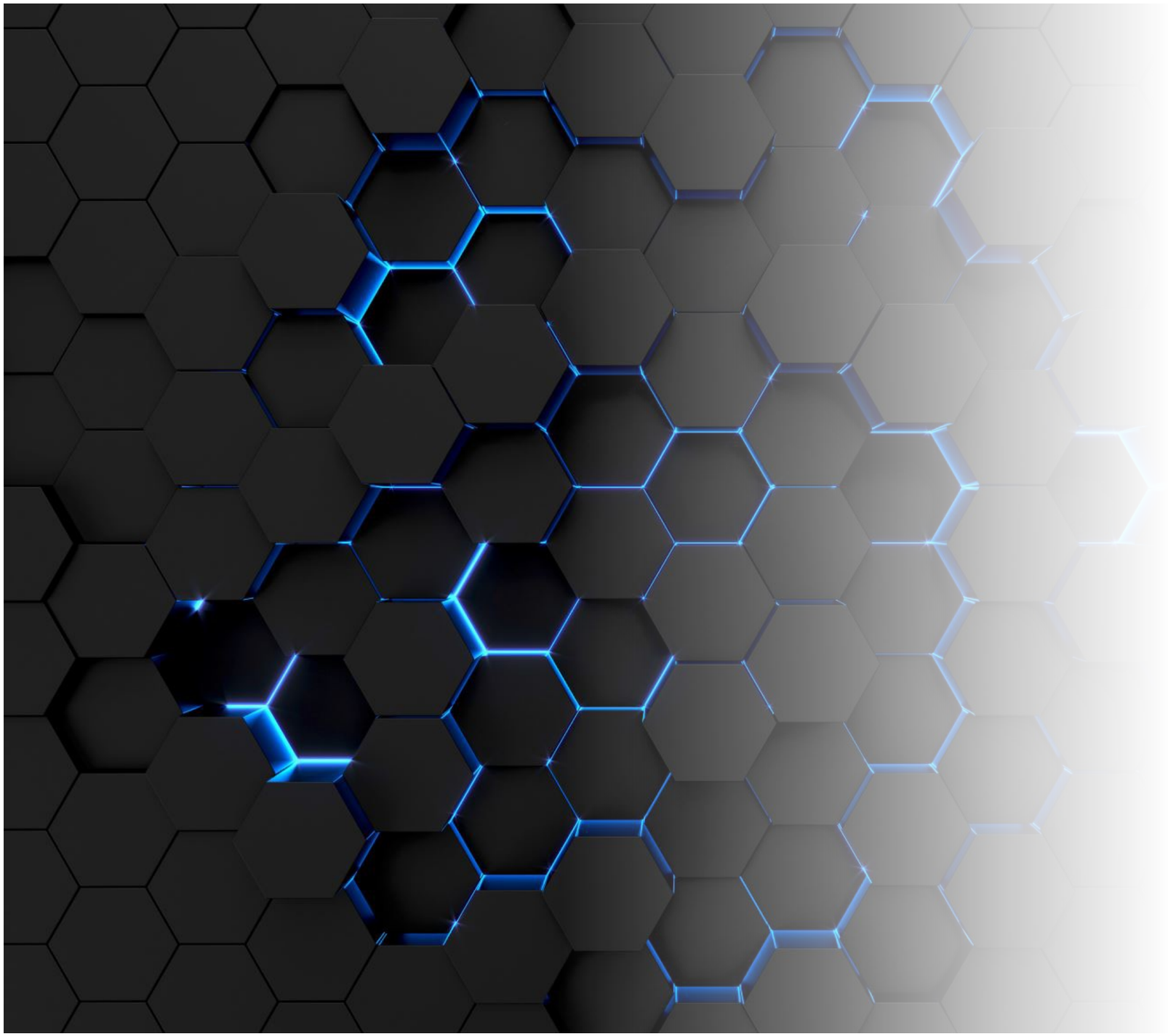

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Mobility and Traffic Data Protection

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Data analysis, data protection:

- **Mobility services** generate a massive amount of **mobility data**, including potentially sensitive precise location data about users.
- Data from mobility services can provide valuable and timely insights to guide transportation and infrastructure policy, but the sharing of sensitive mobility data – between companies or between and with government agencies – **can only be justified if issues of privacy and public trust are first addressed**.

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Data analysis, data protection: Terms

- **Personal data**: Any information relating to an identified or identifiable natural person (the "**data subject**"). An identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person (Article 4 GDPR).

Data analysis, data protection: Terms

- **Anonymized (anonymous) data**: Any data that is not personal data, i.e. any data that does not relate to an identified or identifiable natural person, taking into account all means “reasonably likely to be used” to reidentify such a natural person.
- **Pseudonymized data**: Any data that does not allow to reidentify a data subject, but which can be related to an identified or identifiable data subject in combination with other data (in other words: indirectly identifying personal data). Thus, pseudonymized data is still personal data within the meaning of GDPR.

