

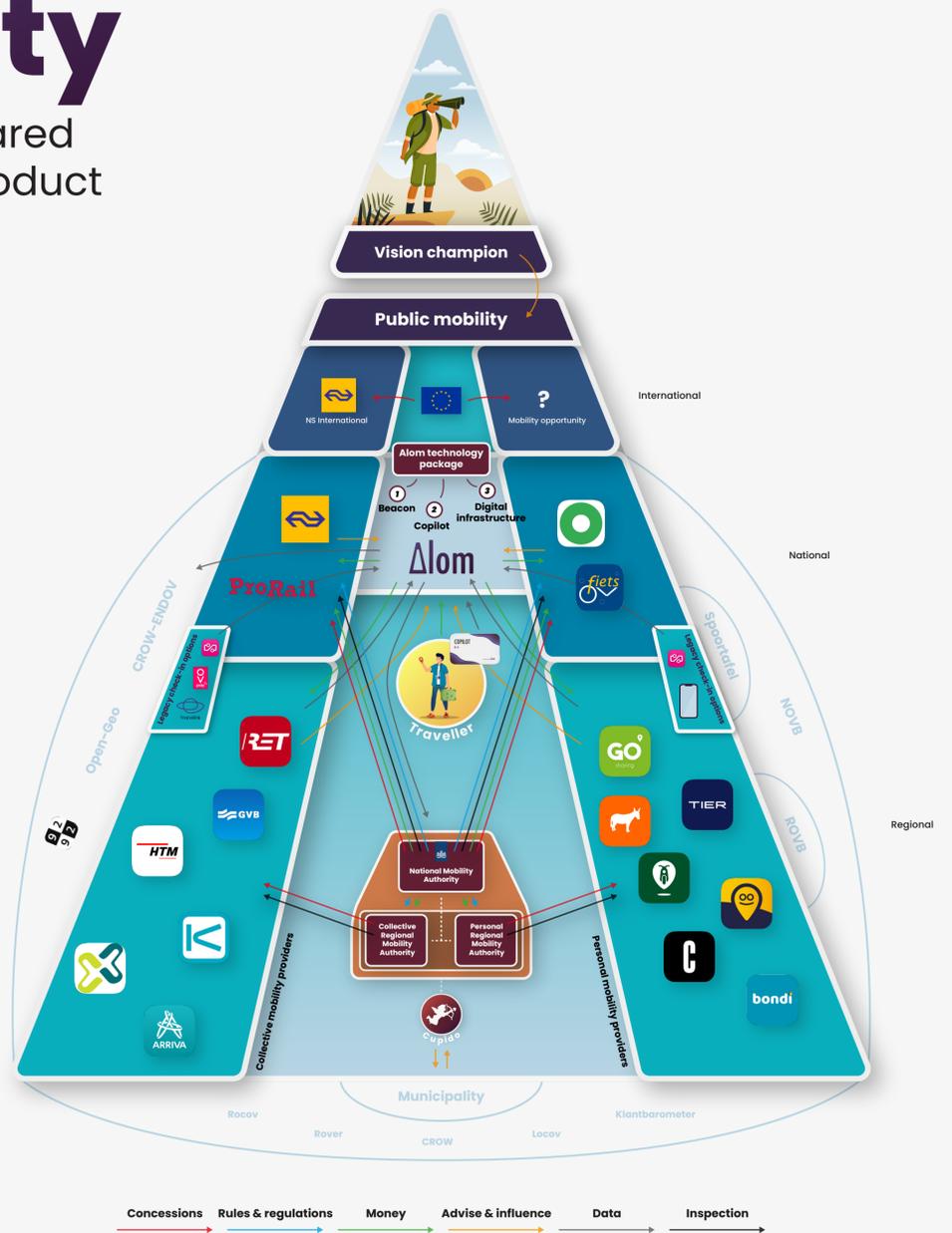
Seamless Mobility

A strategic intervention integrating public & shared mobility facilitating a complementary travel product

Only a couple of years ago the delineation between the public and the private sector was clear. However, with the introduction and proliferation of shared mobility providers, the boundary is becoming fuzzy, especially since these newcomers all use their own specific way of checking in and out. Because they are not incorporated into a single digital ecosystem, the journey from door to door is becoming less seamless the more mobility providers are added to the market.

Consolidating research presented in this thesis in combination with previous research, a full traveller journey map is constructed in which anti-seamless behaviour is identified. Checking in to both a train station gate and a shared modality are the least seamless aspects of the journey. Therefore a new novel seamless interaction idea is presented. The proposed interaction is essentially the inverse of the current situation revolving around the idea of a wireless digital handshake. Wherein the old scenario the traveller must physically present a modality-specific identifier to a permanently closed barrier i.e. gate or moped, a traveller now carries a small modality non-specific token which can be detected by a gate at the train station or by a parked shared modality if it is in close proximity. Check-in gates at the train station are now permanently open and subsequently will only close when a valid token is not detected i.e. the digital handshake cannot be made. The same goes for checking in on a shared modality. Shared modalities are permanently unlocked and turned on and will cut the power, apply the brakes, or sounds an alarm when a valid token is not detected i.e. the digital handshake cannot be made. The combination of the wireless technologies PKES and UWB are selected.

The introduction of the aforementioned seamless mobility scenario is dependent on the integration of public transportation and shared mobility services. Based on interviews with a municipality, a shared mobility provider, desk research, and leveraging the future introduction of Account Based Ticketing, nine strategic interventions are proposed. Now made possible by the strategic blueprint, research is done on how future travellers will react to the reimagined seamless mobility scenario. This is done through a series of interaction prototyping tests. Insights are translated in a redesigned travel token, a seamless train station gate, and a seamless scooter.



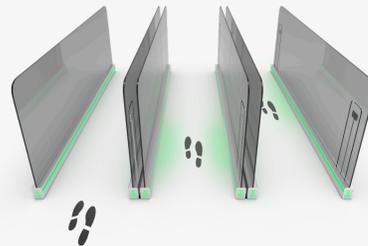
Copilot

The copilot is a small token enabling a truly seamless travel experience. Fully hands-off, Copilot wirelessly and automatically checks in the traveller regardless of the type of modality.

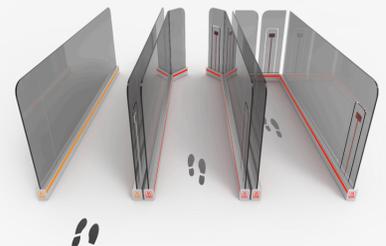


Seamless gate

A truly seamless check-in experience if a traveller is carrying a Copilot. The green light will follow the traveller unobtrusively through the gate.



If a Copilot is not detected, the light will first turn orange and the traveller is asked to check in using a legacy option. If the traveller is trying to fare-dodge, the gate will close.



Seamless scooter

A truly seamless check-in experience if a traveller is carrying a Copilot. The scooter by brand 'X' automatically greets the traveller if a Copilot is detected. Check in will occur the moment the scooter is moving.



The scooter will not move if no Copilot is detected and the traveller is asked to check in using legacy options.



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