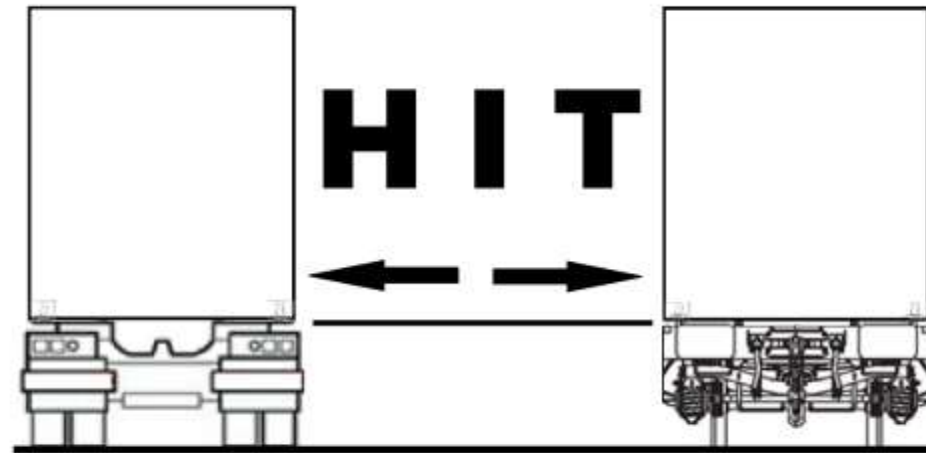
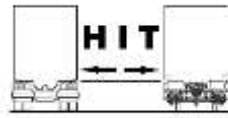


Horizontal intermodal transshipment

Examples of use patent

Peter Hrapko

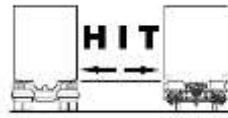




Principle of the patent:

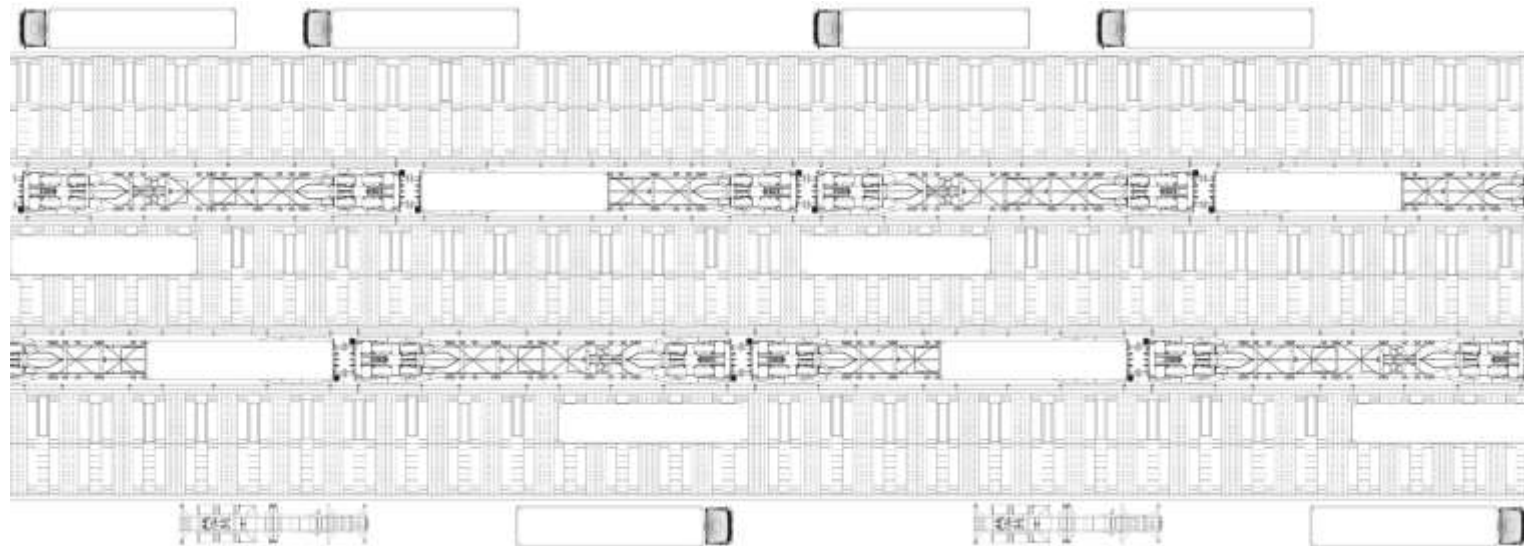
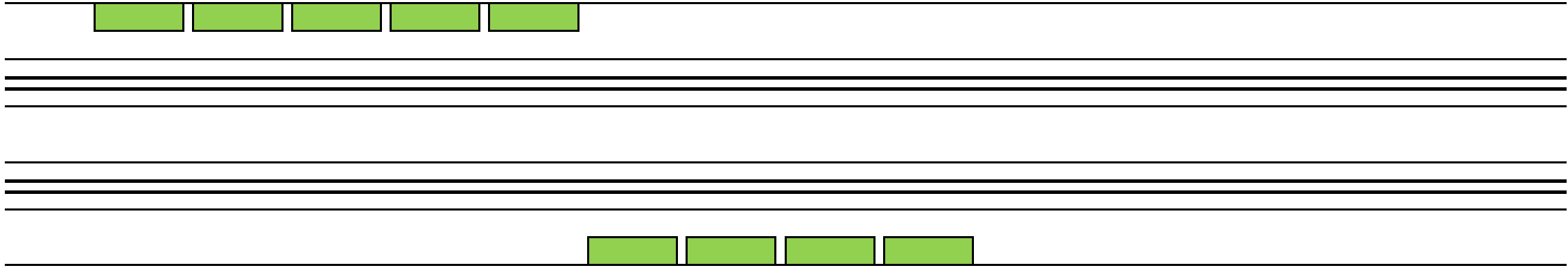
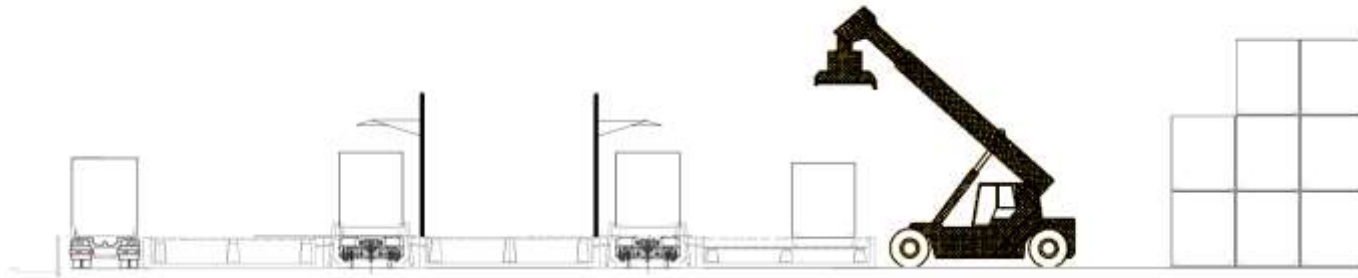
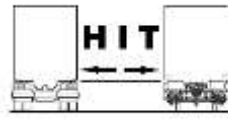
The patent allows for the horizontal transshipment of containers and swap body between the road and the rail as well as between the rail and rail. The essence of the solution lies in the three ways of a short vertical stroke of the intermodal loading units above the truck or wagon and its subsequent horizontal handling.

