

# BTC

## #WeliveAI

Vision becomes reality

„How **MAN** is on the way to autonomous driving with AI processes.“

### **Artificial intelligence must also learn**

How can an intelligent system be trained to recognize dangerous and unplanned incidents and conditions and act correctly? And how many tests does this system have to go through for people to trust it?

What happens naturally and instinct-driven, must be technologically developed via different artificial intelligence methods and tested over and over again.

### **Zero error tolerance applies**

AI is already in use in many areas nowadays. But human lives are rarely at stake. When it comes to autonomous driving, the safety standards are particularly high and the systems cannot afford to make any mistakes. Since July 2017, this has been ensured by experts from BTC Embedded Systems AG. The subsidiary of BTC AG is a specialist in the field of model-based software development, testing of safety-critical embedded

systems and verification strategies for autonomous systems. The experts continuously test the systems according to the highest standards.

### **Artificial intelligence is the automation intelligent behavior**

The requirements for testing autonomous systems are so complex that artificial intelligence is also used here. The part of the development and training of these AI-based testing procedures BTC AG takes over. By processing video footage and sensor data with machine learning methods, our Data Scientists answer the question of when an autonomous system has been sufficiently trained to meet current and future safety standards.

### **Cloud & AI from one source**

For the necessary enormous data volumes in the high terabyte range it requires the development and operation of a cloud-based data processing pipeline. Especially for the automotive sector, BTC bundled cloud development & consulting skills. Experienced consultants and developers from the areas of cloud and AI are central contacts for MAN. Another step toward meeting the highest level of security and competence.

# Facts

## Project scope

Implementation of AI projects in the project context such as development, evaluation and operation of various machine learning models.

- Among others Convolutional Neural Networks with use of Tensorflow and Keras
- Architecture consulting
- Construction and operation of a cloud-based data processing pipeline for data volumes
- GDPR compliant process for receiving and processing personal video data streams

## Benefit

- A component on the way to technology leadership
- Innovation in the field of autonomous driving
- Central contact persons with cloud and AI experience



## MAN at a glance

MAN Truck & Bus is one of Europe's leading commercial vehicle manufacturers; it provides transport solutions and has an annual turnover of over 9.5 billion euros (2020). Its product portfolio includes vans, trucks, buses, diesel and gas engines and a range of services relating to the transport of passengers and goods. MAN Truck & Bus is a TRATON SE company.

## Our latest products and services

Our portfolio extends from vans weighing a total of 3.0 to 5.5 tons, trucks in the 7.49 to 44 ton total weight range to heavy special-purpose vehicles with a total towing weight of up to 250 tonnes. This makes MAN a full-range provider covering all weight classes. The company also produces urban and intercity buses, coaches and bus chassis under the MAN brand as well as van-based minibuses and luxury coaches under the NEOPLAN brand. Our portfolio is rounded off by industrial engines for marine, on-road and off-road applications as well as comprehensive services relating to mobility.

## Our objective

"Simplifying customer business by means of leading sustainable solutions." We aim to simplify business processes for our customers by coming up with cutting-edge solutions to achieving sustainability.

Quelle: <https://www.mantruckandbus.com/en/company/our-company.html>

