

Big Data: legal, societal and ethical issues and opportunities

Fields marked with * are mandatory.



Survey Description. This survey aims to gather evidence for the validation and/or fine-tuning of the basic findings from our research conducted in the LeMO Project concerning legal, ethical and social challenges and opportunities pertaining to big data in the transport sector. While our research has focused on the transport sector, we do not wish to limit the respondents to individuals involved in that sector alone. We therefore invite all those affected by policies and the legal framework concerning big data across all sectors, or involved in their implementation, to share their views and experiences in this respect.

A. About the research Project

LeMO EU-funded Project. LeMO (Leveraging big data to Manage transport Operations) is an EU-funded project that explores the implications of the utilisation of big data to enhance the economic sustainability and competitiveness of the European transport sector. The project studies and analyses big data in the European transport domain in particular with respect to five transport dimensions: mode, sector, technology, policy and evaluation. The LeMO project aims to accomplish this by conducting a series of case studies, in order to provide recommendations on the prerequisites of effective big data implementation in the transport field. Through these case studies, the LeMO project Partners will investigate methodological, technological, governmental and institutional issues. The Partners will supplement the case studies with a horizontal analysis that identifies the barriers and limitations of the transportation system to exploit big data opportunities. The LeMO project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 770038. The project started on 1 November 2017 and has a duration of 36 months.

Research aspects. The purpose of the Research is to produce a research and policy roadmap and recommendations to support European transport stakeholders to increase their share of the big data market by 2020 and to help them capture and address the opportunities, limitations and barriers associated with the use of big data. This Research involves this survey where you are invited to share your views on certain topics related to big data. Participation is entirely voluntary and does not involve financial compensation. There are no potential disadvantages or risks of participating in the Research. You will have the right to withdraw from the Research at any time in the Project.

Project Partners. The Partners of the LeMO project are the following:

	Organisation Name	Country
1	Stiftinga Vestlandsforskning (WNRI) (Project coordinator)	Norway
2	Johan Wolfgang Goethe Universitaet Frankfurt am Main (GUF)	Germany
3	Confederation of Organisations in Road Transport Enforcement AISBL (CORTE)	Belgium
4	Bird & Bird LLP (B&B)	UK
5	Panteia BV	Netherlands

Project contact details.

Coordinator: Dr. Rajendra Akerkar (WNRI) rak@vestforsk.no

Project Manager: Dr. Minsung Hong (WNRI) msh@vestforsk.no

Communication: lemo@vestforsk.no

B. About the research participant

In the event you would like to participate in the Research, please provide us with the following information, which will be processed in accordance with the Information Sheet (the "**Privacy Policy**") - see section G below for the Privacy Policy:

* Full name

* Organisation

Email address

In which country are you based?

* Single Choice Question

- | | | | |
|--------------------------------------|-------------------------------|---------------------------------------|--------------------------------------|
| <input type="radio"/> Austria | <input type="radio"/> Finland | <input type="radio"/> Lithuania | <input type="radio"/> Slovenia |
| <input type="radio"/> Belgium | <input type="radio"/> France | <input type="radio"/> Luxembourg | <input type="radio"/> Spain |
| <input type="radio"/> Bulgaria | <input type="radio"/> Germany | <input type="radio"/> Malta | <input type="radio"/> Sweden |
| <input type="radio"/> Croatia | <input type="radio"/> Greece | <input type="radio"/> Netherlands | <input type="radio"/> United Kingdom |
| <input type="radio"/> Cyprus | <input type="radio"/> Hungary | <input type="radio"/> Poland | <input type="radio"/> Non-EU country |
| <input type="radio"/> Czech Republic | <input type="radio"/> Ireland | <input type="radio"/> Portugal | |
| <input type="radio"/> Denmark | <input type="radio"/> Italy | <input type="radio"/> Romania | |
| <input type="radio"/> Estonia | <input type="radio"/> Latvia | <input type="radio"/> Slovak Republic | |

* Which of the following best describes the capacity in which you are responding to this survey?