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Data analysis, data protection: Terms

- **Sensitive personal data**: Personal data held sensitive by Article 9.1 GDPR, i.e:
  - data revealing racial or ethnic origin
  - political opinions,
  - religious or philosophical beliefs,
  - trade union membership;
  - genetic data,
  - biometric data for the purpose of uniquely identifying a natural person.

Data analysis, data protection: Terms

- **Reasonable Reidentification Test**: The test to be performed to **determine whether a given dataset is personal data or anonymized data**.
- Therefore, to determine whether a given dataset must be considered personal data, one must consider whether it is “reasonably likely” that someone may access the dataset and use it in such a way that it relate to a given identifiable individual, taking into accounts “all the means reasonably likely to be used”.

Data analysis, data protection:

- Almost every country in the world recognises privacy in some way, be it in their constitution or in other provisions.
- Moreover, **privacy is recognised as a universal human right** while data protection is not – at least not yet.
- The right to privacy or private life is enshrined in the Universal Declaration of Human Rights (Article 12), the European Convention of Human Rights (Article 8) and the European Charter of Fundamental Rights (Article 7).

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Data analysis, data protection:

- **Mobility data** is key to building better transportation ecosystems but must be used responsibly.
- The Privacy Principles for Mobility Data are a set of values and priorities intended to guide the mobility ecosystem in the responsible use of data and the protection of individual privacy.

Data analysis, data protection:

- A well-functioning set of transport systems in an **inevitably complex city situation requires some level of understanding** of how these systems are operating in real-time, as well as provisioning information to city officials and the public.
- In this regard, the need for, not just **adequate, but good and timely data, is key** if city operators are to dynamically react to potential traffic incidents.

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Data analysis, data protection:

Notably, **qualitative mobility data is critical** for cities to be able to:

- manage enforcement of transport regulations in real-time;
- identify and enable timely intervention in incidents on the transport networks;
- provide advice back to travellers on the real-time status of the network and nudging their transport choices;
- measure the effectiveness of the current transport system's operations and for developing long term transport models and forecasts;
- enable penalties or other charges to be allocated to operators as agreed within the city.

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Data analysis, data protection: GDPR

- The General Data Protection Regulation (**GDPR**) is a European Union (EU) regulation to allow personal data to be safely collected and processed for legitimate use cases.
- GDPR does not contain any provisions relating specifically to shared mobility data. While EU data protection supervisory authorities have provided helpful guidelines and opinions about the GDPR aspects of mobility data and location data, none of them relate to the specific case of shared mobility.

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Data analysis, data protection: GDPR

- **GDPR is a key legal framework** that applies to EU-based entities who process personal data. In certain very specific cases, it also applies to non-EU based entities who process personal data relating to individuals located in the EU.
- **Companies, researchers**, and other entities are beginning to collect, store, and process mobility data; but they are also **facing the challenge of consent management and privacy management**.

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Data analysis, data protection: GDPR

- Provided that GDPR requirements are respected, it is lawful to collect and process MDS data even in a non-aggregated form, including data which would be considered personal under GDPR.
- Such personal data may include:
  - native vehicle IDs,
  - vehicle location data,
  - trip data,
  - and any data associated with such vehicle IDs, location or trip data.

Data analysis, data protection: Who is Who

Who is who in the data journey?

- **Data subject** is the person who generates data, and inasmuch the data owner.
- **Data controller** is the company collecting the data. These entities must handle consent management, security and data privacy issues.
- **Data processors** are the companies using the data. In this case, they are data aggregators, data marketplaces, and service providers accessing and using data.
- **Data authority** are national agencies or bodies that define regulations and legislation about data sharing, in addition to those defined at higher levels like the EU.

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Data analysis, data protection:

In addition to the legislation of each country or the privacy protection measures that companies may wish to take; **the European Union has published the latest version of its GDPR in 2018**. This regulation states that:

- The data subject must consent to the processing; consent must be given freely, and be specific, informed, and unambiguous.
- The data subject shall have the right to access, to be informed, and withdraw his or her consent.
- The data collector shall be able to demonstrate that the data subject has consented to processing of his or her personal data.
- The request for consent shall be presented clearly, distinguishable from other matters, in an intelligible and easily accessible form, using clear and plain language.

- Any organization operating within the EU is **required to inform European privacy regulators within 72 hours** after a **data or privacy breach has occurred**.

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Data analysis, data protection: Anonymization

- Recognizing the value of sensitive data and the harm that could be caused if certain data were to fall into the hands of the wrong parties, many governments and industries have established laws and compliance standards by which sensitive data must be:
- **Pseudonymized;**
- **Anonymized.**

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Data analysis, data protection: Anonymization

- **Pseudonymization** takes identifiable data and replaces it with a value that cannot be linked to a specific individual without additional information that can be accessed elsewhere.
- **Anonymization** is a method that replaces original clear data with a value that is both unrelatable to the original data and permanently irretrievable. Anonymized data can never be re-associated with their original data source.

