and reusing good practice.

We encourage:

- Setting out in Plain English what the technology is, what it can do, and why you are using it. Any proposal should be easy for everyone to understand. The ICO/Turing has published [practical advice](#) to help explain the processes, services and decisions delivered or assisted by AI, to the individuals affected by them.
- Communicating openly with local communities and other groups who might be affected by the technology, providing an easy way for the community to talk back to you, and demonstrating that you have listened to what they have to say. [TfL's approach to collecting anonymised Wifi data on London Underground](#) involved significant stakeholder engagement and clear public information.
- Use of open, robust and reproducible approaches and standards, as illustrated, for example, by the [Turing Way](#) community materials.
- Giving regular updates to local authorities and the community pre- and post- trial. These updates should reflect on the successes and challenges of any trial undertaken, and why you have chosen to proceed or not proceed with the next stage of your project., For an example of good practice see how [TfL set out guidance for Connected Autonomous Vehicle trials](#).
- Being open about any additional functionality of emerging technology, even if not used, and the circumstances and process by which that functionality could be expanded. You should be up-front about what your technology could do, why you have chosen not to do it, and set a threshold for why you might do it in the future.

Principle 2: Respect equality, diversity & human rights in the design and use of emerging technology

Together with [other leading digital cities](#) in Europe and North America we strongly believe that human rights principles should be incorporated by design into digital platforms which serve our city.

We encourage:

- Adopting established [user-design principles](#) and ensuring feedback is continually appraised and used for improvement.
- Being clear about the value, need or harm addressed by the new technology, for example by considering [consequence scanning](#) on any harms (unintended or intended) that could be created for a diverse range of people by the new technology.
- For public bodies, setting out how the technology or service meets the [Public Sector equality duty](#)
- Explicitly considering any potential bias, notably but not exclusively racial bias. If certain groups are excluded from the benefit of emerging technologies, your technology should have a clear reason why you do not serve these groups.

Carrying out such assessments would be one way to demonstrate compliance with the Public Sector equality duty (for public authorities), and could also help establish best practices across industries.

Principle 3: Collect, manage, use and share data legally, ethically and securely

We require safe, secure and useful ways of sharing information which build trust among our partners and citizens. Living the spirit, not just the letter of GDPR, means seeing the requirements such as informed consent as deep ethical obligations as well.

This should include:

- 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.
- Highlighting publicly and clearly the risks and appropriate mitigations regarding the use of people's personal data. For example for emerging technology deployed in the public realm collecting any personal data, [Data Protection Impact Assessments](#) should be shared with City Hall to be published openly on the London Datastore's new register.
- Consideration should be given not just to how the data is used, but what human processes and decisions are subsequently based on it. Public servants should consider the use of data through a variety of tools, such as the [Data Ethics Framework](#), or other useful tools such as the Open Data Institute's [Data Ethics Canvass](#), the [Nesta AI decision-making framework](#), Digital Catapult's [Lesson's in Practical AI Ethics](#) or the joint guidance produced by the [Office of AI, GDS and Turing Institute](#). We also suggest the new moocs developed by the University of Helsinki on the Elements of AI and [Ethics of AI](#).

- Ensure compliance with the latest cyber-security guidance issued by the [National Cyber Security Centre](#) and the relevant steps in the UK Government's [Technology Code of Practice](#).
- Using the [tender wording recommended by LOTI](#), public sector organisations should have full and free access to data collected by new technologies commissioned by them; non-personal data collected by technology placed in public spaces should be shared by default with the [London Datastore](#) to ensure pan-London insights can be gained.
- Maintaining high quality data standards with complementary metadata so it is clear where the data comes from and how it was collected.

Principle 4: Supporting recovery

We want to work with innovators across London to support the long-term recovery of the city from COVID-19 and use data and emerging technology for the benefit of Londoners.

This means:

- Considering ways in which data can be more freely shared in partnership with the city, for example meeting climate change goals.
- Participating in London's open calls to bring tech expertise to play in solving city challenges.

Supporting innovators

As well as setting our expectations of industry, we recognise it is important that the public sector reflects on our own practices and the experience from the supplier side of the equation. City Hall commits to increasing the transparency, removing friction and being supportive of innovative suppliers seeking to sell into the public sector.

Innovative companies selling into the public sector often have a hard time understanding the public sector and finding the right people to speak to. Does this organisation have a budget for my product? Is there an existing contract against which I am competing? When will it be open for me to bid? Where do I get notified of opportunities? Where do I apply and what is the process and timeline? What standards or requirements do I need to meet to sell into this organisation?

It's important to note that UK public services follow the government's [Technology Code of Practice](#), a set of criteria to help government design, build and buy technology and from firms listed on the [Digital Marketplace](#).

We recognise these are aspects of the process that can be resource intensive for small companies. This is an important point not because large suppliers cannot be innovative, but because we know that small teams doing things differently is where innovation often begins.

Support from City Hall

In recent years City Hall has championed greater collaboration aimed at developing common capacity across public services and sharing of expertise and experience.

To do this we created new delivery teams working with the Chief Digital Officer for London to support innovation. These include the [Smart London team](#) at City Hall, TfL's [Transport Innovation team](#), the [London Office of Technology & Innovation](#) (LOTI) and [Urban unit](#) at London & Partners.

We pledge to work with public services, innovators and the public to create conditions for growth for both large and small suppliers.

This includes:

- Supporting the [expansion of full fibre and preparing for 5G across London](#) using public assets to stimulate infrastructure investment
- Enhancing the [London Datastore](#) as the central registry for London data, to create opportunities for data partnerships between the public, private and university sectors
- Setting [open calls](#) to the tech sector to help solve city challenges
- Delivering [common innovation projects](#) across London's boroughs through work with LOTI
- Providing clearer routes to local government procurement through the new [Thirty3 platform](#), particularly for smaller suppliers
- Testing ideas with Londoners directly through the newly redesigned [Talk London](#) platform
- Creating [common playbooks with other European cities](#) for smart innovation and supporting common technical standards, starting with an IoT framework
- Assist place-based innovation, for example at future innovation zones in the Olympic Park, Digital Greenwich, Royal Docks and other Opportunity Areas.
- Meeting the GLA Group's commitment to [Responsible Procurement](#) to make London a more equal, fair and sustainable city.
- Early engagement with the market (start ups and corporates) to inform future procurements to design the right specification
- Trialling new routes to market such as the Innovation Partnership Procedure to bring innovators in to test and scale solutions

While the large part of the work of selling into the public sector rightly remains the responsibility of suppliers, the public sector should aim to support a diverse ecosystem by providing key information, being transparent about process, and being specific about need.

We want to get to a point where:

- Buyers and suppliers are aware of expectations from the outset
- Processes are clear and easily understood, and opportunities are clearly advertised
- Current contracts (or to suppliers, future sales opportunities) are as transparent as they can be
- Needs, specifications, requirements and success metrics are as clear and detailed as they can be. There is an opportunity to be innovative during the lifetime of a contract and not just at the beginning
- Reduce speculative approaches or sales pitches
- No one is having, or encouraging, conversations which don't go anywhere
- There is more coordination between the various government purchasers in London, so innovators do not need duplicate sales processes

Working with makers

We want to work with innovators across London to support the growth of the city, including:

- Considering ways in which data can be more freely shared in partnership with the city, for example meeting [climate change goals and other recovery priorities](#).
- Considering the ways in which emerging technologies can support London's growth, particularly addressing the digital divide and health equity.
- Participating in London's open calls to bring tech expertise to play in solving specific city challenges.