- Chief Executive Officer (CEO)
- Data Protection Officer (DPO)
- Manager
- Legal counsel
- Citizen
- Human Resources Officer (HR)
- Security / Privacy expert
- IT Expert (incl. engineers and data analysts)
- Policy Maker
- Other

* Please define the type of your organisation from the options below:

- Public sector
- Private sector

* Please indicate the sector(s) in which your organisation is active below:

- Transportation
- Media, Entertainment & Sport
- Energy and Utilities
- Technology & Communications
- Real estate
- Travel & Hospitality
- Financial services
- Retail & Consumer
- Life Sciences & Health Care
- Other

If your organisation is active in the transport sector, please indicate the relevant subsector(s)/transport modes in which your organisation is active:

- Road transport
- Passenger transport
- Air transport
- Freight transport
- Marine transport
- Inland waterways transport
- Rail transport
- Sea shipping transport
- Other

How would you rate, on the below scale, your level of awareness regarding the legal, ethical and social (policy) framework applicable to big data in the EU? [5 stars means completely aware]

Level of awareness	
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C. Research participation & consent

Consent

	Yes	No
* I volunteer to participate in the Research described above conducted in the context of the LeMO Project.	<input type="radio"/>	<input type="radio"/>
* I understand that my participation is voluntary (my choice).	<input type="radio"/>	<input type="radio"/>
* I understand that I will not receive any financial compensation for my participation.	<input type="radio"/>	<input type="radio"/>
* I am aware that I have the right to withdraw from the Research at any time in the Project.	<input type="radio"/>	<input type="radio"/>
* I have read and understood the explanation provided to me about the Project.	<input type="radio"/>	<input type="radio"/>

* I have read and understood the Privacy Policy and I consent to the processing of my personal data as described in the Privacy Policy (see Section G below for the full Privacy Policy).	<input type="radio"/>	<input type="radio"/>
If I have provided the information above, I agree to have my organisation mentioned in the reports, including public reports, to be submitted to the European Commission and published online.	<input type="radio"/>	<input type="radio"/>
* I know who to contact if I have any question about the Project and my privacy.	<input type="radio"/>	<input type="radio"/>
* I understand I can have a copy of my answers, including of this informed participation and consent form.	<input type="radio"/>	<input type="radio"/>

D. General perception of the legal, ethical and social aspects identified

Please rate, on a scale of 0 to 5 stars the importance of each of the legal, ethical and social aspects addressed in the Big Data & Issues & Opportunities article series [5 stars means very important]:

a. Privacy and data protection	★ ★ ★ ★ ★
b. Anonymisation / pseudonymisation	★ ★ ★ ★ ★
c. (Cyber-)security	★ ★ ★ ★ ★
d. Breach-related obligations	★ ★ ★ ★ ★
e. Supply of digital content and services	★ ★ ★ ★ ★
f. Free flow of data	★ ★ ★ ★ ★
g. Liability	★ ★ ★ ★ ★
h. Intellectual property rights	★ ★ ★ ★ ★
i. Open data	★ ★ ★ ★ ★
j. Data sharing obligations	★ ★ ★ ★ ★
k. Data ownership	★ ★ ★ ★ ★
l. Data sharing agreements	★ ★ ★ ★ ★
m. Competition	★ ★ ★ ★ ★
n. Trust, surveillance and free will	★ ★ ★ ★ ★
o. Discrimination	★ ★ ★ ★ ★
p. Transparency, consent, control and personal data ownership	★ ★ ★ ★ ★

E. VIEWS OF AND EXPERIENCES WITH THE LEGAL ASPECTS

Privacy and data protection. Some concepts, principles and obligations under data protection law appear to be problematic for the uptake of big data. For instance, there seems to be an inherent tension between big data and the broad definition of the concepts of "personal data" and "processing", or between big data and the core data protection principles such as data minimisation and purpose limitation.

Read our [second article](#) for more background information

* Have you encountered any (general or specific) issues and/or opportunities with privacy and data protection in relation to big data?

Yes No

Please comment:

Anonymisation/pseudonymisation. Pseudonymisation is a technique of processing personal data in such a way that it can no longer be attributed to a specific individual without the use of additional information, whereas anonymisation is a technique of processing personal data to reduce the likelihood of identifiability of individuals. Anonymisation and pseudonymisation techniques generally provide fertile ground for opportunities with respect to big data applications, including in the transport sector.

Read our [third article](#) for more background information

* Have you encountered any (general or specific) issues and/or opportunities with anonymisation or pseudonymisation in relation to big data?

Yes No

Please comment:

(Cyber-)security. The requirement to put in place security measures is imposed in various legislations at EU and national level, including key instruments like the General Data Protection Regulation (GDPR) and the Directive on the security of network and information systems (the NIS Directive). However, such legislative framework remains rather general and vague as to which specific measures are deemed appropriate.

