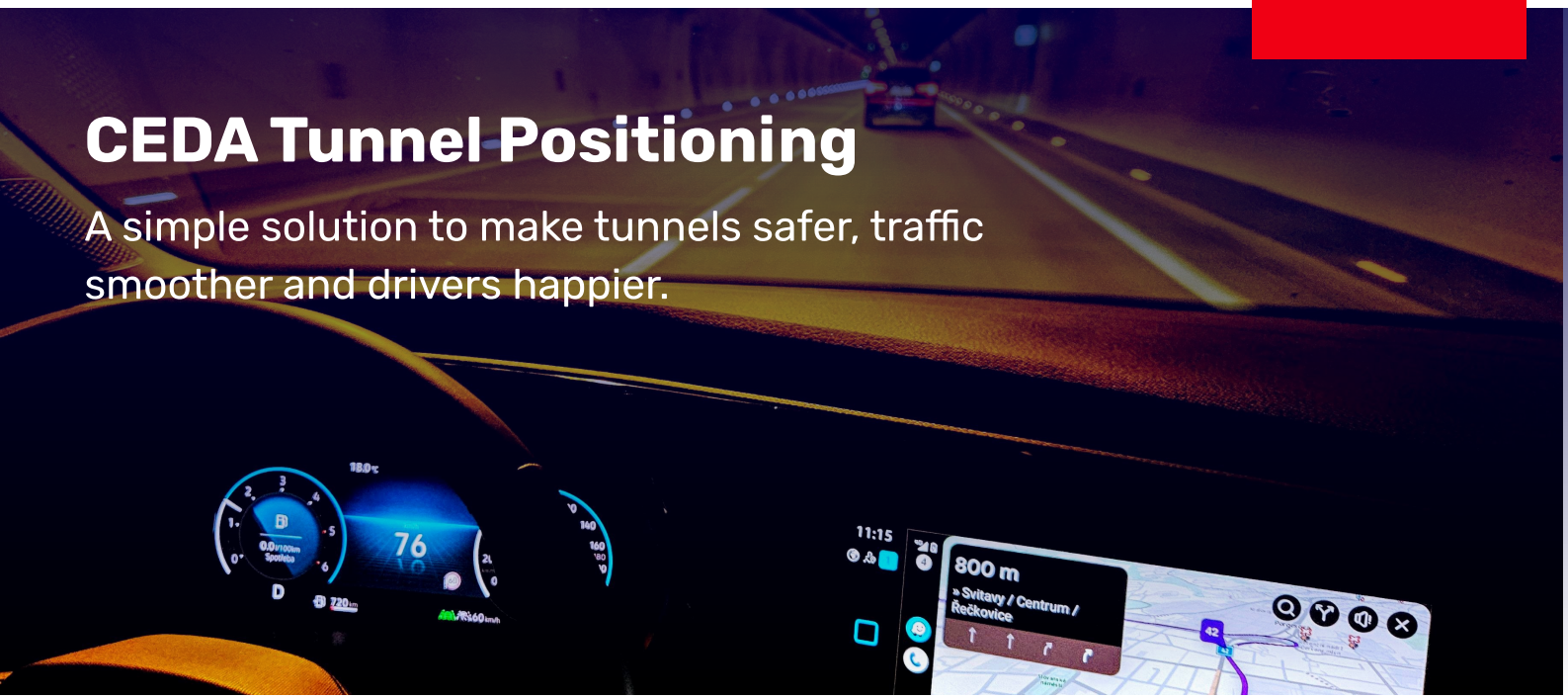
CEDA

Localization.

CEDA Tunnel Positioning

A simple solution to make tunnels safer, traffic smoother and drivers happier.



Conventional navigations don't work properly in tunnels

Navigation using satellites **in tunnels** does not work reliably because the **satellite signal does not reach the required quality**.

Incorrect localization and navigation instructions coming at the wrong time can cause many **stressful and dangerous situations,** including **traffic accidents**.

In addition, choosing an inefficient route can **unnecessarily burden traffic** in some locations. In addition to unpleasant waiting, this increases the risk of traffic accidents and produces emissions and noise.

