MERIDIAN Deliverable 2.2 – “D2.02 – ITP Information to NAP”

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Abstract

The Autobahn has introduced its "Truck Parking - ITP Info to NAP" project in MERIDIAN. This involves equipping parking spaces with radar detection and forwarding information on available free parking spaces to the German NAP (Mobilithek). This step is seen as necessary in Germany in order to better brand existing parking spaces for better use. Newly built parking spaces should be equipped with detectors during construction. As part of the funding in MERIDIAN, in addition to the equipment, the provision of data in the NAP and in the Autobahn app are also being funded. In addition, the Autobahn reserves the right to provide information on free parking spaces using appropriate interactive signage on the access roads to the rest areas.

This report and the accompanying map aim to present a comprehensive overview of Germany's equipped long-distance freight corridors for 2023 and 2024. These corridors are crucial for the efficient movement of goods across the country, enhancing trade and economic growth. This report highlights the key features, developments, and strategic significance of these corridors, emphasising truck parking areas equipped with LiDAR technology and the integration of this data into the Autobahn App.

D2.02 – ITP Information to NAP – DATA(.pdf)

1. Overview of Long-Distance Freight Corridors in Germany: Long-distance freight corridors in Germany are designated routes that facilitate the transportation of goods over large distances. These corridors are equipped with the necessary infrastructure to support high-capacity freight movement, including the extensive Autobahn network.

