



Future Mobility Park and ALE team to deliver network infrastructure for autonomous mobility



FUTURE MOBILITY PARK

All intelligence connected over secure and redundant network solution drives smart mobility

Customer Story

FUTURE MOBILITY PARK

MARKET: SMART MOBILITY
DEAL IMPLEMENTED: 2023

COUNTRY:
NETHERLANDS

COMPANY:
FUTURE MOBILITY PARK

Alcatel • Lucent 
Enterprise

Building a safe and sustainable urban centre

Future Mobility Park (FMP) is the first one-stop-shop testing service for autonomous vehicles in the Netherlands.

A playground to test sustainable and innovative mobility solutions, testing is underway for a wide range of progressive and inspiring use cases. Current applications include autonomous shuttles, buses, ferries, drones and a delivery robot, a Hyperloop train, and AI camera testing to optimise road safety for all kinds of vehicles.

Smart technology monitored remotely from a control centre means the FMP team can simulate live scenarios in order to test new technologies and address anomalies, well in advance of introducing these autonomous vehicles onto public roads.

For FMN and FMP, it is imperative to engage ‘as a society’ in smart mobility developments. A future where both humans and fully autonomous vehicles co-exist in urban centres will make the world more sustainable, safer, liveable and simplified.

A mission-critical network for autonomous vehicles

Alcatel-Lucent Enterprise is proud to collaborate with FMP and contribute to the future of Intelligent Transport Systems (ITS) by providing the mission-critical infrastructure that supports smart services.

With connectivity between the control centre and smart mobility services so crucial, ALE contributed LAN/WLAN and SD-WAN infrastructure solutions that are highly secure and fully redundant. This ensures a continuous stream of data from the autonomous vehicles, which best simulates a real-world environment.

Security optimised for data transmission

Future Mobility Park partnered with ALE to ensure the integration of all smart technology in the network. The backbone network ensures proper transmission of all data and provides optimal security when onboarding IoT. Redundancy ensures a seamless user experience, maintaining network connectivity even in the event of a problem.

To build the connected roads, several switches, access points and SD-WANs were deployed, providing a comprehensive and secure network backbone. Divided into several hermetic containers (VLANs), the network separates functions – such as the Lidar sensors, traffic-lights, control room, network management, employee Wi-Fi and guest Wi-Fi – based on macro- and micro-segmentation to improve performance and increase security.

The benefits of a subscription model

FMP is the first partner in the Netherlands to deploy its entire network using the ‘Network-as-a-Service’ (NaaS) model. Based on an innovative subscription plan, NaaS enables the customer to increase or decrease the number of users in its network. The cloud management tool helps deploy and instantly scale the network in response to business needs.

ABOUT FUTURE MOBILITY PARK

Known as the place in The Netherlands for inspiration, meeting, testing and research of innovative mobility.

An initiative of the Future Mobility Network (FMN) – an organisation concerned with how we will transport people and goods in the coming decades.

Intended for governments, education and knowledge institutions, and businesses.

Testing projects include:

- Control room for remote operations and monitoring
- Acoustic signaling at smart intersections for the blind
- Self-driving minibus called HagaShuttle
- Hyperloop train transporting people and goods through a vacuum tube

Visit www.futuremobilitypark.nl/ for more information.



Autonomous vehicles test track

“Since we want to recreate the situation as close to reality as possible at the test site, it is imperative that the entire infrastructure is functioning as a backbone and the data is handled extremely securely. As we are talking about autonomous vehicles that will be allowed on public roads in the near future, we and the municipality cannot afford any accidents. At the Future Mobility Park test site, we ensure that any potential errors that could cause accidents are fixed, in advance.”

LUCIEN LINDERS, CEO, FMP

CHALLENGES

- No tolerance for downtime as test centre must simulate real-life scenarios in order to identify and address issues
- Entire infrastructure must function as a single backbone
- Data security is paramount
- Require agility and flexibility to grow without high infrastructure costs that require network shutdown for implementation

SOLUTIONS

- An **Ethernet Ring Protocol (ERP v2)** ensures full redundancy of the network. In the event of a component failure, the network automatically reconfigures in less than 50 ms – a level of connectivity that will be mandatory for autonomous vehicles on public roads
- **Layer 2 and Layer 3 industrial, ruggedised switches** are hardened for outdoor situations and harsh environments. They are configured in a virtual chassis, which enables smart integration with the traffic lights and guards cabinet access using alarms and notifications
- All **IoT devices** are automatically onboarded and classified through 'Universal Network Profile' (UNP) features and a 'Unified Policy Authentication Management' (UPAM) platform
- A Zero Trust Network approach safeguards infrastructure against cyberattacks and breaches

PRODUCTS AND SERVICES

- [Network-as-a-Service by Alcatel-Lucent Enterprise \(NaaS\)](#)
- [OmniSwitch® 6360 Stackable Gigabit Ethernet Switch](#)
- [OmniSwitch 6865 Hardened PoE Industrial Switch](#)
- [OmniSwitch 6465 Industrial Ethernet Switch](#)
- [Versa Cloud Services Gateway 355-WLA](#)
- [OmniAccess® Stellar Access Point 1311](#)
- [OmniVista® Cirrus Network Management as a Service](#)

BENEFITS

- Predictable cost structure with NaaS
- Secure and redundant network for the always-on connectivity critical to road safety, with zero data loss
- Smart integration for simpler deployment and management
- Accommodations for growing capacity needs of next-generation mobility and IoT

"ALE's solutions ensure that we have a secure, redundant and reliable network infrastructure so that no data is lost in live communication between the various systems."

LUCIEN LINDERS, CEO, FMP



Drone platform

"Future Mobility Park is all about the transportation of the future. As the FMN and FMP team are working on innovations in the field of autonomous mobility, it is imperative for us to provide the best possible infrastructure. The feedback we have received from joint brainstorming is that we have been able to provide a solution that is as close to reality as possible and one that is future-proof."

JAIMY BUIKS – COUNTRY BUSINESS LEADER NETHERLANDS, ALE

"It is only a matter of time before public road tests will take place in the Netherlands and Alcatel-Lucent Enterprise, as an ICT vendor, has been involved in this from the beginning. As a global organisation, we are incredibly proud of that."

ESLI COENRAAD – DATA PRE-SALES ENGINEER, ALE



Hyperloop