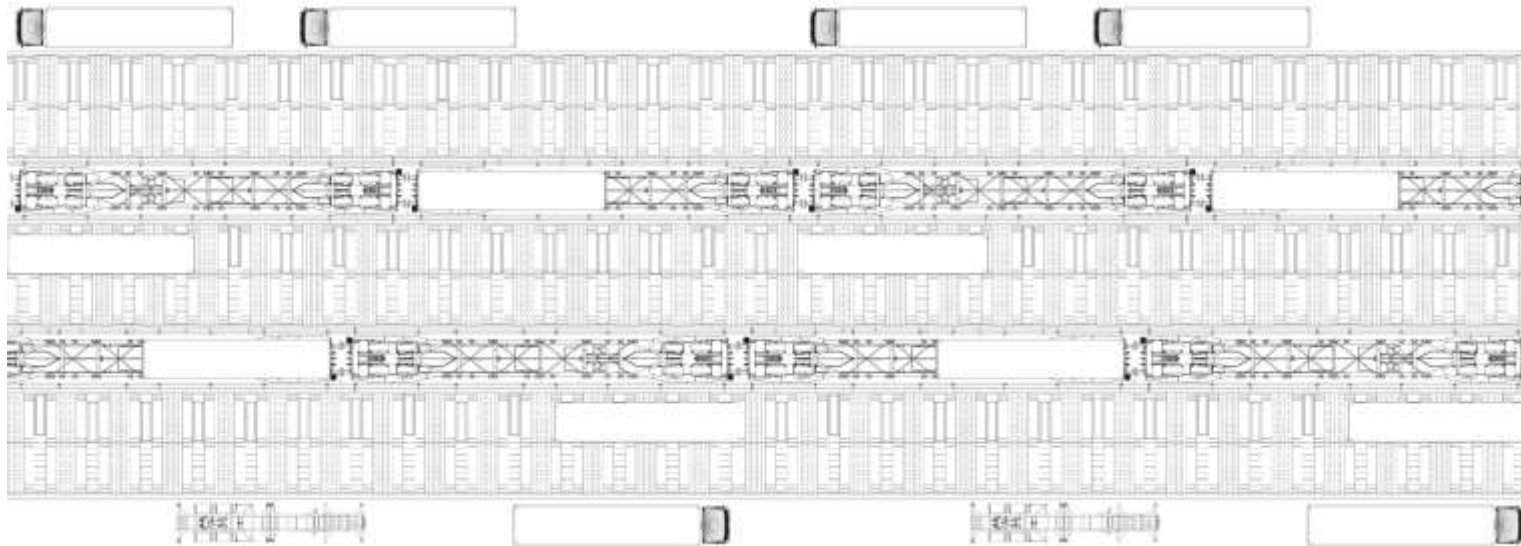
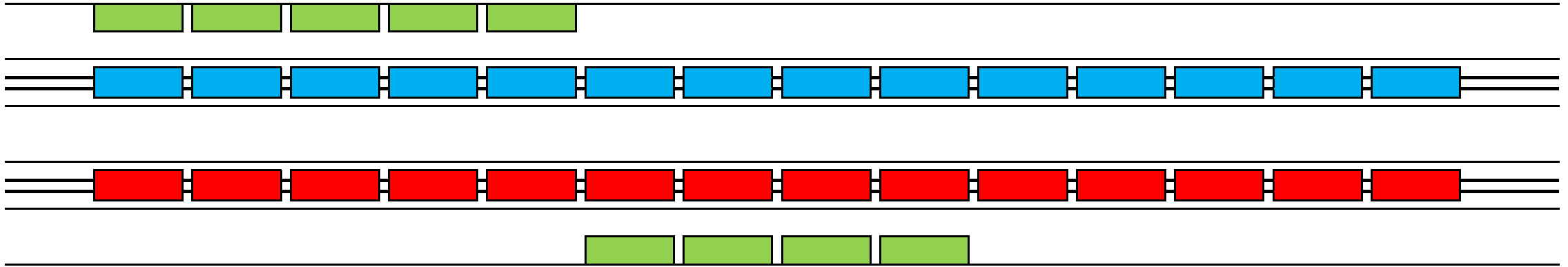
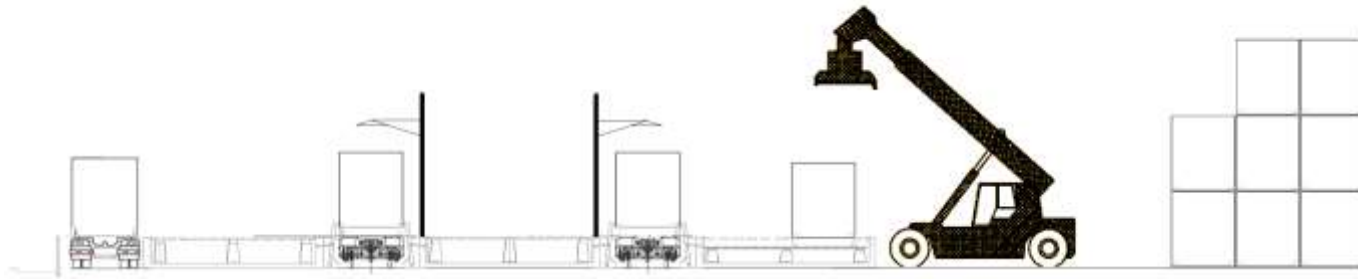
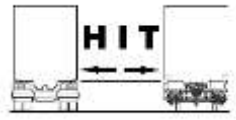
The patented horizontal transshipment system raises the container only to a height of approximately 15 cm and allows for a complete container block train (44 containers) to be transshipment within about 20 minutes, which is 6 times faster than with two gantry cranes. Which means that a solution with capital costs of approximately 20 million EUR is sufficient to transship 240,000 containers per year, which means a saving of approximately 250% capital costs, which is also reflected in the cost of transshipping one container, which would be about 10 EUR.

