

9 AN OPPORTUNITY FOR FREIGHT AND LOGISTICS?

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Logistics covers the whole scope of operations concurring to deliver the right product at the right time and in the right place. The transportation of goods, known as freight, plays a key role in the supply chains and self-driving vehicles could in the long-term reshuffle the cards.

New opportunities for freight transport

As an economic activity, freight transport involves a number of fundamental resources: vehicles, drivers and energy. Personnel costs account for a significant share of the budgets and put constraints on operation³.

A driverless vehicle which does not necessarily require staff aboard does not imply the same costs, nor the same constraints. It can be used for longer hours in one day thus providing a quicker return on investment. If used at night it accordingly reduces daytime traffic, be it partly only, to the benefit of the other users, in particular at rush hours.

To address operational constraints, vehicle automation offers several solutions conducive to the productivity of road hauliers. From this standpoint, the economic benefits of self-driving vehicles in the area of freight transportation are far from negligible. If it is not hampered

by unsurmountable technical difficulties this technology will probably establish itself in due course.

The supply chain activity strongly impacted

There will be many different impacts on the supply chain. Lorries not requiring additional space for the staff will thus offer extra payload, they will be able to run at all times, day and night. For shorter distances, smaller, perhaps electrical, vehicles will be able to deliver parcels all the way to individual customers.

Although it is still difficult to anticipate all the potential impacts of these technologies, it is quite likely that non-road shipping modes will be affected by these new practices. Whatever the case may be, the supply chains will adapt to the new configuration of freight transportation if there is significant cost-saving to be expected.

Human and social consequences to be anticipated

Beyond the technical hurdles to be overcome, using driverless vehicles for freight transport raises a number of social and economic challenges: What about the customer relationship and how can you make sure the goods have indeed been delivered? What about daily maintenance tasks (checking vehicle condition, refuelling, making small repairs, securing the goods aboard the vehicle, etc.)?

If this technology is to stay for the long-term, it will probably require a long transition phase. This transition will have to tackle the question of the relationship between man and an increasingly automated vehicle, the drivers' jobs that will disappear, when today there are several hundred thousands of them.

For new jobs and new functions to emerge, these changes must be addressed properly.

1. **SPLOTT**: Production Systems, Logistics, Transport Organization and Work
2. **AME**: Planning, Mobilities and Environment Department
3. For example, a lorry driver is not allowed to stay at the wheel over 9 hours a day – and up to 10 hours twice a week maximum – and should make several breaks on the way. The driver needs to rest in appropriate places such as roadside laybys, and should be able to go back home regularly.

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