



## Smart Pedestrian Crosswalk

MODULAR TRAFFIC MANAGEMENT

According to Eurostat, the European Union's statistical office, more than 90% of road accidents are caused by human error. In addition, it has been found that more than a third of accidents involving pedestrians occur on unregulated pedestrian crossings. Bercman's Smart Pedestrian Crosswalk (SPC) helps in solving this problem.

The Smart Pedestrian Crosswalk (SPC) is a modern traffic management device that makes uncontrolled crossing safer for everyone.

The modular system uses the latest hardware and software to detect pedestrians and vehicles. The main task of the SPC is to increase the awareness of nearby road users and to warn road users of possible dangerous situations.

The warning lights on the post will only be activated if a

pedestrian crosses the road. In the event of speeding, red LEDs can be displayed to the driver.

Crossings are different and therefore the adaptability of our safety enhancing equipment is very important. After installing and calibrating the SPC equipment according to the local conditions, the SPC will work in the best way with the same reliability for 1 + 1, 1 + 2, 2 + 2 as well as other lane variants.

The SPC can be installed onto any existing traffic pole in proximity of a crosswalk. If needed, new passive safety certified poles will be used.

If required, the SPC devices can be equipped with additional modules, including comprehensive pedestrian and vehicle statistics, traffic light controllers, environmental data etc.

## SPC modules

### Camera-based detection

- High and wide viewing angle on both sides of the crosswalk and its roadside (indicated in the figure)
- Directional detection of pedestrian movement

### Pedestrian analytics

- Anonymous counting and direction tracking
- Video recordings from the crosswalk

### Environmental data

- Air temperature, humidity, barometric pressure and lighting level
- Road temperature (optional)
- Air quality (CO<sub>2</sub>) and noise level

### Warning module

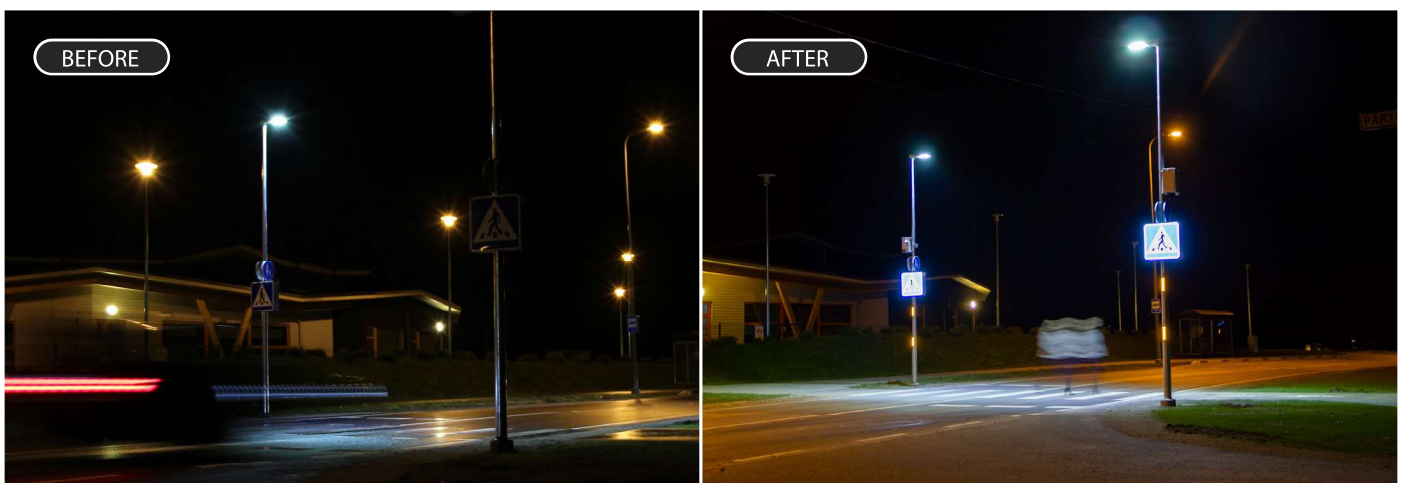
- Automatic backlit retro-reflective traffic sign that adapts to the external light level
- Yellow and red warning lights on the post with programmable flashing patterns
- Warning sounds and messages

### Statistics

- Data transmission over a mobile network
- Statistical reports in the form of graphs and tables (API available)
- Automatic alerts and notifications
- Cloud-based GDPR privacy-compliant Bercman management console

### Traffic analytics

- Counting of vehicles from a distance of 1 to 175 meters (incl. on curved and 1 + 1, 1 + 2, 2 + 2 or up to 3 + 3 roads)
- Classification of vehicles (5 different classes)
- Current & average vehicle speed
- Direction statistics
- Registration of speeding
- Wrong way driving vehicle detection
- Monitoring the ban on lorries
- 85th percentile speed



A crosswalk in Estonia before and after SPC installation.