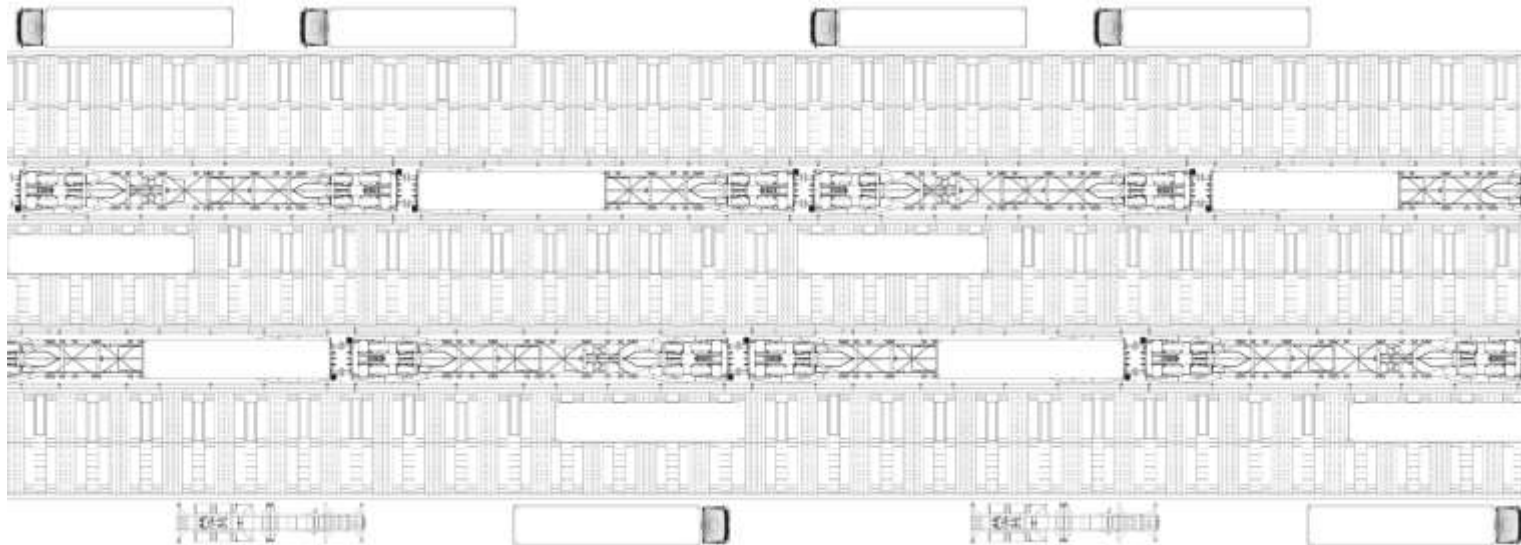
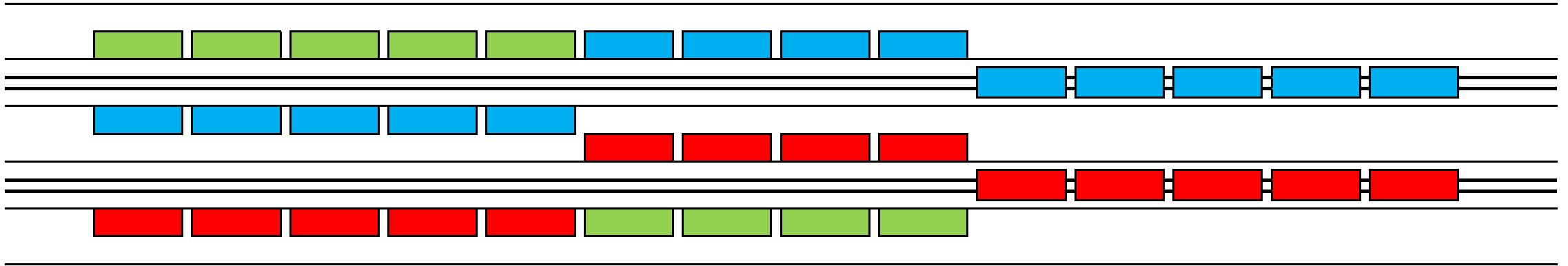
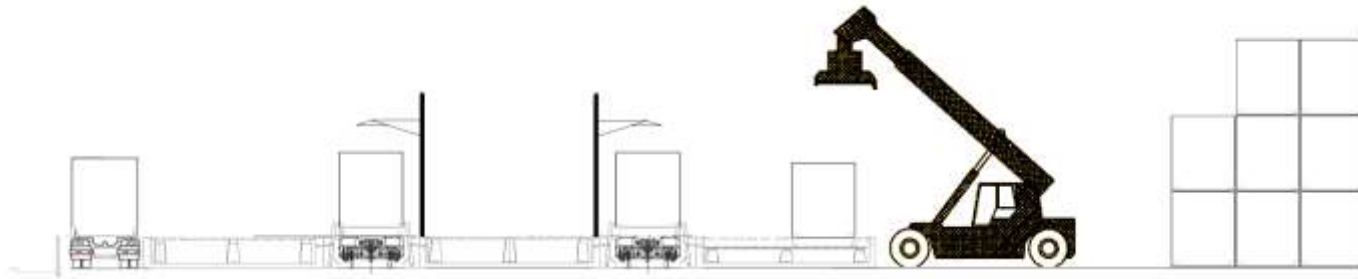
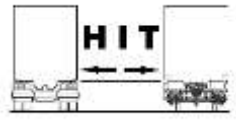


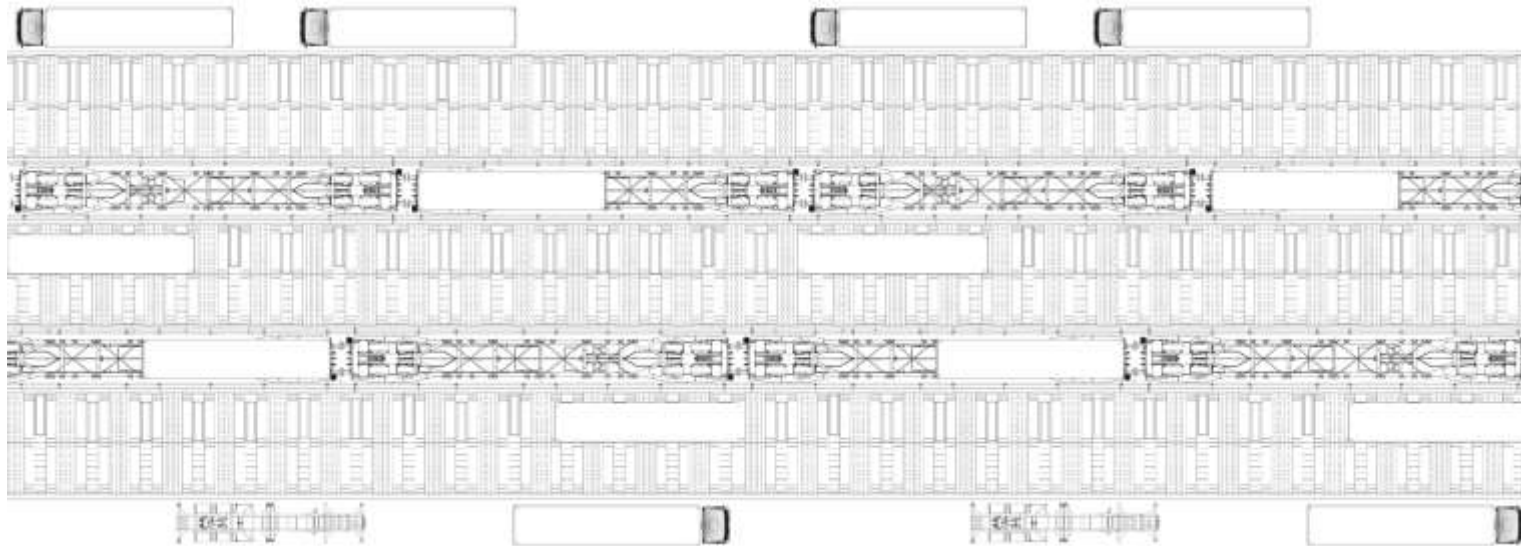
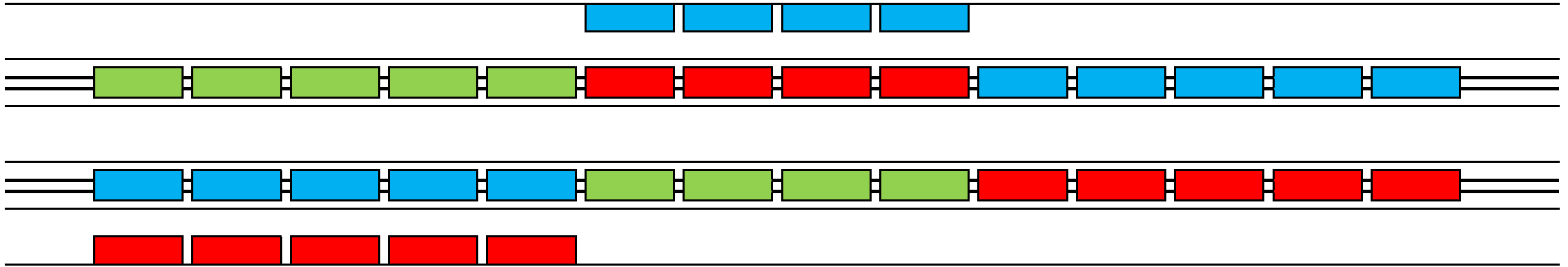
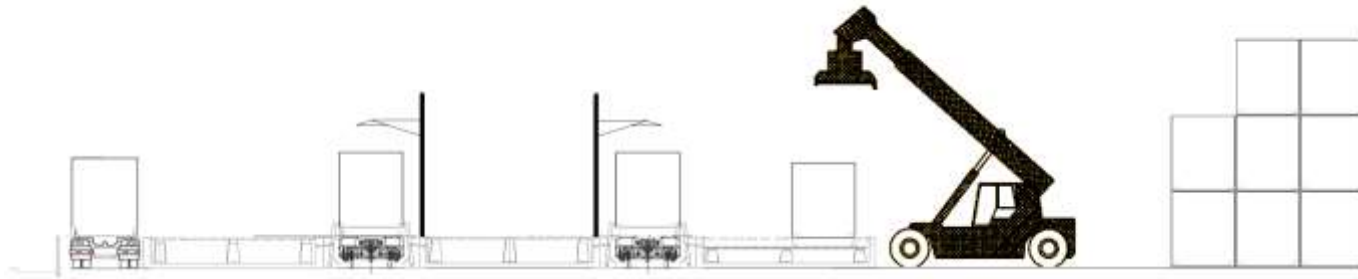
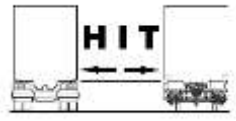
The outcome is a system, exhibiting following features:

