



Compliance map: Guidelines for the user

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LIST OF ACRONYMS

CAV – Connected and Automated Vehicles

KPI – Key Performance Indicators

MCA – Multi-Criteria Analysis

NMS – New Mobility Services

RC – Regulation Compliance

RR – Regulation Readiness

TNC – Transport Network Companies

NOTE To the reader:

The screenshots of the Compliance Map included within the present document have to be used just by way of examples and do not necessarily represent the final version of the online tool, which will be updated until the end of the project (i.e. after the release of this deliverable) to include as many new regulations as possible that could come up to the project's end and that could consequently change the analysis of indicators, barriers and potential scenarios underpinning the Compliance Map.



Compliance Map: Guidelines for the user

The Compliance Map is a regulatory supportive tool aimed at showing practical synthesis of the similarities and differences, across different regulatory schemes that share the common focus goal of enabling newly emerging disruptive innovations.

The Compliance Map shows:

- **The Regulation Compliance (RC)** meaningful to represent how effectively each country or city regulate the different aspects necessary for the sustainable adoption of the new mobility solutions (namely Infrastructural, Political, Data, User/consumer awareness and acceptance, Safety, Completeness of pilots and contracts requirements, Environmental, Social, Cooperation, Others).
- **The Regulation Readiness (RR)** meaningful to represent a holistic assessment of the level of readiness of each country's regulatory framework to accommodate the introduction or diffusion of different mobility solutions according to their penetration levels.
- Entrance **Barriers** for different mobility services, business models and technologies.


Below is the screenshot of the web page where you can navigate through the contents of the GECKO Compliance Map.

By selecting one of the three boxes at the top (circled in red in the picture below) you can switch between the different views available in the Compliance Map.

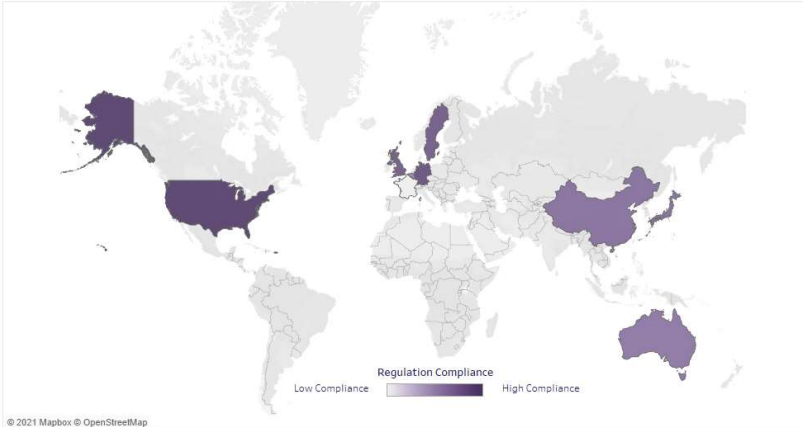
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GECKO - Regulation Compliance - Countries View



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Evaluation Category
Political

Mobility Solutions_Countries

- Big data for transport and mobility
- Car-sharing
- Connected and Automated Vehicles
- Drone last mile delivery
- MaaS and MaaS platforms
- On-demand ridesharing and carpooling
- Ride-hailing and TNC

The views are explained one by one below.

Regulation Compliance - Countries View and Cities view (first two boxes)

What you will find

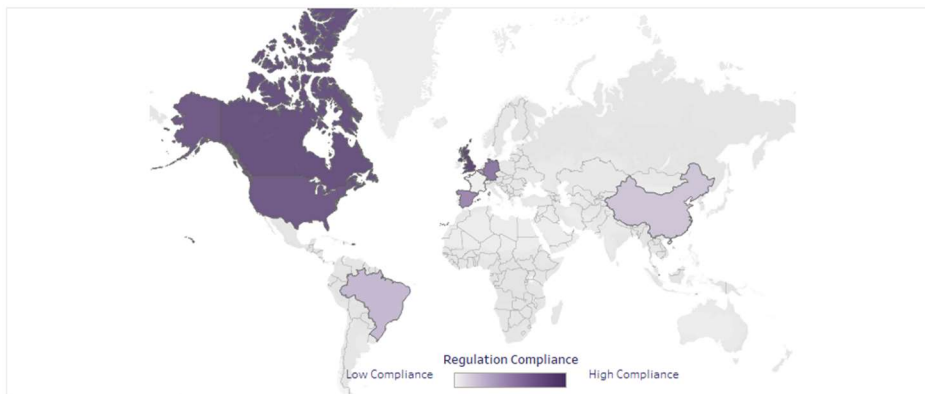
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GECKO Compliance Index - Countries View



