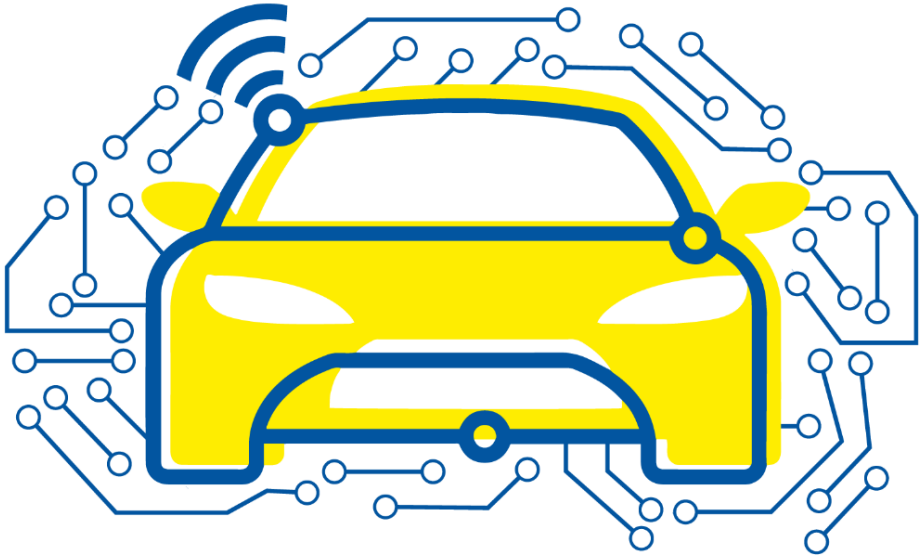
Automated and Connected Driving Challenges

Section 4 – Vehicle Guidance

Vehicle Guidance on Navigation Level

Lanelet2



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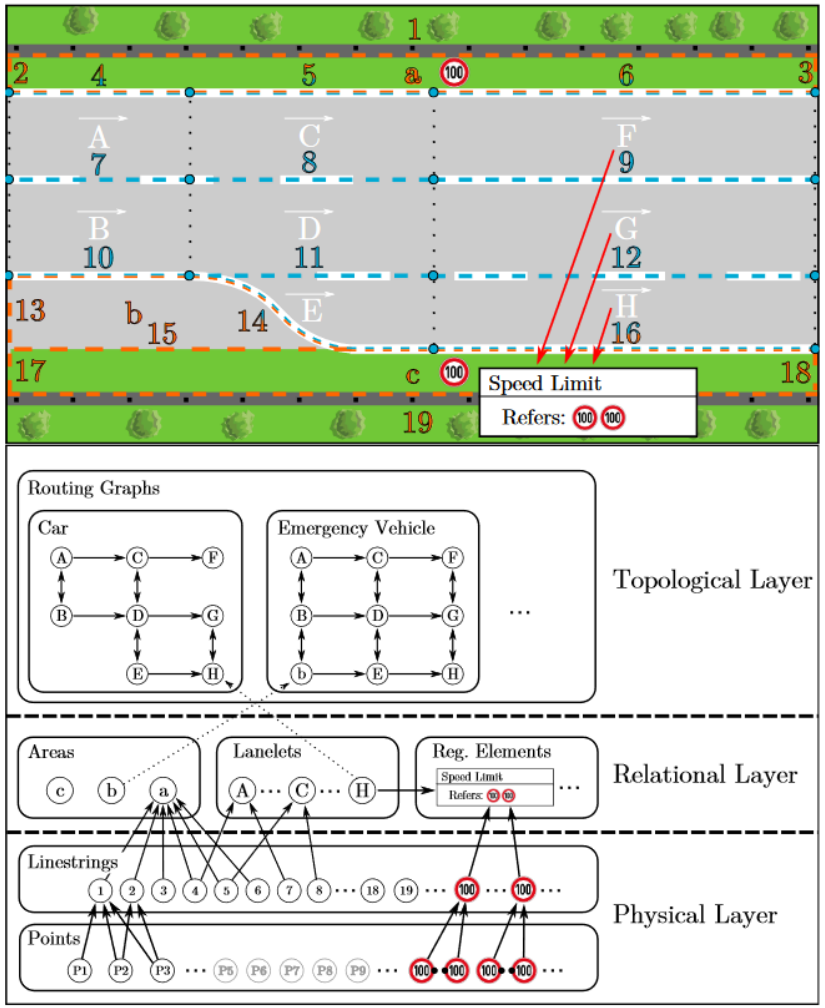
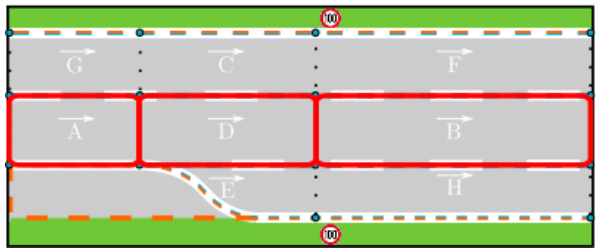
Vehicle Guidance on Navigation Level