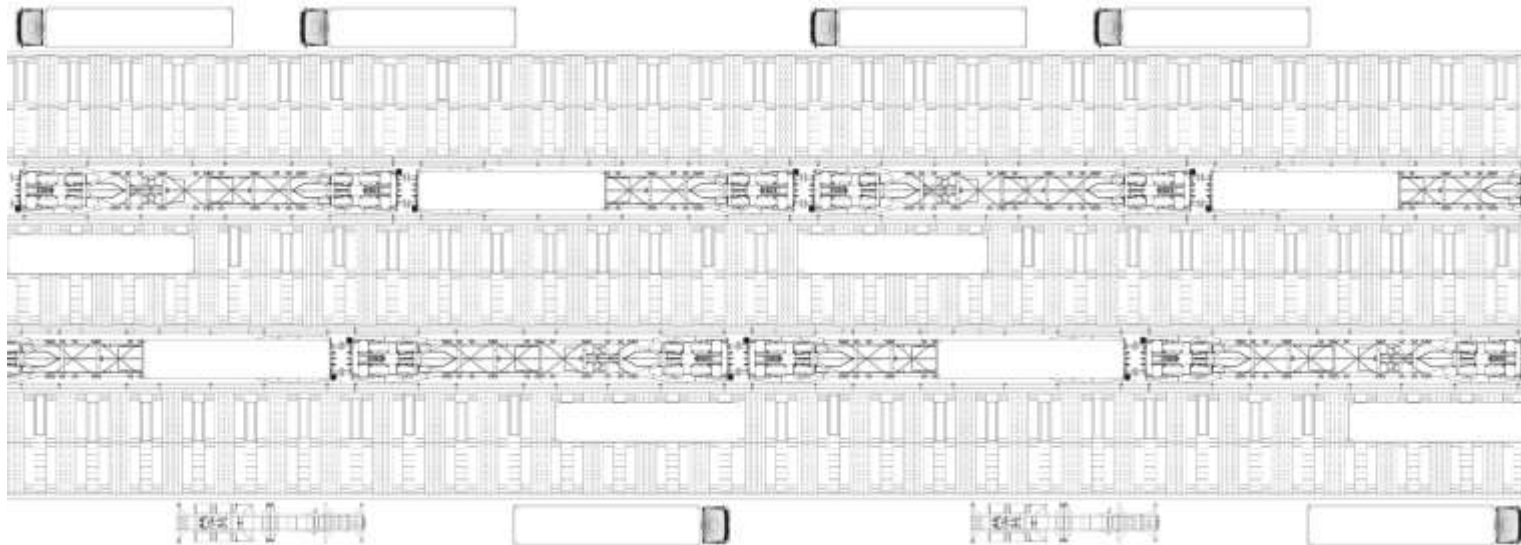
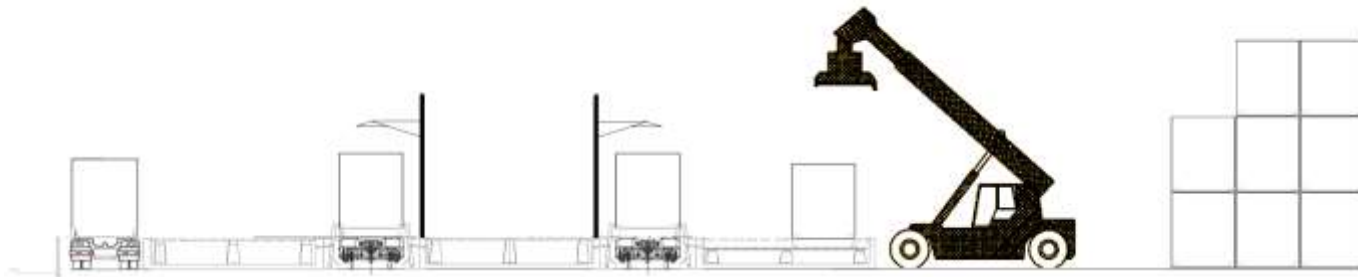
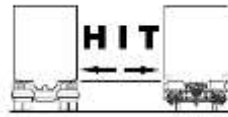
- Requires no adjustments of both rail and road vehicles
- Enables transshipments under the traction power line
- Enables transshipment of containers and swap bodies of all sizes and weights
- Enables construction of intermodal terminals of wide range of capacity from a single wagon up to full-length block train with appropriate investment and operation costs
- Enables automatization of transshipments, while all cargo units are loaded and unloaded to/from train simultaneously, so that the duration of transshipment is reduced substantially
- Enables loading and unloading of cargo units at the terminal by the driver of the road vehicle

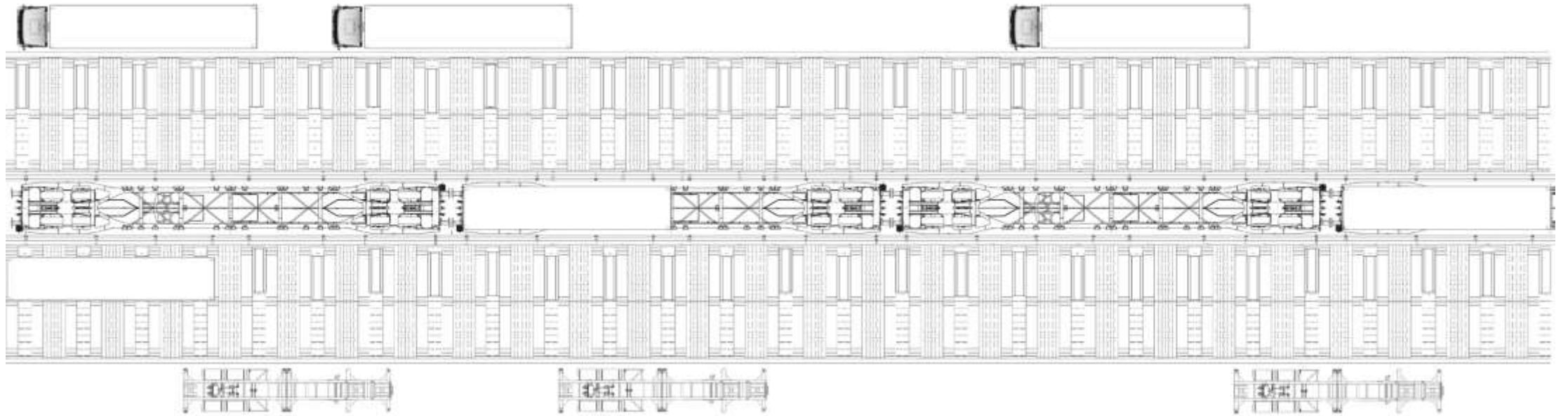
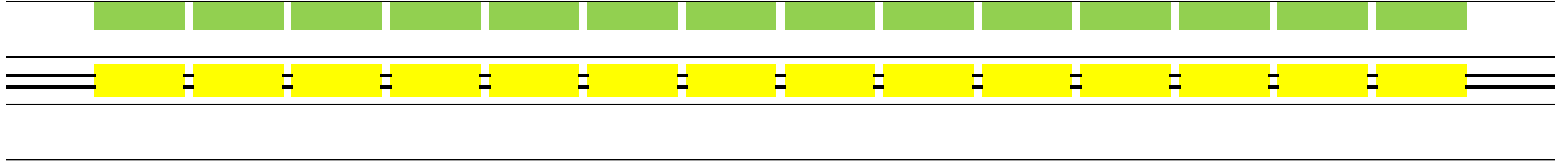
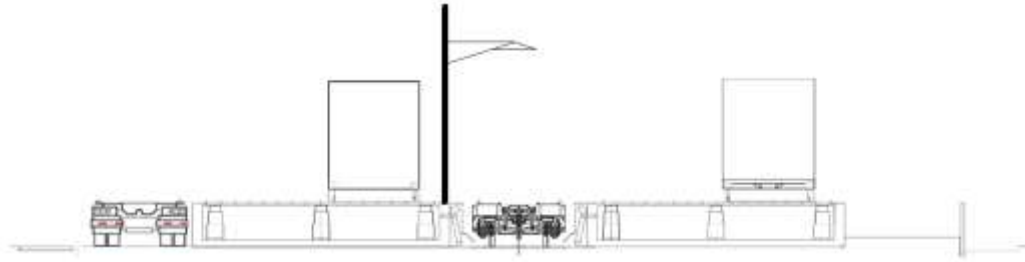
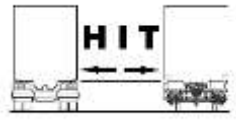