Read our [fourth article](#) for more background information

* Have you encountered any (general or specific) issues and/or opportunities with (cyber-)security in relation to big data?

Yes No

Please comment:

Breach-related obligations. Organisations facing a security incident may need to notify such incident to one or more national competent authorities. The requirement to inform authorities will however depend on certain criteria laid down in the applicable legislations, as clarified by the guidance documents published at EU and national level. The various actors of the (big) data value chain may thus need to implement measures, procedures and policies to abide by the strict notification requirements and be prepared to provide the necessary information to the authorities, within the imposed deadlines.

Read our [fifth article](#) for more background information

* Have you encountered any (general or specific) issues and/or opportunities with breach-related obligations in relation to big data?

Yes No

Please comment:

Supply of digital content and services. Legalising the economic reality of the provision of personal data by a consumer in order to receive digital content generates practical and legal concerns.

Read our [sixth article](#) for more background information

* Have you encountered any (general or specific) issues and/or opportunities with supply of digital content and services in relation to big data?

Yes No

Please comment:

Free flow of data. The free flow of data presents a scenario in which no legal barriers hinder the cross-border flow of data. Such cross-border data flows may be restricted by data localisation requirements, which come in many shapes and forms. The new EU Free Flow Regulation should ensure the free flow of data across EU Member States, ensure data availability for regulatory control by EU authorities, and encourage the creation of codes of conduct for cloud services.

Read our [seventh article](#) for more background information

* Have you encountered any (general or specific) issues and/or opportunities with free flow of data in relation to big data?

Yes No

Yes

Please comment:

Liability. The EU institutions have looked into and continue to examine issues related to extra-contractual liability, statutory liability, and safety requirements in the context of disruptive technologies, including in the transport sector. The contractual liability legal framework, which differs across the EU, may limit the uptake of new technologies, including big data in the transport sector. Liability regimes that may be of interest in relation to big data include the exemption of liability for intermediaries (the so-called safe harbour regime) and the liability regime for suppliers of digital content and services under the Directive on the Supply of Digital Content.

Read our [eighth article](#) for more background information

* Have you encountered any (general or specific) issues and/or opportunities with liability in relation to big data?

Yes No

Please comment:

Intellectual property rights. All intellectual property rights may have, to some extent, an impact on the use of big data, including in the transport sector. Depending on the manner in which and the extent with which a right holder may exercise its exclusive rights attached to the intellectual property right concerned, intellectual property rights may pose a barrier to data access, interoperability, and exploitation.

Read our [ninth article](#) for more background information

* Have you encountered any (general or specific) issues and/or opportunities with intellectual property rights in relation to big data?

Yes No

Please comment:

Open data. Open data refers to so-called open public sector information or PSI, i.e. material produced, collected, paid for and/or held by public sector bodies at national, regional and local level, such as ministries, agencies, municipalities, but also organisations mainly funded by or under the control of a public authority. The EU institutions have taken both legislative and non-legislative measures to encourage the uptake of open data, most notably through the PSI Directive which attempts to remove barriers to the re-use of public sector information throughout the EU.

Read our [tenth article](#) for more background information

* Have you encountered any (general or specific) issues and/or opportunities with open data in relation to big data?

Yes No

Please comment:

Data sharing obligations. In certain circumstances, private companies are legally required to share their data. In the transport sector, a variety of specific legislative instruments could impact a company's control of, access to, or the rights in data. For example, data sharing obligations are increasingly adopted in the context of Intelligent Transport Systems.

Read our [eleventh article](#) for more background information

* Have you encountered any (general or specific) issues and/or opportunities with data sharing obligations in relation to big data?

Yes No

Please comment:

Data ownership. In a big data context, different third-party entities may try to claim ownership or another proprietary type of right in (parts of) a dataset, which may hinder the production of, access to, linking and re-use of big data, including in the transport sector.

Read our [twelfth article](#) for more background information

* Have you encountered any (general or specific) issues and/or opportunities with data ownership in relation to big data?

Yes No

Please comment:

Data sharing agreements. It is uncertain whether the common practice to use data sharing agreements to govern the access to and/or exchange of data between stakeholders in a big data analytics lifecycle enables covering all possible situations with the necessary and satisfactory legal certainty. Data sharing agreements entail numerous limitations in the absence of a comprehensive legal framework regulating numerous rights (e.g. ownership, access or exploitation rights) attached to data, the way in which such rights can be exercised, and by whom.