Concept of Lanelet2

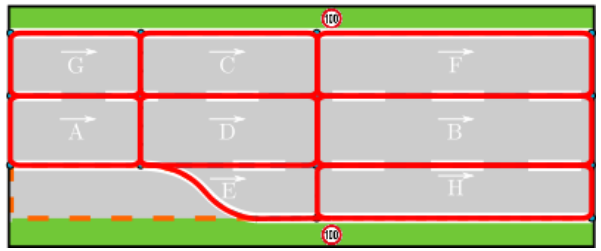


- A HD-map framework for automated driving
- A lanelet is defined by 2 line-strings describing a drivable lane
- The map contains relational information so a routing graph can be generated
- The framework includes a Dijkstra-Graph-Search implementation to find the shortest path and the route from the actual vehicle position to a desired target position

Shortest Path



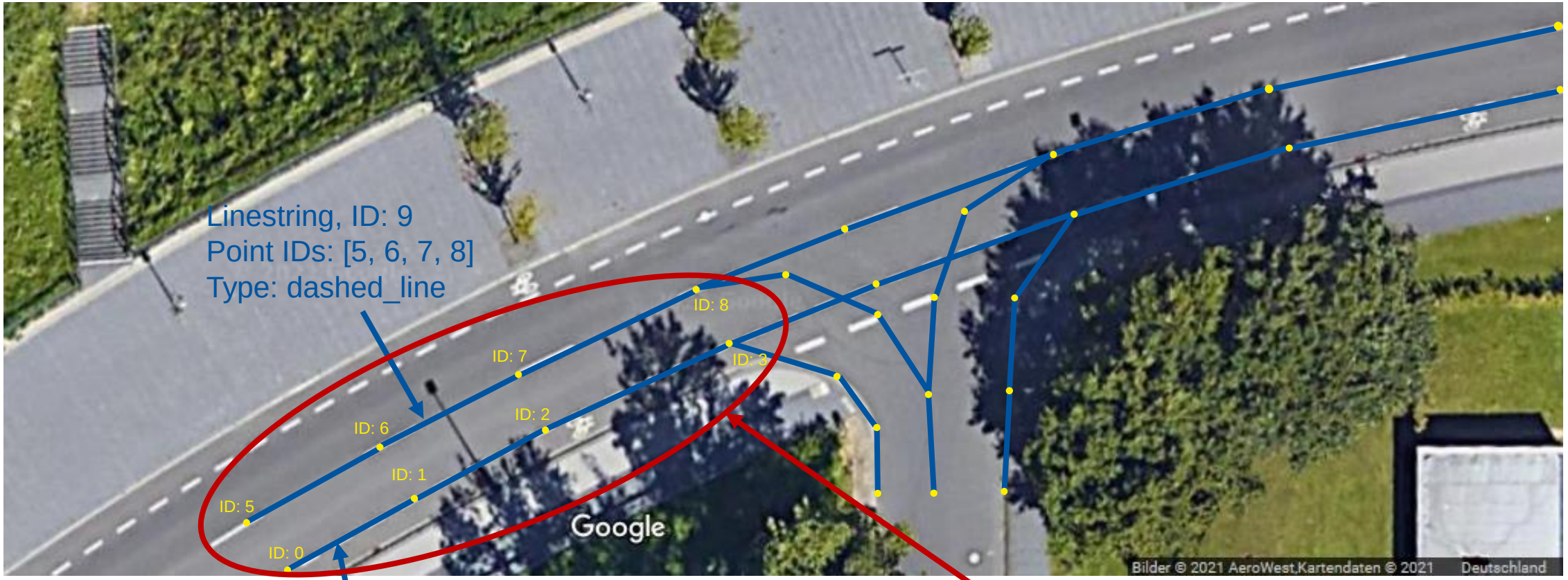