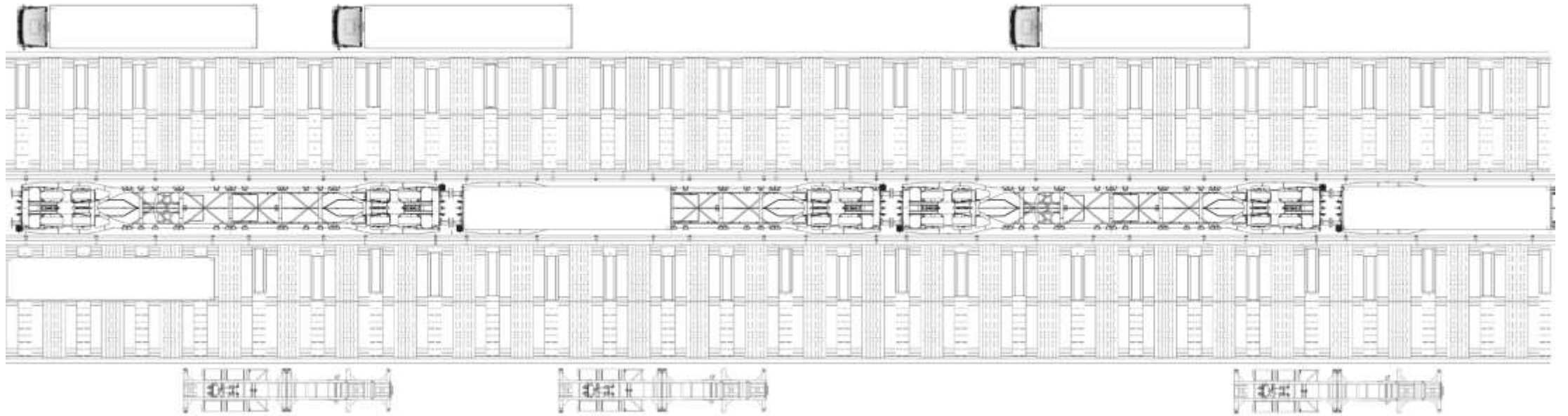
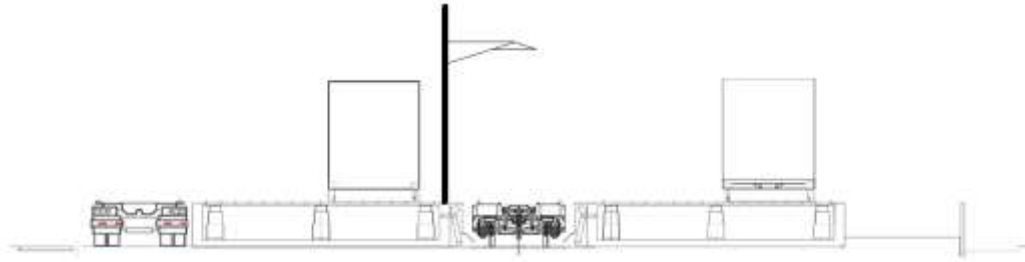
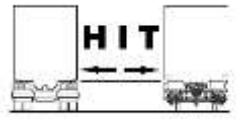


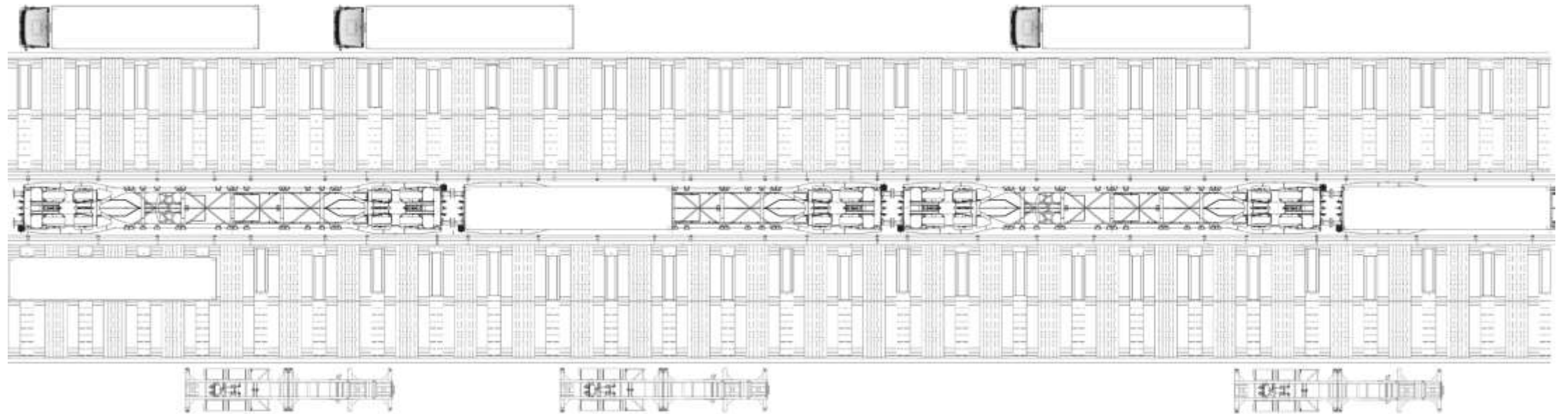
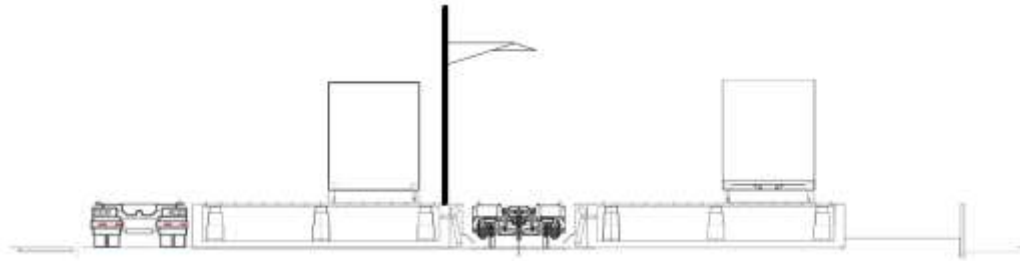
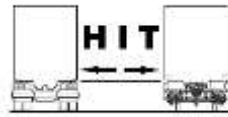


