TruckOn is a forward-looking ‘proof-of-concept’ project that demonstrates how emerging wireless vehicle communication technologies can prevent over-height truck collisions with tunnels, overpasses and enclosed bridges.

The Problem
Existing sophisticated warning systems such as electronic signs, water curtain displays and radio broadcasts fail to prevent collisions of over-height trucks with infrastructure. In NSW these accidents cost the Roads and Maritime Services millions per year. On Sydney’s roads there is almost one incident a week causing significant traffic disruption.

The TruckOn approach is a ‘complete’ solution to a complex ‘human factors’ problem. It minimises the chance that human error, negligence or wilful behaviour will result in an accident. It achieves this by the following principles:

Detect  
Detect the truck height. Don’t rely on other information sources.
We use a modern beam-break detector which wirelessly sends an over-height message to TruckOn ‘Black Box’ in the offending truck.

Warn  
Delivered directly to the offending driver’s cabin over the stereo. Not broadcast to others.
‘Black Box’ warns driver over stereo and on a display.

Track  
Track what action the driver takes. Alter warnings accordingly.
‘Black Box’ uses GPS and local map to track the truck’s speed and location.

Intervene  
If warnings are ignored, apply the brakes and prevent a collision.
‘Black Box’ reduces truck throttle and applies brakes gradually.

Notify  
Notify the traffic authority if additional action is required.
‘Black Box’ sends message via mobile phone communications.

Drivers ignoring warnings in Sydney Harbour Tunnel and M2 Motorway
Accidents in Sydney: Burwood and M5 Tunnel
Accidents in USA and China

TruckOn is part of NICTA’s Infrastructure Transport and Logistics activities, which is developing cutting-edge solutions to real-world transport problems.