Autonomous systems in different Transport modes

Background

Autonomous transport systems provide unmanned, **autonomous** transfer of equipment, baggage, people, information or resources from point-to-point with minimal intervention. They can include the full range of **transport vehicles**, including trucks, buses, trains, metros, ships, and airplanes. Although autonomous transport systems have the same principles in the way of operating there are some differences in the levels of automation they use. Some operate more autonomously than others, some need human supervision, whereas others always need a man in the loop in order to operate with safety.

Although different transport systems have different principles of operation there are some that are common to many of them. It ισ interesting to find which ones and therefore find what all these industries have in common.

Assignment

The major question that needs to be answered is what we can learn from different transport systems regarding their levels and degrees of autonomy. Are there principles that can be used from one industry to another? What can avionics teach the ship industry for example and vice versa.

The main goals that need to be tackled during this thesis are the following:

- Find out what are the levels of autonomy that are used in different transport industries avionics, trains, metros, ships, buses and cars.
- Which levels are in common in the above industries and which are not?
- What can we understand from the levels of autonomy that each industry uses?
- Can taxonomies that are used in one industry be used in another one? What are the compromises that we need to make?
- Create a review article that will present the different taxonomies and propose a possible solution on a taxonomy that could work for all industries as well.

The project can be extended over one year and be part of a Master Thesis as well if there is such an interest. In case you are interested take contact with: Marialena Vagia, marialena.vagia@sintef.no ,+4794428563