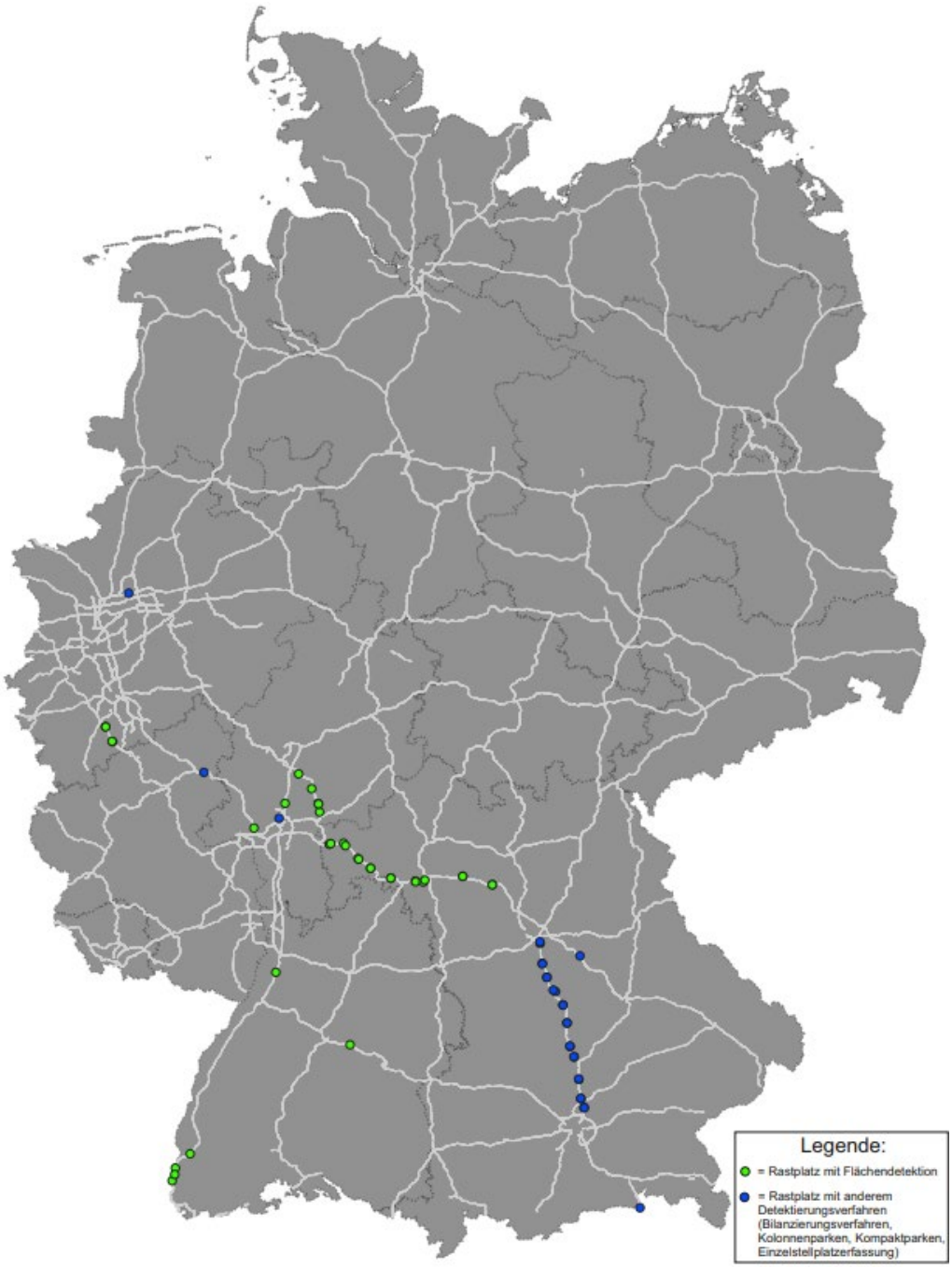

Figure 1: Locations of the equipped truck parking facilities, 2023 - 2024

2. Key Features:

- Infrastructure Enhancements: Significant upgrades were made to existing freight corridors, including the modernisation of highway systems. The Autobahn network has been enhanced with improved road quality and the addition of new lanes to reduce congestion.
- Technological Integration: Advanced technologies such as GPS tracking, automated freight handling systems, and real-time data analytics were integrated to improve efficiency and safety. A notable development was the installation of LiDAR technology in truck parking areas to monitor and provide real-time information on available parking spaces.
- Digitalisation: The integration of the data into digital platforms like Autobahn OS was accelerated, enhancing transparency, and reducing operational costs. The integration of LiDAR-equipped truck parking areas with the Autobahn allowed truck drivers to access real-time information on empty and full parking spaces, improving logistics efficiency and reducing downtime.

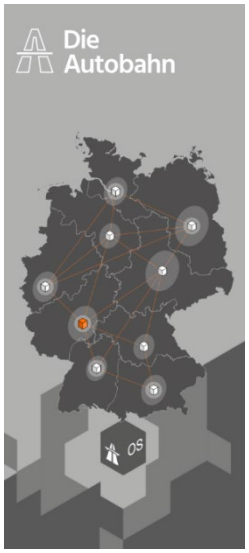

Figure 2 Autobahn OS

3. Strategic Importance:

- Economic Impact: The equipped long-distance freight corridors play a vital role in boosting Germany's economy by facilitating trade and reducing transportation costs in terms of safety-related measures. The Autobahn network is a key component in this system, supporting the efficient movement of goods across the country.

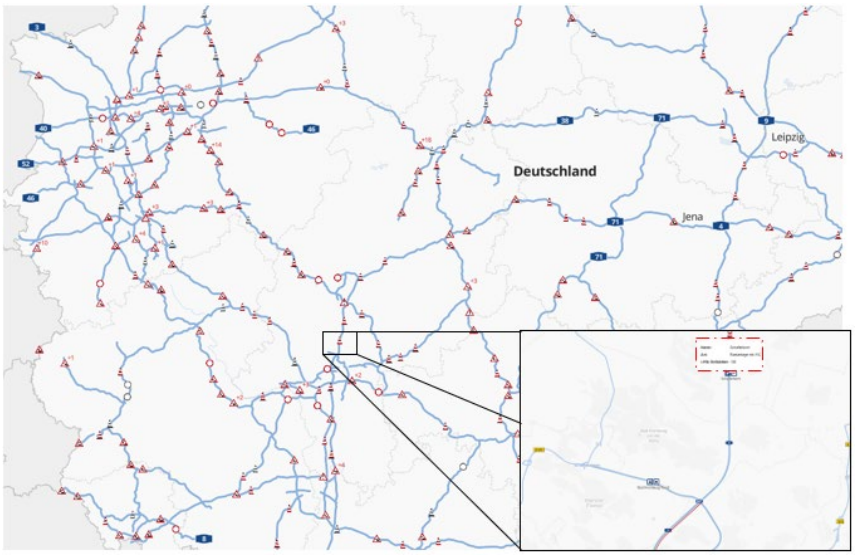

Figure 3 Extract from the current map of the highway showing the availability (number) of truck parking spaces

- Connectivity: These corridors enhance connectivity between major industrial hubs, ports, and markets, promoting seamless logistics operations. The Autobahn network provides critical links between key economic centers.
- Truck Parking Efficiency: The installation of LiDAR technology in truck parking areas and the integration of this data into the Autobahn App significantly improved the efficiency of freight operations. Truck drivers can now easily find available parking spaces, reducing search times

and enhancing overall logistics efficiency. The equipped long-distance freight corridors in Germany also play a crucial role in facilitating cross-border traffic to neighbouring countries. The Autobahn network connects seamlessly with the highway systems of neighbouring countries such as France, Poland, the Netherlands, Austria, and the Czech Republic. This connectivity enhances trade and economic cooperation within the European Union, ensuring efficient and timely movement of goods across borders.