Evaluation Category

Cooperation

Mobility Solutions_Countries

- Big data for transport and mobility
- Car-sharing
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GECKO Compliance Index - Cities view



Evaluation Category

Cooperation

Mobility Solutions_Cities

- Bike sharing
- Car-sharing
- E-scooter sharing/ Micromobility
- Ride-hailing and TNC

The RC is presented by making reference to two jurisdictional levels: Countries level and Cities level. For each of these views, mobility solutions relevant for that jurisdictional level are presented.

For countries:

- Big Data for transport and mobility
- Car-Sharing
- Connected and Automated Vehicles
- Drones for Last Mile Delivery
- MaaS and MaaS platforms
- On-demand ridesharing and carpooling
- Ride-hailing and TNC

For cities:

- Bike sharing
- Car-Sharing
- E-scooter sharing/Micromobility
- Ride-hailing and TNC

What you can do

From these views you can:

- Visualise the RC index for each highlighted country/city by selecting the overall RC or one of its evaluation category-component from the drop-down list.

Welcome to the Compliance Map

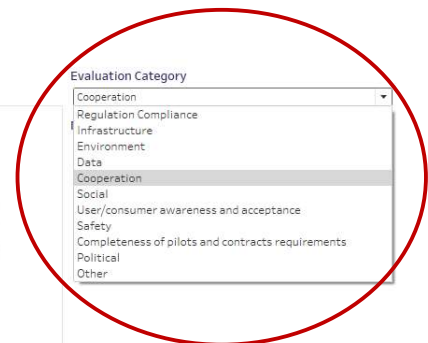
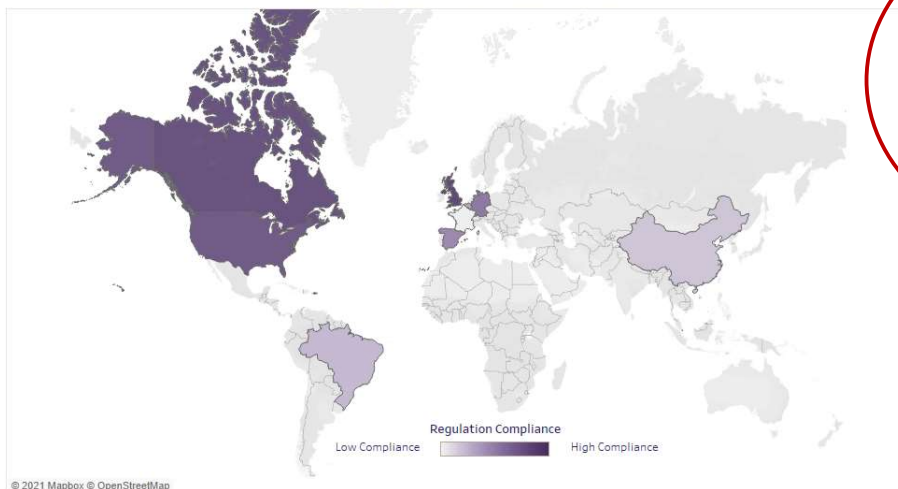
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GECKO Compliance Index - Countries View



- Select the mobility solution to which RC (or its components selected in the previous point) relates