Simple yet inexpensive Bluetooth localization infrastructure

The infrastructure comprises small battery-powered devices that are installed on the tunnel walls. They **do not require** a connection to the **electricity or** communication **network**.

CEDA offers to install and operate the localization infrastructure and make it **work directly in well-known navigation apps like Waze and Google Maps.**

CEDA also provides the necessary support for the developers with **CEDA Open API.** It allows implementation of improved localization in other navigation apps and also allows to make **C-ITS** functionality available in tunnels.

Easy & fast installation

An affordable solution that is easy to install and operate

Works with Waze and Google Maps

Enables localization in the most popular navigation applications

Open API for developers

Enables implementation of localization in tunnels to any application

CEDA Maps a.s. | Jihlavská 1558/21, 140 00 Prague, Czechia | +420 226 201 100 | info@ceda.cz | www.ceda.eu

Smooth traffic in and out of the tunnel

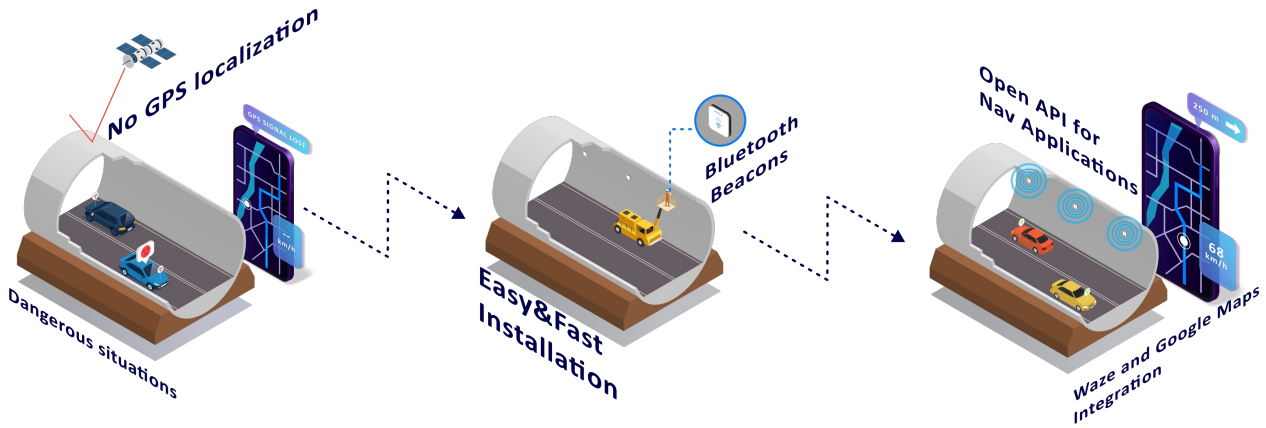
With CEDA Tunnel Positioning it is possible to use the tunnels more efficiently. Thanks to improved drivers' navigation it **reduces drivers' stress, minimize unnecessary traffic, additional noise, and emissions**.

With this solution, you can **avoid situations** where drivers make **sharp turns, reverse, or even turn around**. These situations occur because the drivers didn't have enough time to react to navigation instructions or they didn't receive any instructions due to localization not working properly.

Connection to the tunnel control system

By implementing CEDA Tunnel Positioning in tunnel control systems it is possible to gather information regarding drivers' positions. This information can be further utilized during **emergencies** or **shared with rescue squads**.

This communication channel can be used to provide useful information to connected drivers' apps based on drivers' actual position. They can receive information about **speed limits, lane setups, warnings, evacuation instructions,** and much more.



Usage of installed localization infrastructure in other applications

CEDA Tunnel Positioning also includes the **Open Register of Localization Infrastructure** in the form of an API. Developers can use this interface to utilize the localization functionality in navigation and other applications.

Reference

"Thanks to the CEDA Tunnel Positioning, orientation and navigation in all Prague tunnels became less stressful for drivers immediately."

Martin Pípa, Dep. for Telematics, City of Prague Technical Road Administration (TSK)

CEDA

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We create a digital image of the world. We help people and cargo get to their destination the best way every time. Build the safe, sustainable and efficient mobility of tomorrow with us.

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