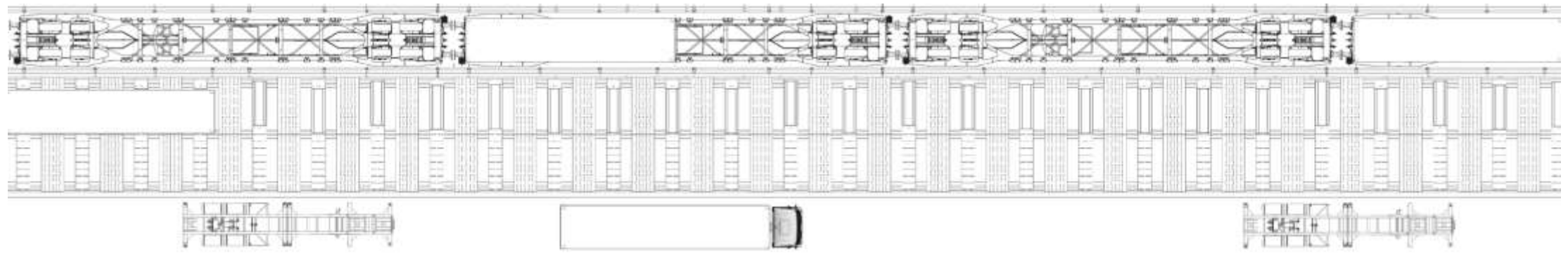
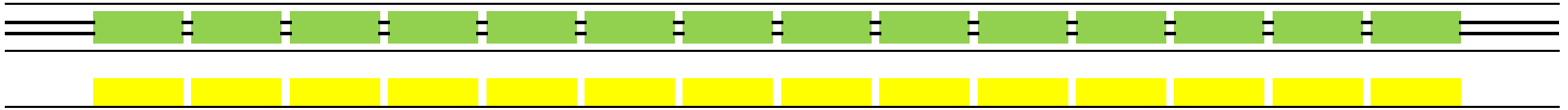
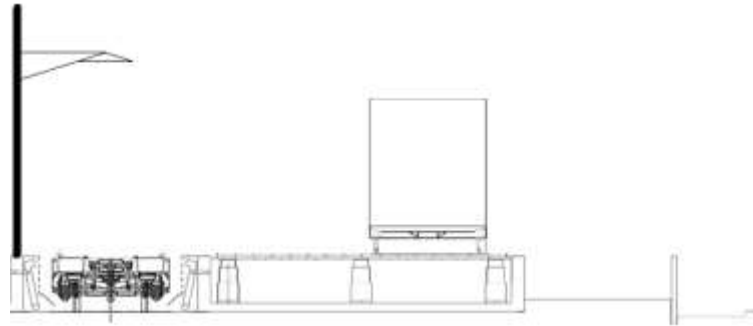
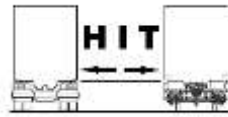


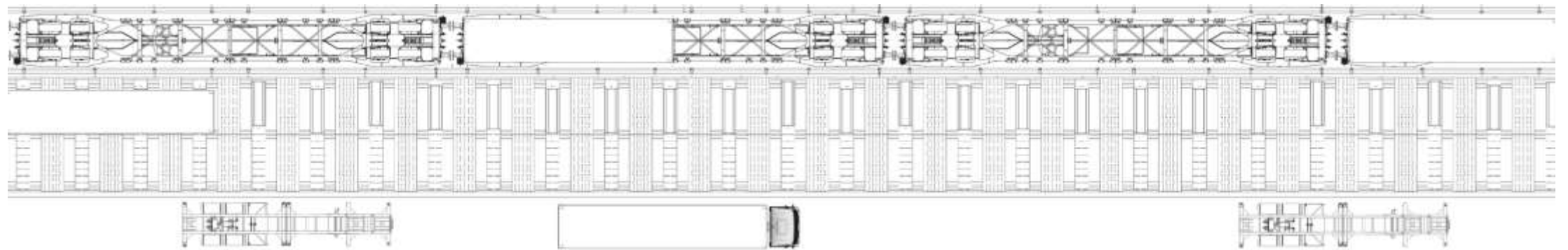
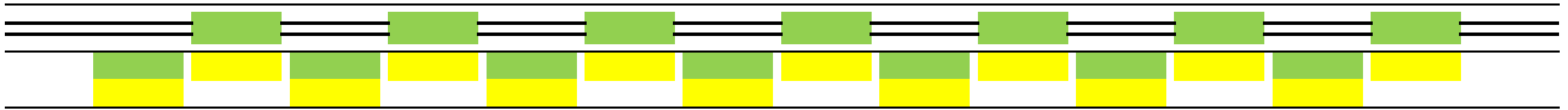
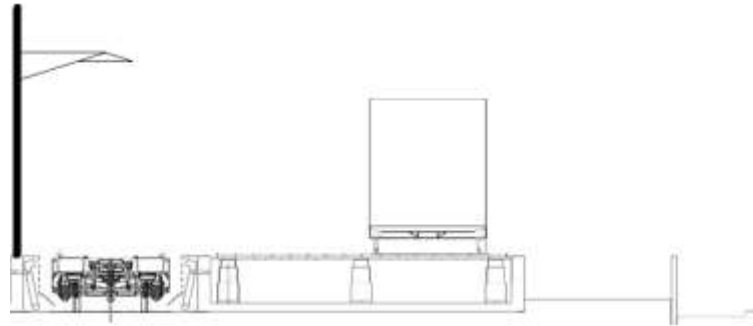
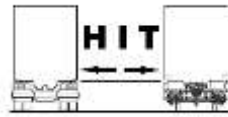


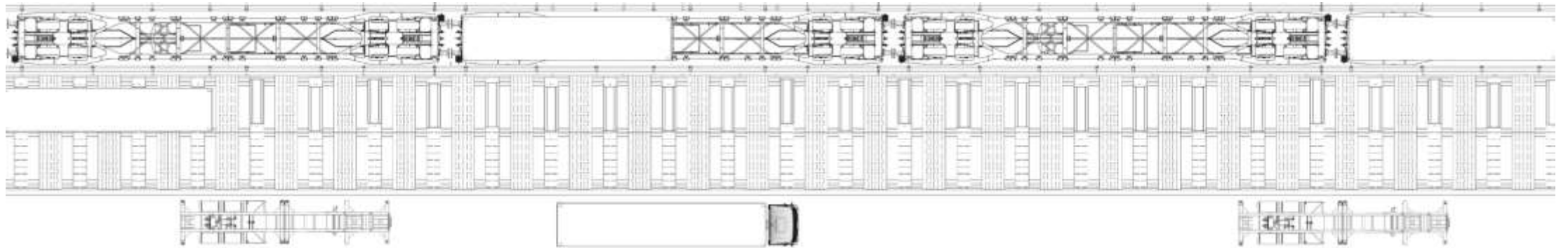
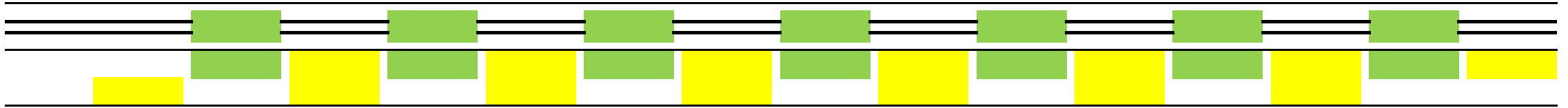
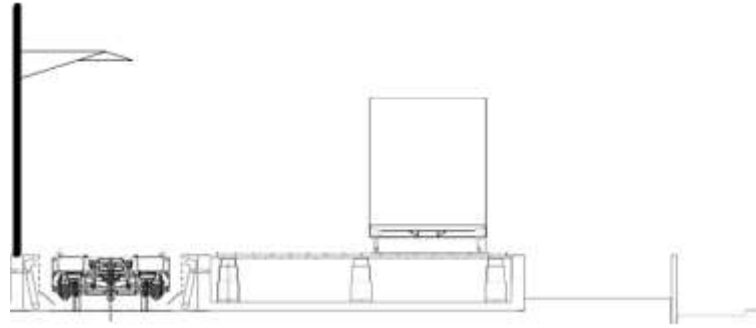
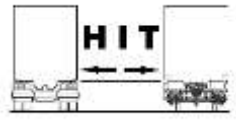