Welcome to the Compliance Map

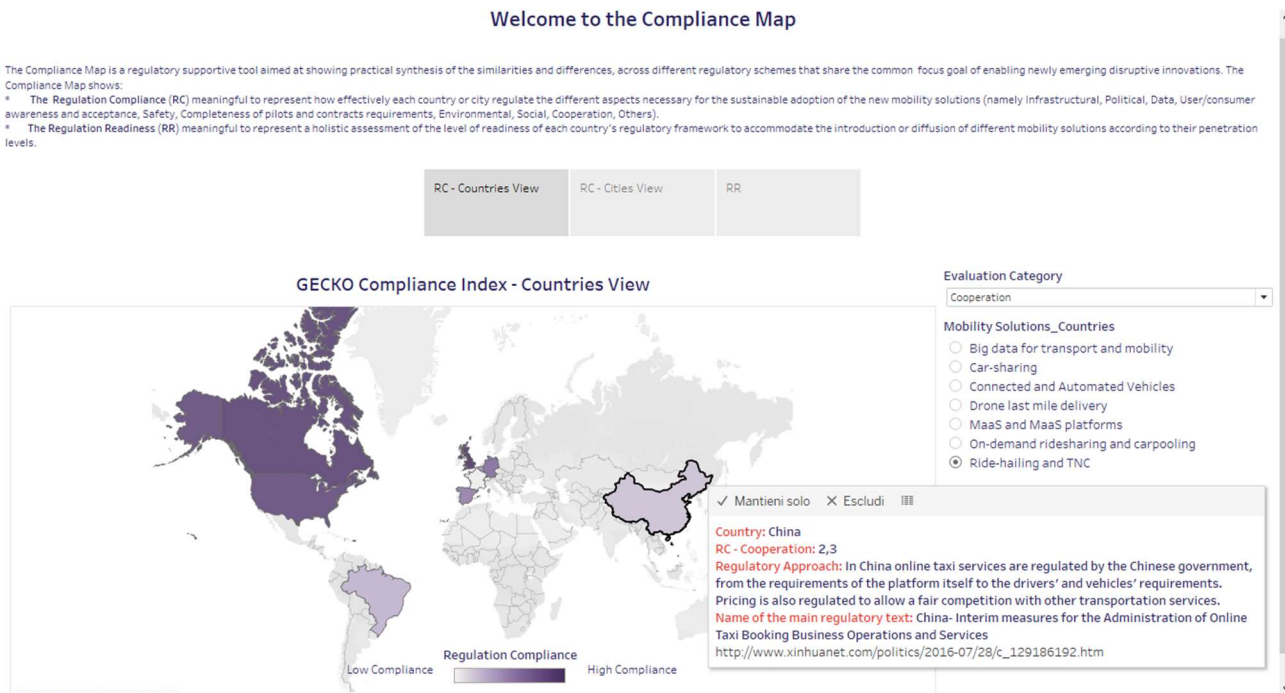
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- Hover your mouse over each Country or City: a pop-up window will appear showing the following information:
 - o Country/City Name
 - o Value of the RC or the selected evaluation category-component
 - o Brief explanation of the regulatory approach
 - o Main Regulatory text
 - o URL to the main regulatory text
 - If you double click on the Country/City, you can fix the pop-up window and click on the URL to be redirected to the Regulatory text (or a relevant news on that, especially for non-originally English webpage).



Understanding and interpreting results

In general, a high value of either the overall RC indicator (or a single evaluation category score composing it) means that the related regulatory framework is effective in enabling the mobility solution (the former from a general point of view, the latter from a specific perspective) and vice versa.

To give an example, if in the Compliance Map we select the evaluation category "Completeness of pilots and contract requirements" and the mobility solution " E-scooter sharing/ Micromobility", we see that Stockholm scores very low because the market is currently unregulated and no permit from the City is needed to put a fleet of shared e-scooters on the streets.

On the other hand, if we look at Chicago, we see that the capital of Illinois obtains among the highest scores compared to other cities because it has launched a multi-year programme of pilots to evaluate how and under what conditions and requirements e-scooter companies can contribute to the pursuit of the objectives of accessibility, safety, sustainability etc.

Regulation Readiness - Countries View and Cities view (first two boxes)

What you will find

The Regulation Readiness (RR) represents a holistic assessment of the level of readiness of each country's regulatory framework to accommodate the introduction or diffusion of different mobility solutions according to their penetration levels. The RR is referred to the country level. It combines all of the regulations (local, regional, national) and relative analysis pertaining to each country.