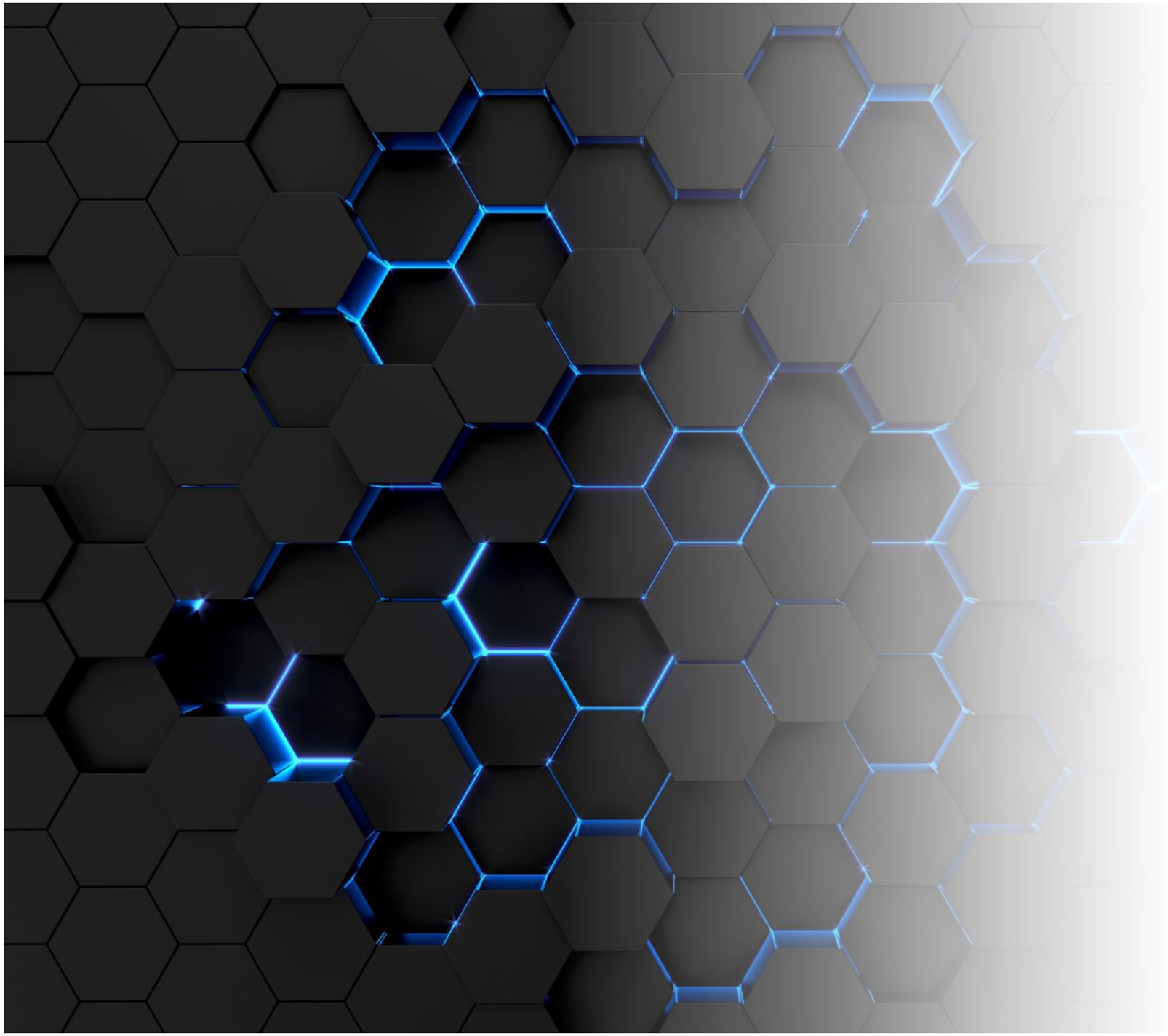
Data analysis, data protection:

- A new study by MIT researchers finds that the growing practice of compiling massive, anonymized datasets about people's movement patterns is a **double-edged sword**: While it can **provide deep insights into human behaviour** for research, it could also **put people's private data at risk.**

Data analysis, data protection:

“**The world today is awash with big data**,” Kondor says:

- “*In 2015, mankind produced as much information as was created in all previous years of human civilization. Although data means a better knowledge of the urban environment, currently much of this wealth of information is held by just a few companies and public institutions that know a lot about us, while we know so little about them. We need to take care to avoid data monopolies and misuse*.”



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Thank you for your attention

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