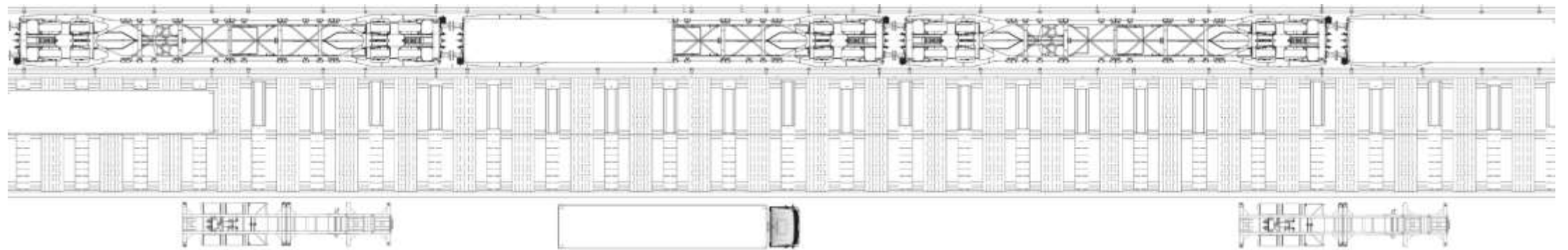
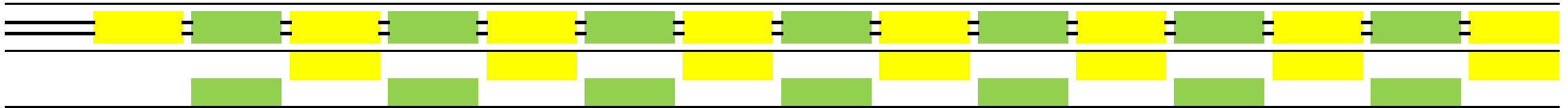
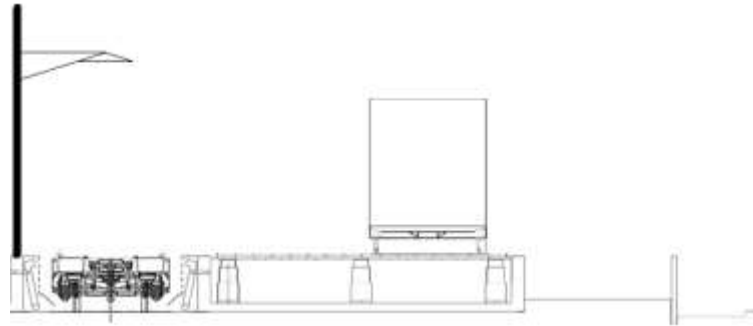
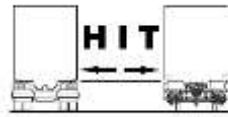


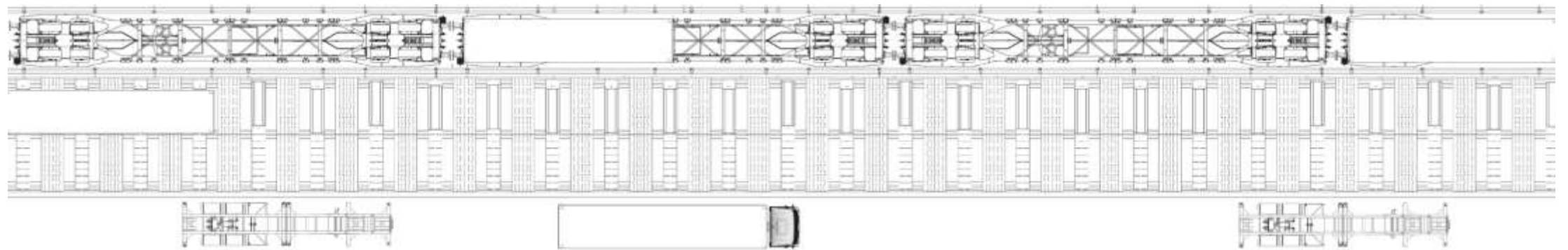
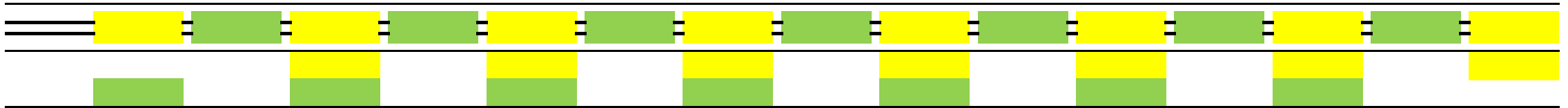
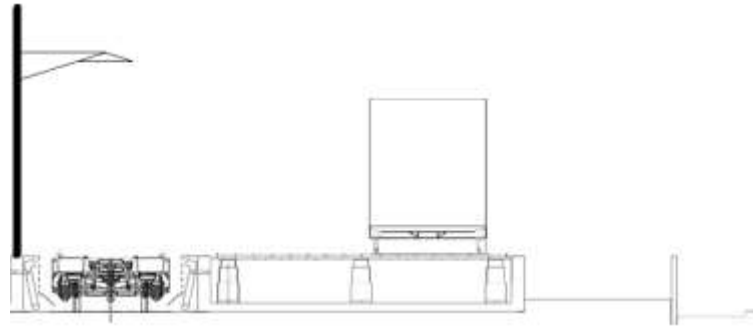
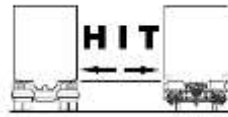


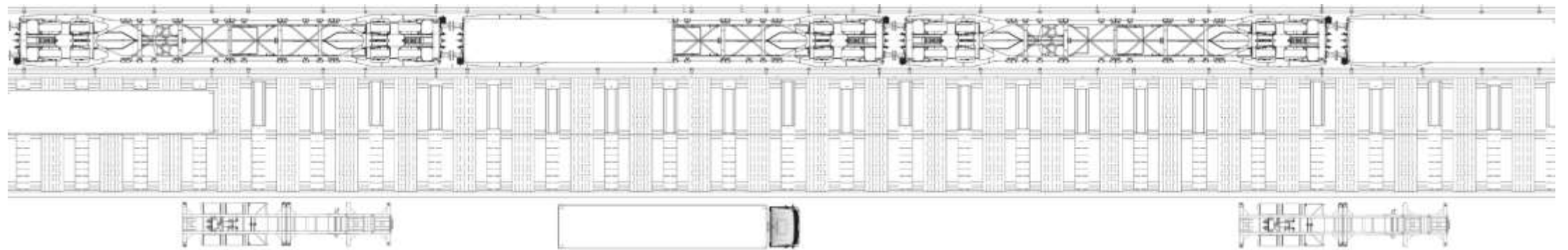
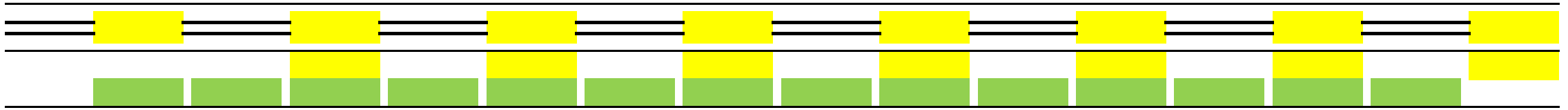
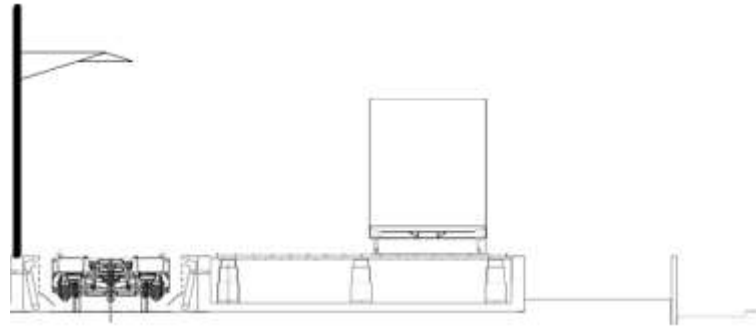
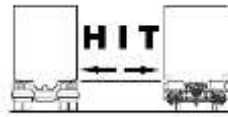


