

CUSTOMER STORY

IBOMADE



400+ Connected Traffic Displays

20+ Locations

IBOMADE drives traffic technology 4.0 with intelligent and sustainable LED Displays.

With ever-increasing traffic on German highways and a nationwide goal of reducing fatal traffic accidents to a minimum, federal states require modern technology to regulate, redirect and analyze traffic. German-tech company IBOMADE enables just that.

IBOMADE's multi-purpose, solar-powered LED panels can display traffic jam warnings, variable speed limits, dynamic detours, and capture traffic data and real-time surveillance footage. Combined with a cloud platform where customers can program and manage their stations, IBOMADE offers federal states an all-in-one solution for intelligent traffic management.

In less than a year, IBOMADE has developed its IT infrastructure and products embedded with the EMnify cloud communication platform. It now delivers a complete solution to the highway authorities of Hessen, Bavaria and North Rhine-Westphalia.



"We were searching for a solution with an affordable and flexible pricing model, remote access to our devices, and a platform deployed in the cloud, like us. We found what we were looking for in EMnify."



About:

- Founded in 2019
- Offices in Hockenheim and Leipzig
- Intelligent traffic technology provider



Goal:

Helping federal states reduce traffic accidents and provide detailed road analysis.



Solution:

A solar-powered, portable, and freely programmable LED-panel station that can display and update traffic warnings or redirections in real-time.



Why EMnify:

Connect:

- **Multi-Network IoT SIM:** Maximum product uptime and availability with reliable cellular connectivity.

Operate:

- **Web Portal:** Full visibility and control of SIM activity, data usage, and costs.
- **Network Control:** Proactively blocking problematic networks in areas with poor service availability.
- **OpenVPN:** Secure remote access to all LED panels for troubleshooting.



TOBIAS MOLITOR

Head of Technology & Production, IBOMADE

The need for intelligent traffic management

Since 1991, traffic participants on German highways have increased by 31% and the number of traffic jams quadrupled, according to the German Ministry of Environment. Traffic jam warning systems, therefore, play a vital role, as they can inform drivers about congestions at an early stage and thus prevent rear-end collisions.

“Measuring vehicle flow with cameras and sensors enables us to analyze traffic situations quickly and send the relevant information to our LED displays,” explained Tobias Molitor, Head of Technology at IBOMADE. ***“The reliability of the communication naturally plays a major role here,”*** he added.

Speed limits at construction sites may cause congestions, however, they are crucial to the safety of construction workers on site. ***“Our panels update speed limits at construction sites using time-based intervals to ensure a safe working environment,”*** said Molitor.

To counter road congestions during the holiday season, federal states needed real-time data on traffic participation. ***“Our stations equipped with cameras count the traffic and transmit the data to the highway operational teams for analysis and surveillance of construction sites, machinery, and warehouses,”*** explained Tobias Molitor.



“Our stations are set up with freely programmable, differently sized LED-panels, optional warning lights or cameras, depending on what our customer needs.”

– Tobias Molitor

Head of Technology and Production at IBOMADE



Finding a reliable communication partner

In Germany, highway projects are assigned through tendering. Network availability measurements are a required procedure for connected traffic solutions.



“The cellular service must have at least 95% availability, and it must be possible to access multiple networks.”

– **Tobias Molitor**

Head of Technology and Production at
IBOMADE

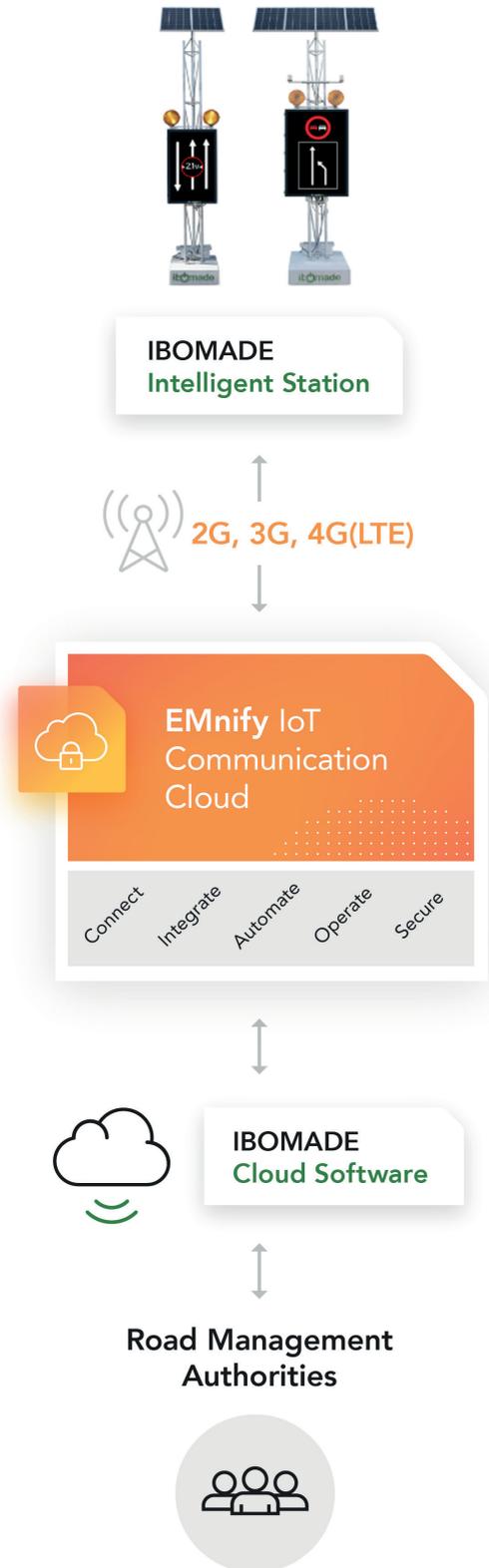
As such, EMnify’s multi-network IoT SIM that comes with a **99.99% connectivity uptime** was perfect match for IBOMADE.

With a highly productive team of engineers and a short time-to-market goal of one year, IBOMADE was also looking for a fast, reliable, and scalable communication solution for their stations that met their requirements.

“As a startup, we wanted to test the service of SIM cards before buying hundreds. Unfortunately, the big market players took too long to send us any evaluation kits,” remarked Molitor.

“With EMnify, everything was much easier. Our rollout plan for this and the next years was quickly understood and test SIMs were delivered immediately,” he added.

Furthermore, the benefit of a cloud-native partner, with deep knowledge of AWS services, gave IBOMADE assurance, as its solution runs on AWS.



The right features for successful operations

"We mainly use the web portal to activate or deactivate SIMs, monitor network status and consumption costs," said Tobias Molitor.

The portal also enables IBOMADE to actively steer the network usage of their stations.

"We utilize the network blacklisting feature specifically outside of localities, whenever our stations have data transmission issues, to ensure uninterrupted service," said Tobias Molitor.

As battery replacements often lead to inflated costs due to highway lane closures, IBOMADE powers their stations in an ecological fashion by harnessing solar energy. Troubleshooting the stations manually can lead to similar high costs.

"Although our stations run highly self-sufficient, we occasionally rely on remote access for troubleshooting purposes. With EMnify's OpenVPN service, we can quickly log into stations to resolve issues without having to go onsite," explained Tobias Molitor.

On the road to future growth

After just a year of development, IBOMADE began production in 2020 in Hockenheim. Now their solution is operating all over Germany's biggest federal states.

With EMnify's fast and reliable communication solution embedded into the IBOMADE system, the company is planning to expand its customer base to the remaining federal states of Germany and other European countries, paving the way to a safe and efficient traffic environment for all.