4. Safety and Security Improvements for Truck Drivers:

- **Enhanced Surveillance:** The installation of LiDAR technology in truck parking areas not only helps in monitoring parking space availability but also enhances security. The technology also provides real-time surveillance, helping to deter theft and vandalism.
- **Lighting and Visibility:** Improved lighting in truck parking areas has been implemented to increase visibility and safety for drivers during nighttime stops.
- **Secure Parking Zones:** Designated secure parking zones have been established, equipped with barriers and controlled access points to ensure the safety of both drivers and their cargo.

5. Enhanced Highway Safety:

- **Reduced Highway Parking:** The availability of real-time information on parking spaces through the Autobahn App has significantly reduced the need for trucks to park on the highways. This has led to fewer instances of trucks blocking lanes or creating hazardous conditions on the roads.
- **Improved Traffic Flow:** With trucks no longer needing to search for parking spaces on the highways, traffic flow has improved, reducing congestion and the risk of accidents.
- **Safety for All Road Users:** The reduction in highway parking by trucks has enhanced overall safety for all road users. Clear and unobstructed highways contribute to smoother and safer driving conditions.

6. Future Outlook:

Looking ahead, the focus will be on further enhancing the availability of ITP information on the NAP as well as on Autobahn Apps like the Corridor management dashboard (Figure 4). Investments in technology, and infrastructure will be key drivers of future developments. The Autobahn network, with its advanced truck parking solutions and safety improvements, will continue to play a pivotal role in Europe. The integration of

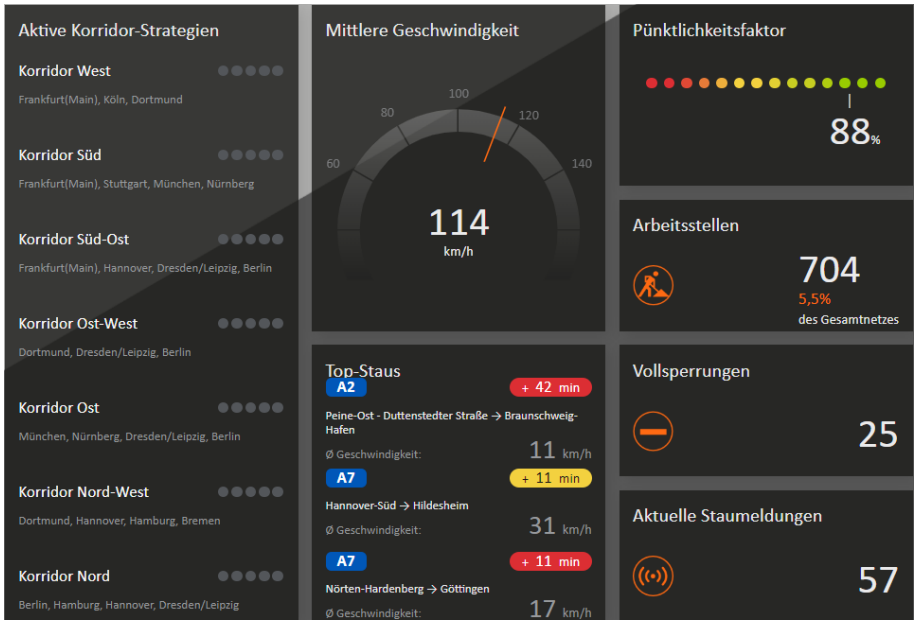

Figure 2 Corridor Management Dashboard

LiDAR technology in truck parking areas and the use of the Autobahn App for real-time parking information are key innovations that enhance logistics efficiency. Safety and security improvements for truck drivers, along with enhanced highway safety, further contribute to a safer and more efficient freight transportation system. Continued investment and innovation in this sector will be crucial for meeting future transportation needs.