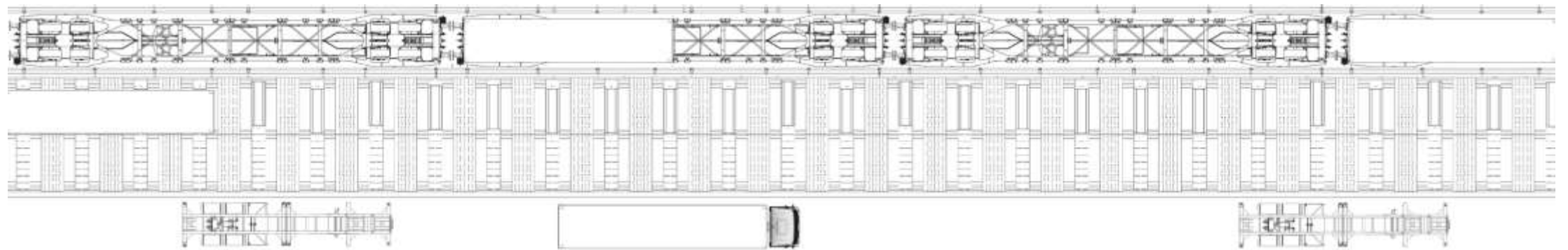
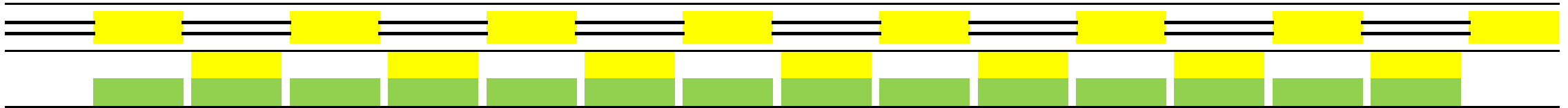
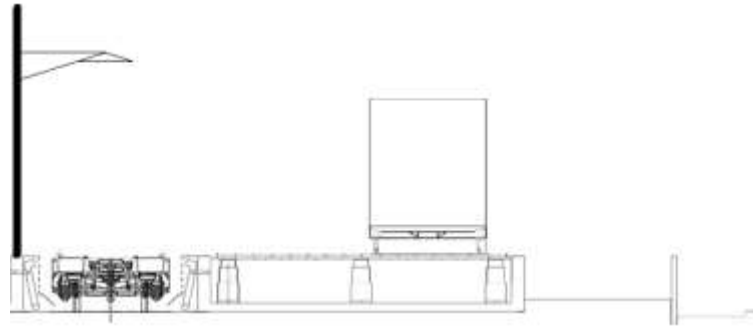


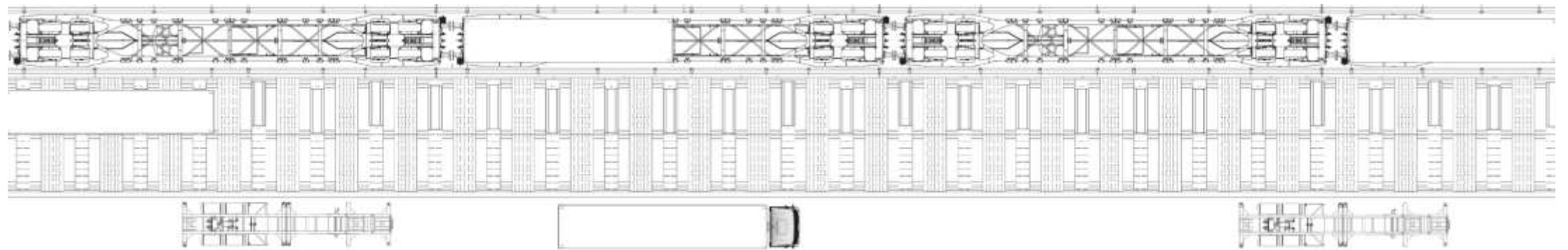
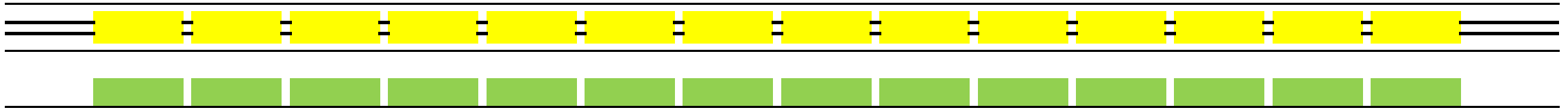
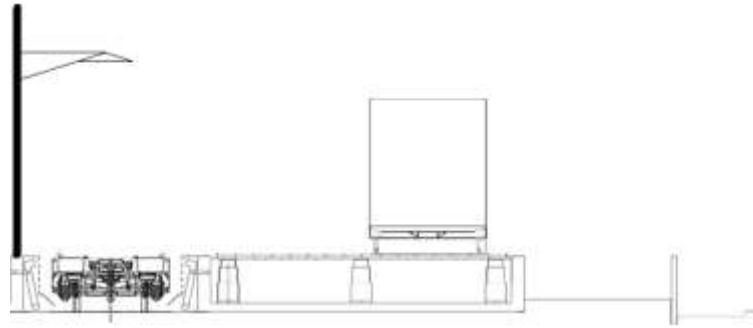
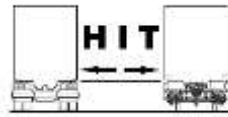


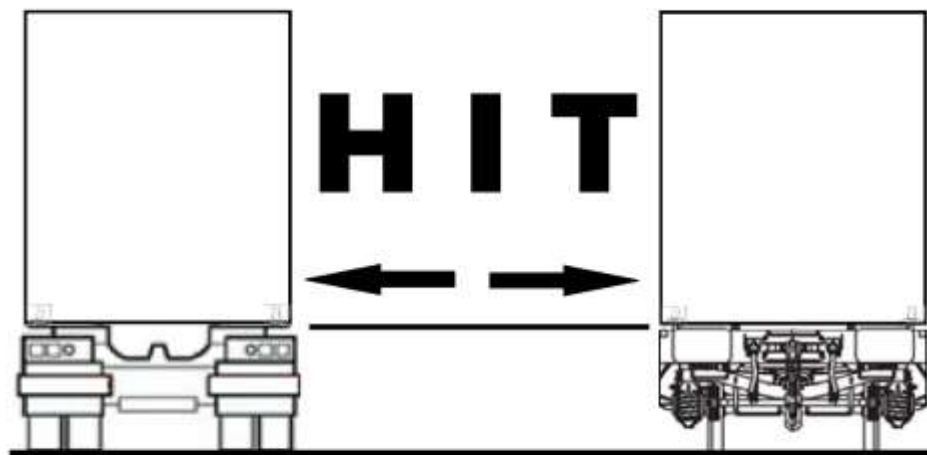












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