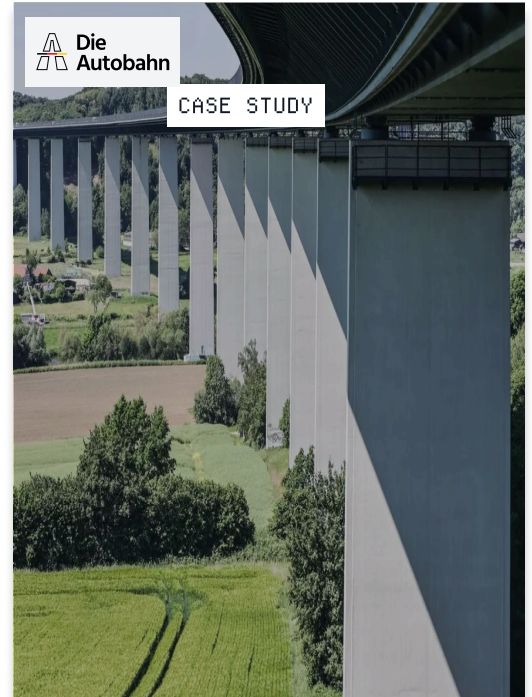


Die Autobahn GmbH des Bundes: Preventing Sudden Closures

Mintard Bridge

With over half of Germany's highway bridges exceeding their 50-year design lifetime, the risk of unexpected closures is growing. The Mintard Bridge in North Rhine-Westphalia is one such critical asset: over 80'000 vehicles cross it every day. Closing this junction, even temporarily, would cause massive economic damage to the region.

To prevent unexpected shutdowns, we equipped the Mintard Bridge with 150 sensors. Our platform processes 100'000 data points per second, translating raw data into early damage detection.



By monitoring real bridge behavior, data can reveal whether a structure needs intervention sooner than expected, or is in far better condition than assumed. The goal is not to close bridges as a precaution, but to use reliable data to determine when and where action is truly needed.

The level of detail we provide allows engineers to act early and precisely. In practice, this may mean temporarily reducing traffic load — closing a lane or imposing truck restrictions — to keep the bridge open as long as possible and avoid large-scale closures.



Huge Economic Impact

Closing a highway bridge forces traffic onto alternative routes, increasing travel times, fuel costs, and logistics expenses for businesses and communities.

A 2022 study found that the sudden closure of a single highway bridge in Germany, with 60'000 daily vehicle crossings, caused economic damages amounting to €1.8 billion.

Source: IW Consult (2022) — Folgen der A45-Sperrung: Eine ökonomische Schadensbetrachtung