

THEME 01

Mobility-as-a-Service

SMART MOBILITY

EVERYTHING-AS-A-SERVICE

DISRUPTION

For several years, the concept of Mobility-as-a-Service (MaaS) has drawn widespread attention. MaaS is supposed to allow users to plan, book and pay their trips, door-to-door, across different modes and providers of transportation. Since MaaS relies on public and shared modes, it aims to do away with current ownership-based models in favor of more sustainable and possibly cheaper use-based models. Being a typical buzzword, there's no single definition of the concept and various degrees of MaaS have been put to practice.

Our observations

- [Finnish MaaS Global](#) is possibly the only MaaS provider that actually offers the full package, from planning to payment, including a fixed-price all-you-can-travel subscription for EUR500/month (i.e. resulting in a “Netflix for mobility”). So far it has launched its [Whim](#) service in Helsinki and the West-Midlands (e.g. Birmingham) and it will soon do so in Amsterdam and Antwerp. [WienMobil](#) offers something similar (without the flat rate option) and another example is [UbiGo](#), which will soon launch in Stockholm.
- Google Maps goes a long way when it comes to planning trips, but options for intermodal trips are limited and booking and paying are not possible yet. Other limited services are available in, for instance, Germany ([Qixxit](#)) and Italy ([MyCicero](#)).
- Younger generations are said to be less interested in owning a car (and its function as a status symbol). Scottish [NaviGoGo](#) specifically targets 16-25 year olds who are more likely to adopt MaaS and, as such, will refrain from buying a car later on in their lives. The service is co-designed with youths and is currently on trial.
- Data about public transport timetables, and sometimes real-time positioning as well, is often in the public domain and can be used by any app developer. Any MaaS system has to combine multiple such public data sources with private ones and handle complex transactions; smart middleware is a necessity. [Siemens](#) offers such a backbone for MaaS providers.
- Sharing data and access to backends between different stakeholders requires a great degree of trust. [Blockchain](#) technology may help organize data, manage data rights and execute transactions in a transparent, secure and frictionless manner.
- Car sharing, as an alternative to car ownership is growing, but its overall impact on mobility practices is fairly limited. In Germany, where car sharing is most successful in Europe, [1.5 million people](#) make use of shared cars. In the Netherlands, car sharing in formal schemes has been stable over the last ten years, but the number of cars available through p2p sharing has grown rapidly from 2012 onwards, to some [25k](#) cars.

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Connecting the dots

Similar to other as-a-service models, Mobility-as-a-Service implies a shift from the dominant private-car based ownership model to one based on usage. It also implies a full integration of hitherto separate modes of transportation, including public transport, which has always been offered as-a-service, into a single platform. Both dimensions of the concept hinge on the (societal) ambition to get people out of their private cars and into more sustainable means of transportation. In practice, [MaaS](#) would thus enable the planning, booking and paying of any trip by any (combination of) mode(s) on a pay-per-use or flat rate basis. Trips can be optimized for speed, costs, convenience, or sustainability and will no longer require any personally owned means of transportation. While the first ideas of MaaS arose in the 1990s, the first pilots started a couple of years ago and today we only see a small number of actual MaaS schemes operating on a commercial basis.

The rather slow introduction of these systems may be surprising, given all the talk about big

data and seamless integration of datasets. However, in practice, any MaaS platform has to combine disparate data sets and gain access to booking systems of a multitude of both public (or publicly funded) and private organizations, which are not all willing or able to hand over data and control over their booking systems, while losing direct contact with customers and potentially even losing customers to other modes or operators. Since most timetable data is readily available, a service like Google Maps can “easily” offer trip planning, but the real challenge is to integrate everything into a single booking and payment system.

To get MaaS off the ground, despite these barriers, it is conceivable that public pressure from, for instance, a local transport authority is needed to persuade transport operators to cooperate with a designated MaaS provider. Alternatively, relatively neutral intermediaries may build a platform on the basis of which multiple actors, e.g. transport operators, can build their own consumer-facing MaaS products.

Implications

- Different geographical contexts call for different MaaS solutions. In the dense urban context, private cars may be substituted by mass transit, taxis and bikes. In suburban and rural areas, last-mile solutions to and from transit hubs may be more important, as well as on-demand public transport.
- Whoever succeeds in developing a local, regional, or global leadership position, MaaS will occupy a key position in consumers' lives (and on their smartphones). Since a MaaS provider knows exactly where people are going at what time, additional revenue streams are up for grabs: targeted advertising, e-commerce/grocery pick-ups, tailored content for stopovers, etc.
- A great variety of business will be affected when MaaS takes effect and they may all seek to develop a MaaS frontend of their own: public transport operators, traditional taxi and ride-hailing companies, car rental and leasing companies, car manufacturers, booking agencies and software suppliers (for planning, reserving and paying current modes of transportation).