Read our [thirteenth article](#) for more background information

* Have you encountered any (general or specific) issues and/or opportunities with data sharing agreements in relation to big data?

Yes No

Please comment:

Competition. Assessing the market conduct of companies with access to large volumes of data raises complex issues under competition law. There are three main areas in which competition law may have an impact on the use of big data, i.e. the area of abuse of dominance, the area of mergers and acquisitions, and the area of agreements between undertakings.

Read our [fourteenth article](#) for more background information

* Have you encountered any (general or specific) issues and/or opportunities with competition in relation to big data?

Yes No

Please comment:

F. VIEWS OF AND EXPERIENCES WITH THE ETHICAL AND SOCIAL ASPECTS

Trust, surveillance and free will. One of the main dimensions of big data, describing consistency and trustworthiness, is veracity. In this respect, big data may present challenges in relation to its quality (e.g. heterogeneous and unstructured data). It can however also be used for trust assessment, including through so-called reputation systems. In relation to surveillance, two main issues arise, namely risks of asymmetries in the control over information on the one hand and privacy risks on the other hand. With respect to supporting free will of humans, increasing accessibility and personalisation for passengers can provide benefits to people in the form of more personalised or affordable services. Organisations use certain types of data like journey data to ensure a better understanding and serving of people's needs.

Read our [fifteenth article](#) for more background information

* Have you encountered any (general or specific) issues and/or opportunities with trust, surveillance and free will in relation to big data?

Yes No

Please comment:

Discrimination. (Data-driven) discrimination is a particular social and ethical issue that may materialise in a big data context and is therefore addressed in a separate article. Big data analytics can be a tool to

make existing discriminatory decisions visible, hence this social issue may be resolved by personalised services (as “positive discrimination”) based on big data analytics. In spite of this opportunity, there are still biases because of the inherent characteristics of big data (e.g., heterogeneity, data size and quality, noise, etc.).

Read our [sixteenth article](#) for more background information

* Have you encountered any (general or specific) issues and/or opportunities with discrimination in relation to big data?

Yes No

Please comment:

Transparency, consent, control and personal data ownership. Privacy is probably the most recurrent topic in the debate on ethical issues surrounding big data, which is not illogical given that the concepts of big data and privacy are prima facie mutually inconsistent. Indeed, the analysis of extremely large datasets may include personal data, and the more personal information included in the analytics, the more it might interfere with the privacy of the individuals concerned. In this context, the question of ownership over personal data is among others raised, as individuals tend to have a sense of ownership over their personal data. While a claim of ownership by a data subject in its personal data would be hard to sustain (given that legally no specific ownership rights subsist in data), this does not mean that data subjects have to give up all control over their personal data, particularly with the advent of the GDPR.

Read our [seventeenth article](#) for more background information

* Have you encountered any (general or specific) issues and/or opportunities with transparency, consent, control and personal data ownership in relation to big data?

Yes No

Please comment:

G. Information Sheet (Privacy Policy)

Scope of this policy. This information sheet (hereafter "Privacy Policy") describes how your personal data is collected, used and otherwise processed in the context of the EU LeMO Project funded under the H2020 research programme, contract no. H2020-770038 (hereafter the "Project"). This Privacy Policy includes a description of your data protection rights, including a right to object to some of the processing activities we carry out.

In this Privacy Policy:

- "We" or "us" refer to the Partners of the LeMO Project listed in Section I.3. above, who will process your personal data as data controllers and as described herein. The Project Partners can be contacted collectively through the contact details provided herein, and notably by sending an email to lemo@vestforsk.no.
- "Data Protection Legislation" means the Regulation 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (the "GDPR"), as well as any legislation and /or regulation implemented or created pursuant to the GDPR and the e-Privacy legislation, or which amends, replaces, re-enacts or consolidates any of them, and all other national applicable laws relating to processing of personal data and privacy that may exist under applicable law.
- The terms "controller", "processor", "third party", "supervisory authority", "personal data", "processing", "data subject", shall have the meanings set out in the applicable Data Protection Legislation.