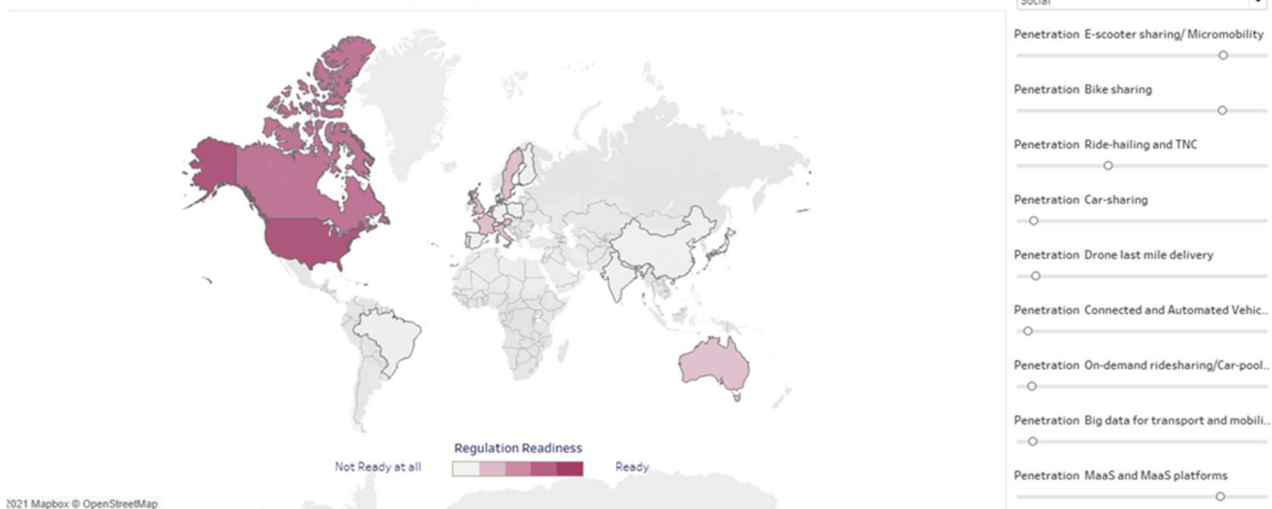
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GECKO Regulatory Framework Readiness



What you can do

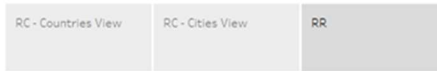
Similar to the RC, it is possible to visualise the RR index for each coloured country/city by selecting the overall RC or one of its evaluation category-component from the drop-down list.

Furthermore, through the use of different sliders (circled in red in the picture below), you will be able to select every possible combination of mobility solutions penetration. As a result, the Compliance Map will automatically update the values of RR obtained for that combination.

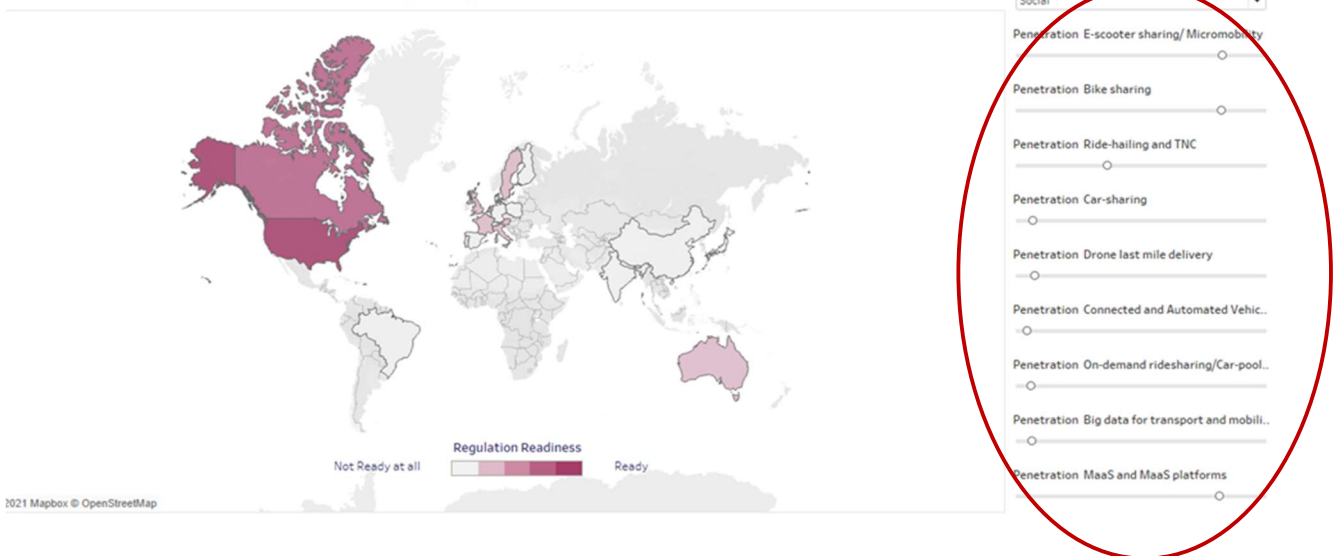
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GECKO Regulatory Framework Readiness



