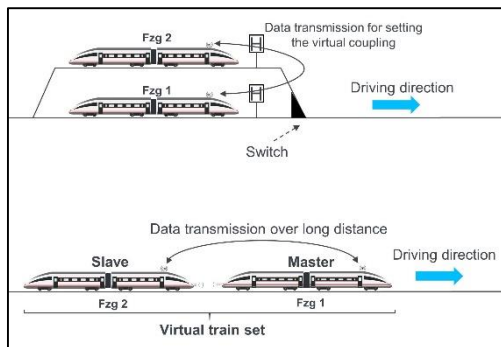


*Headway by the virtual coupling*



*Coupling process by the virtual coupling*

## Motivation

- Increase of capacity especially on lines and nodes with capacity problems using virtual coupling,
- Reduction of aerodynamic drag due to short headway,
- Possibility of universal coupling of rail vehicles

## Background

Up to now, the most commonly used operation procedure is the fixed block operation. Due to its deficiencies, some railway tracks and nodes in Germany have reached their capacity limits. One approach to solving this problem is virtual coupling (analogous to platooning in automotive sector).

## Seeked research results

- Determination of the safe headway between the virtually coupled trains
- Determination of the necessary headway from an aerodynamic point of view
- Influence of relevant parameters on headway
- Method for determining of the safe headway
- Risk analysis of the virtual coupling

## Approach

- Development of a suitable solution for the headway control
- Experimental analyses of the aerodynamic behavior in the model wind tunnel of the FKFS
- Analysis of the braking performance between virtually coupled trains in different scenarios
- Development of an operating concept



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