



WP 4 – Sustainable data policies

Jur. Dr Johan Axhamn

WP leader: Prof. Dag Wiese Schartum, UiO, Department of Private Law,
Senter for rettsinformatikk (SERI)

- ***”The transport sector is becoming increasingly connected, digitalised and automated. Technical developments of vehicles with automatic driving systems that are taking over more and more of the driver’s job are making rapid progress, as is the development of business models and services which include automated vehicles.”*** (Swedish Government Official Reports, SOU 2018:16)

Self-driving vehicles and intelligent transportation systems

- Current **trends** – intelligent transportation systems and self-driving vehicles
- **Legal aspects:** GDPR, IPR and competition law
- Research on "**Sustainable data policies**" as part of **REGSMART** project. Carried out at the Norwegian Research Center for Computers and Law at the Department of Private Law, University of Oslo.

Current trends

- **Increased and new demands on the transportation system(s)**
 - Increasing **congestion**
 - **Environmental** impacts
 - **Safety** aspects

- **“Smart mobility”**
 - Combined effect of **digitalization, servitization, individualization** and the **shared economy**
 - More **efficient, coordinated** and **sustainable transportation**
 - **Intelligent Transportation Systems (ITS)** – Information and Communication Technologies applied in the field of (road) transportation

Intelligent Transportation Systems (ITS)

- Infrastructure
- Vehicles and users
- Traffic and mobility management
- Interfaces between different modes of transportation

- "Big Data" analysis
- Personalised transportation services (e.g. MaaS)

New actors and business models

- **Way-finding** (e.g. Google Maps)
- **Ride-hailing** (e.g. Uber, Lyft and Waymo)
- **Micromobility** /last mile (e.g. motorized scooters – VOI etc.)
- **Autonomous vehicles** (e.g. Alphabet/Google and traditional car manufacturers)
- **Mobility-as-a-service** (MaaS, e.g. Whim, UbiGo)
- From ownership to **service-based economy** ("sharing economy")

Scenarios for the future?

- **Uncertainties: Type of policy activity (proactive or slow) and whether people have embraced the sharing economy or not.**
1. **Same, same, but different** – A scenario where policy and institutions are proactive and innovative, but people have not embraced new shared solutions.
 2. **Sharing is the new black** – A scenario where policy and institutions are proactive and innovative and people have embraced new shared solutions.
 3. **Follow the path** – A business-as-usual scenario where policies and institutions are ambitious but slow and people have not embraced new shared solutions.
 4. **What you need is what you get** – A scenario where policies and institutions are ambitious but slow, but people have embraced new shared solutions.

(Kristoffersson, Brenden & Mattsson, 2017)

Actors and data flows

- **Users** of the transportation system(s)
- Transport **operators** (public and private)
- **Aggregators** (e.g. a provider of a MaaS service or timetable service)
- **Public authorities** (e.g. in the area of transportation)

- **Automated and connected** vehicles

Importance of collaboration

- Importance of **collaboration** between the different actors in the (transportation) system
 - **Importance of data sharing**
 - Timetables
 - Ticketing
 - Transport/Travel behaviour
 - Etc.

 - Guidance/leadership by public authorities

- Personal data..?

ITS Directive (EU) 2010/40/EU

- It is stressed in the directive that although the deployment and use of ITS applications and services will entail the processing of personal data, such **processing shall be carried out in accordance with EU rules protecting fundamental rights and freedoms of individuals** (article 10.1 and recital 12), in particular shall personal data be protected against misuse, including unlawful access, alteration or loss (article 10.2).
- It is also stressed that the **principles of purpose limitation and data minimisation** should be applied to ITS applications (recital 12).

Personal data

- Individual **travel behaviour**
- Personalised **transportation services**
- "Add-on" services: Advertising, other **personalised services**

- Processing of personal data is subject to the EU General Data Protection Regulation (**GDPR**)

Personal data – GDPR

- **Legal basis** for the processing of the data.
- **Purpose limitation**
- **Storage limitation**
- Necessary and appropriate **technical, organisational and administrative measures to protect the data, e.g.**
 - Pseudonymisation
 - Records of processing activities
 - Security of personal data
- **Rights of individuals** /data subjects: Transparency, Information and Access, Rectification and erasure, Right to object and automated decisions

Ownership and sharing of data

- **Intellectual property law**
 - Database protection
 - Trade secrets protection
- **Competition law**
 - Prohibition against abuse of dominant position
 - Prohibition against anti-competitive cooperation
- **Sector-specific** legislation (e.g. Finnish legislation on data sharing)

Automated and connected vehicles

Autonomous vehicles – sensor technologies

- **Camera-based systems**
- **Lidar** systems
- **Radar** systems

- Other devices
 - e.g. **GPS**, ultrasonic sensors, inertial measurement units and wheel encoders.

Automated and connected vehicles

- With advancements in **computational power** and **storage** capacity, **complex mathematical and statistical models – algorithms** – have been constructed to process **big data**.
- to enable **probability** and other **calculations** to be made that will assist an **autonomous vehicle**

Autonomous vehicles

- **Level 0 (no automation)**
- **Level 1 (driver assistance):** The vehicle is controlled by the driver and the majority of the work is done by the person at the wheel, but some driving assist features may be included in the vehicle design.
- **Level 2 (partial automation):** The vehicle has combined automated functions, but a human controls the other elements of driving.
- **Level 3 (conditional automation):** A driver is necessary, but is not required to monitor the environment. The driver must however be ready to take control of the vehicle at all times with notice.
- **Level 4 (high automation):** The vehicle is capable of performing all driving functions under certain conditions, that is, specific driving modes. The driver may have the option to control the vehicle.
- **Level 5 (full automation):** The vehicle is capable of performing all driving functions under all conditions; no human control of a vehicle is needed. The driver may have the option to control the vehicle but is not expected to be available for control at any time during the trip.

Legal challenges

- **Data processing**
 - To assess liability
 - Requirements for the automated functions
 - GDPR: Organisational requirements and application of rights of data subjects
- **Intellectual property** aspects
- **Competition law** aspects

Output

1. Report **Data policies for smart mobility** (forthcoming at UiO in 2021)
2. Article **Control and access of data in smart mobility** (forthcoming in the Nordic Intellectual Property Law Review in 2021)
3. Article **Data protection and automated decision making in smart mobility** (to be published in international peer reviewed law journal in 2021)