Understanding and interpreting results

In general, a higher value of the RR means that the related regulatory framework is more ready to accommodate the selected combination of mobility solutions penetration.

Note to the user:

Since the RR is calculated as the average of the values obtained from the different regulations collected for each country, the reliability of the RR values also depends on whether regulations for each of the mobility solutions have been collected and analysed for each country. In the two figures shown above, for example, the RR value for the USA is always the highest. This is due to the fact that, in the current state of development of the regulations database feeding the Compliance Map, regulations in the USA have been collected for almost all of the mobility solutions.

However, the work of collecting and analysing regulations will continue with the aim at providing the more reliable results possible.

Barriers

What you will find

The webpage dedicated to the barriers presents the entrance barriers that may occur in mobility services uptake providing a qualitative but structured methodology, representing aspects influencing the adoption/deployment of the mobility solutions studied in GECKO from diverse, mutually interdependent, viewpoints: Political, Economic, Societal, Technological, Legal and Environmental. This analysis is aimed at providing an overview of the main difficulties faced by these innovations, supporting decision on policies to be adopted to pave the way for a sustainable adoption of a particular innovation.

Barriers are shown as separate content, so it is shown in the GECKO website through a dedicated link:

The screenshot shows the GECKO website interface. At the top, there is a navigation menu with links for ABOUT, APPROACH, TOOLS, RESOURCES, NEWS & EVENTS, and CONTACT. Below the menu is a map of Europe with a search bar. A blue arrow points from the 'Barriers' link in the search bar to a detailed page titled 'MaaS and MaaS platforms'.

The detailed page is titled 'MaaS and MaaS platforms' and features a grid of six colored icons representing different barrier categories: Political (green), Economic (blue), Social (purple), Technological (yellow), Legal (red), and Environmental (green). Below the icons is a table of barriers.

Barrier name	Description
Complex ticketing	The various stakeholders involved in the MaaS offer can meet some difficulties while creating and setting up a global offer.
Dis-incentivizing sustainable trips, competition increased	The MaaS platform encompasses all types of transport and mobility services, customers can choose services less sustainable than others (TNCs, taxis) instead of active modes (cycling, walking) or public transport.
Fragmentation of the transport offer	The persistence of fragmented public ownership of transport services in urban areas may hamper the trend towards data integration, as a key basis for supplying MaaS. A lack of interest in integrating shared mobility services and public transport to increase flexibility and cost efficiency will reduce the potential of co-modality.
Heterogeneous data processing	The MaaS platform has to process a massive volume of heterogeneous data collected at real time, coming from various providers and data. This could be a technological barrier for this service.
Insurance and liability	The conflicts among MaaS providers, transport operators and users would create barriers for regulation in terms of insurance and liability.
Lack of consumer protection	If no guarantee is defined in case of cancellation, unavailability of one or several transport modes, this could be a strong barrier for MaaS adoption.
Lack of cooperation	In order to materialize the benefits of MaaS solutions, it is necessary to attain a critical mass of users. This, in turn, requires coordination between different modes of transport to provide convenient door-to-door journeys. Lack of cooperation between stakeholders, lack of agreement that could preserve mutual interests can lead to market disequilibrium and then, can be problematic for the service adoption and deployment.
Lack of investment for infrastructure for shared transport modes	In order to ensure multimodality, intra- and inter-modality, infrastructures are required to connect all transport modes, especially at transport nodes. The lack of investment in this regard can be problematic for the service adoption and deployment.
Lack of transport services	The lack of transport modes can make the MaaS service irrelevant (e.g. in rural areas). This issue is also relevant when dealing with first/last mile challenges. The global offer must propose solutions to address this challenge in order to overcome people to abandon their cars.
Market failure	Too much MaaS operators available on a given territory can lead to local market failure and prevent from the deployment of MaaS. In addition, the MaaS operator can provoke a disequilibrium of the ecosystem through the choice of mobility operators available in the platform.
Public transport less affordable	The global offer set up through MaaS platforms includes public and private services, with the potential to get pressure on public transport operators for the prices to keep the global offer economically sustainable for all stakeholders. This could result in less affordable public transport and prevent from mobility access to everybody.