Route



Source: Poggenhans et al. 2018
Image: github

Vehicle Guidance on Navigation Level

Representation of a Lanelet2 Map



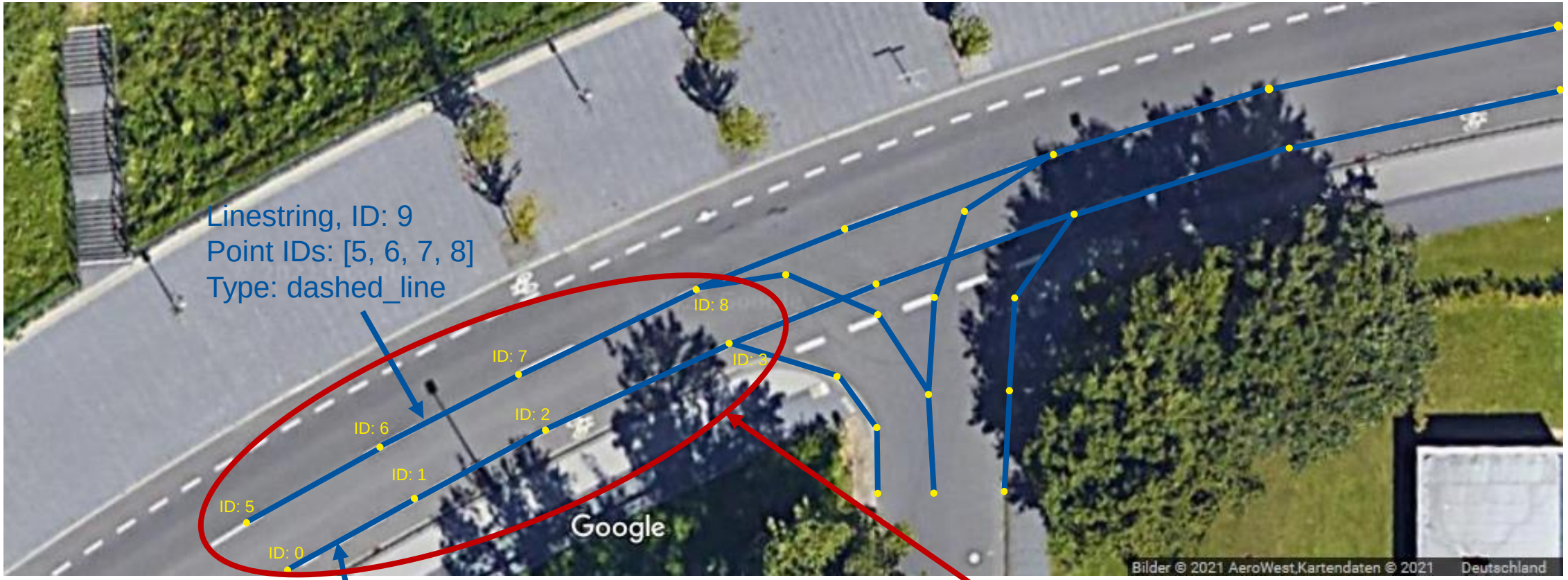
Source: Poggenhans et al. 2018
Image: google

Linestring, ID: 4
Point IDs: [0, 1, 2, 3]
Type: dashed_line

Lanelet, ID: 10
left → ID: 9; right → ID: 4

Vehicle Guidance on Navigation Level

Representation of a Lanelet2 Map



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