What personal data is processed? In the context of the Project, your personal data is processed by the Partners, as follows:

- Processing purpose(s): for the purpose of carrying out the research in the LeMO Project, as described in Sections I and II above.
- Processed data categories: first name, last name, organisation, title / function, email address, any information you decide to share with us through discussions, interviews, correspondence and questionnaires, sound and/or video recordings (where applicable)
- Source of data: from you, directly through the participation form, discussions, interviews, correspondence and questionnaires.
- Legal basis: Your consent, as provided in Section III. You may withdraw that consent at any time you choose and at your own initiative by contacting us at lemo@vestforsk.no. The withdrawal of your consent will not affect the lawfulness of the collection and processing of your data based on your consent up until the moment where you withdraw your consent.

We rely on Dropbox to process your personal data, for the provision of hosting services.

How long is your personal data stored? We retain your personal data for the duration of the Research Project (i.e. until end-October 2020) or for a shorter period as long as your data are required to fulfil the activities set out in the Participation Form and this Privacy Policy. After such period your personal data may be archived, where possible in anonymised format, in accordance with applicable legal requirements. We may also retain your personal data if it is reasonably necessary to comply with any legal obligations, meet any regulatory requirements, resolve any disputes or litigation, or as otherwise needed to enforce this Privacy Policy and prevent fraud and abuse.

To determine the appropriate retention period for the information we collect from you, we consider the amount, nature, and sensitivity of the personal data, the potential risk of harm from unauthorised use or disclosure of the data, the purposes for which we process the personal data, and whether we can achieve those purposes through other means, and the applicable legal requirements.

How is your personal data shared with third parties? We only share or disclose information as described in the Participation Form and this Privacy Policy, including with third parties. Your personal data will also be shared with government authorities and/or law enforcement officials if required for the purposes above, if mandated by law or if required for the legal protection of the data controller(s) legitimate interests in compliance with applicable laws.

Is your personal data transferred outside the European Economic Area (EEA)? We do not intend to transfer the data that we collect from you to a destination outside the EEA. However, please note that the

data processor(s) listed above may store or transfer your personal data outside the EEA. When such a transfer happens, we ensure that it takes place in accordance with this Privacy Policy and that the necessary safeguards are put in place, ensuring that the transfer is (i) either regulated by standard contractual clauses approved by the European Commission as ensuring an adequate protection or (ii) done to an organisation that complies with the EU-US and Swiss-US Privacy Shield Framework as implemented by the U.S. Department of Commerce in case the transfer is made to the United States of America.

What are your rights? Once you have provided your personal data, several rights are recognized under the Data Protection Legislation, which you can in principle exercise free of charge, subject to statutory exceptions. In particular, you have the following rights:

- Right to withdraw your consent: you may withdraw your consent at any time you choose and at your own initiative by contacting us at lemo@vestforsk.no. The withdrawal of your consent will not affect the lawfulness of the collection and processing of your data based on your consent up until the moment where you withdraw your consent.
- Right to access and rectify your data: you have the right to access, review, and rectify your personal data. You may be entitled to ask us for a copy of your information, to review or correct it if you wish to review or rectify any information. You may also request a copy of the personal data processed as described herein by sending an email to lemo@vestforsk.no. You can access and review this information and, if necessary, ask to rectify your information.
- Right to erasure: you have the right to erasure of all the personal data processed by as described herein in case it is no longer needed for the purposes for which the personal data was initially collected or processed, in accordance with the Data Protection Legislation.
- Right to object or restriction of processing: under certain circumstances described in the Data Protection Legislation, you may ask for a restriction of processing or object to the processing of your personal data.
- Right to data portability: under certain circumstances described in the Data Protection Legislation, you have the right to receive the Personal Data processed in a format which is structured, commonly used and machine-readable and to transmit this data to another service provider.

These rights may be limited, for example if fulfilling your request would reveal personal data about another person, or if you ask us to delete information which we are required by law to keep or have compelling legitimate interests in keeping.

To exercise any of these rights, you can get in touch with us using the details set out below. If you have unresolved concerns, you have the right to lodge a complaint with an EU data protection authority where you live, work or where you believe a breach may have occurred.

What security measures are put in place? Appropriate technical and organisational measures are implemented in order to ensure an appropriate level of security of your personal data.

In the event personal information is compromised as a result of a security breach and where the breach is likely to result in a high risk to your rights and freedoms, we will make the necessary notifications, as required under the Data Protection Legislation.

How can we be contacted? Questions, comments, remarks, requests or complaints regarding this Privacy Policy are welcome and should be addressed to: lemo@vestforsk.no.