On the right side of the page, there is a 'Case Study' section with a list of checkboxes for various categories: Big data for transport and mobility, Blockchain, Car sharing, Carpools and autonomous vehicles, Connected and autonomous vehicles, Cooperative traffic management, Crowdfunding model, Drone and micro aerial, E-mobility sharing, Micromobility, Insurance, MaaS and MaaS platforms, Governance (sharing/Cooperating), Infrastructure and TIC.

What you can do

You can select one or more mobility solutions to visualize:

- Name of the case study
- Barrier name
- Description of the barrier.

Each description of the barrier presents a brief text coloured according to the barrier type (Political, Economic, Social, Technological, Legal, Environmental).

Following an example of the barriers for MaaS:

MaaS and MaaS platforms

Barrier Name	Description
Complex ticketing	The various stakeholders involved in the MaaS offer can meet some difficulties while creating and setting up a global offer.
Dis-incentivising sustainable trips, congestion increased	The MaaS platform encompasses all types of transport and mobility services, customers can choose services less sustainable than others (TNVs, taxis) instead of active modes (cycling, walking) or public transport.
Fragmentation of the transport offer	The persistence of fragmented public ownership of transport services in urban areas may hamper the trend towards data integration, as a key basis for supplying MaaS. A lack of interest in integrating shared mobility services and public transport to increase flexibility and cost efficiency will reduce the potential of co-modality.
Heterogeneous data processing	The MaaS platform has to process a massive volume of heterogeneous data collected at real-time, coming from various providers and IoTs. This could be a technological barrier for this service.
Insurance and liability	The conflicts among MaaS providers, transport operators and users would create barriers for regulation in terms of insurance and liability.
Lack of consumer protection	If no guarantee is defined in case of cancellation, unavailability of one or several transport modes, this could be a strong barrier for MaaS adoption.
Lack of cooperation	In order to materialize the benefits of MaaS solutions, it is necessary to attain a critical mass of users. This, in turn, requires orchestration between different modes of transport to provide convenient door-to-door journeys. Lack of cooperation between stakeholders, lack of agreement that could preserve mutual interests can lead to market disequilibrium and the n.
Lack of investment for infrastructure to connect transport modes	In order to ensure multimodality, intra- and inter-modality, infrastructures are required to connect all transport modes, especially at transport nodes. The lack of investment in this regard can be problematic for the service adoption and deployment.
Lack of transport services	The lack of transport modes can make the MaaS service irrelevant (e.g. in rural areas). This issue is also relevant when dealing with first mile/last mile challenges. The global offer must propose solutions to address this challenge in order to incentivise people to abandon their cars.
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Furthermore, by hovering the mouse on the description text, a pop-up window will be displayed, illustrating example of solutions and best practices adopted to overcome that barrier.

MaaS and MaaS platforms

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Heterogeneous data processing	The MaaS platform has to process a massive volume of heterogeneous data collected at real-time, coming from various providers and IoTs. This could be a technological barrier for this service.
Insurance and liability	The conflicts among MaaS providers, transport operators and users would create barriers for regulation in terms of insurance and liability.
Lack of consumer protection	If no guarantee is defined in case of cancellation, unavailability of one or several transport modes, this could be a strong barrier for MaaS adoption. Solutions: Policy makers should make sure insurance and liability is considered in the offer by the operator to the authority; the MaaS provider should not be liable for what happens by the operator (on which MaaS providers have no control over). Best practice: n.a.
Lack of cooperation	In order to materialize the benefits of MaaS solutions, it is necessary to attain a critical mass of users. This, in turn, requires orchestration between different modes of transport to provide convenient door-to-door journeys. Lack of cooperation between stakeholders, lack of agreement that could preserve mutual interests can lead to market disequilibrium and the n.
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