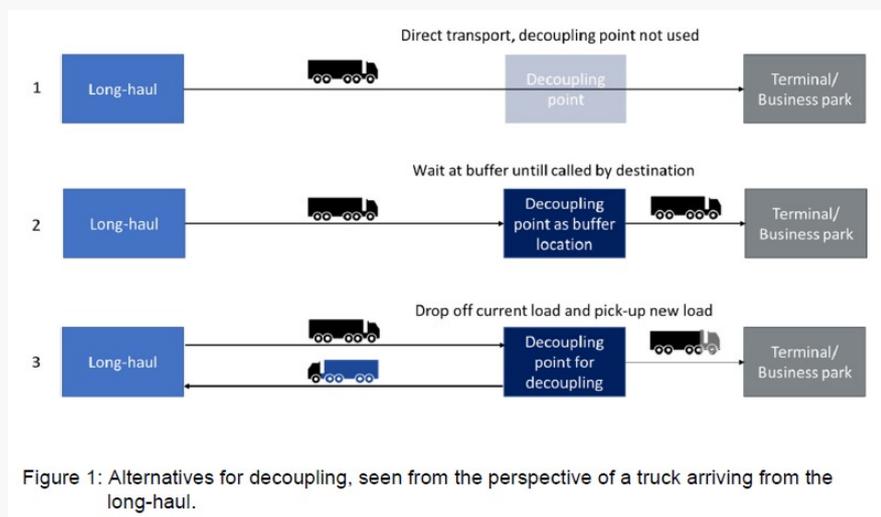


Possibilities for future yard logistics concepts to improve efficiency and safety at yards

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The combination of the trend towards decoupling long haul and first/last mile transport and the development of Connected and Automated Transport for short distance transport at (partly) confined areas leads to much interest in further development of Connected and Automated Transport between a decoupling point and terminals and business parks. Figure 1 presents several alternatives for decoupling near yards for reducing the negative impacts of congestion near (port) yards.



There is much interest in this topic since several benefits are expected of CAT concepts at Smart Yards such as:

- Improved **reliability**. Because the decoupling point can be used to buffer and decouple goods, the goods can be called at the yards at the moment they are needed. Congestion with trucks blocking access to yards is avoided. On top of this, based on connectivity, automated vehicles can be optimized and controlled leading to a huge improvement in reliability of arrival and departure of trucks at yards.
- Increased **efficiency**. The improved reliability as described above will lead to improved efficiency by avoiding missing slots and by avoiding unused assets and man hours. Besides, optimized planning of a set of automated vehicles will increase efficient coordination of the first/last mile transport.
- Improved **safety**. Both reduced congestion and functionality of automated vehicles to

avoid collisions will lead to improved safety.

- Improved **security**. Because of automation, less people are entering the yards and port authorities expect that this can help in reducing subversion.
- **Reduced emissions** (CO2 and pollutants). Reduced congestion and avoiding unnecessary transport will lead to reduced emissions. Besides, it is expected that connected and automated transport goes very well together with electric driving.

Through simulation studies, amongst others by the PhD UTwente and PhD TU/e, various scenarios will be explored and it will be assessed to what extent and under which circumstances these benefits occur. The attached reports provide an overview on the simulation studies that are being executed.

Join the CATALYST summit in September 2022 to receive the latest updates from the PhD's themselves!

Tags : catalyst, connected-transport, efficiency, phd, simulation, sustainability, yards