

# CHANGING CITIES DELIVERING INNOVATIONS

INNOVATION EXPO 2016

**TNO** innovation for life

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## THE ROAD THAT GENERATES ENERGY

SolaRoad is the first road surface in the world to convert sunlight into electricity: welcome to the road network as an inexhaustible source of green power. For demonstration purposes it is being used on a bicycle lane, but our aim is to expand the technology to other road types, such as bus lanes.

## TRUCK PLATOONING

REG-459325

One week ago, the EU Truck Platooning Challenge took place: convoys of two or three trucks from three different countries drove to Amsterdam using cooperative adaptive speed control, with less than half a second separating the vehicles. Now, the Innovation Expo gives you the chance to meet EcoTwin: the DAF trucks which took to the public highway last year to give the first demonstration of truck platooning.



## SMART BIKE REDUCES THE NUMBER OF ACCIDENTS

REG-459330 Bicycles

Allow us to introduce you to the smart bike. This innovative two-wheeler warns its rider of dangerous situations, with the aim of dramatically reducing the number of severely injured cyclists. A tremendous solution for vulnerable road users such as the elderly, children or people with impaired vision.

## MOTORIST TEMPTED TO GO CYCLING DURING RUSH HOUR

REG-461027 Bicycles

Why be part of a rush-hour traffic jam every morning and evening when you can hop on your bike instead? Hundreds of commuters from the Zaan area have joined the Bicycle Coalition. It's a joint venture involving the Port of Amsterdam, TNO, Amsterdam Smart City, Ring-Ring, Count & Create and BRIGHT UP. The cyclists use the Ring-Ring app to check out where, when and how quickly their fellow participants are moving. A dedicated website displays a map with the results for each particular road, area or day.

## REAL-TIME SMART APPROACH REDUCING TRAFFIC AND AIR QUALITY

REG-466102 A-lab

The TNO urban dashboard provides real-time visual insights into congestion, traffic flows, noise pollution and greenhouse emissions. By taking a smarter approach to combining data, we can provide municipal authorities with the information they need to pursue effective policies. The aim is to regulate traffic in such a way that traffic flow and air quality improves.

## SERIOUS GAME INFRASTRUCTURE

REG-466102 A-lab

Play the serious game and see how good you are at managing infrastructure and operating bridges safely and efficiently. TNO can aid the decision-making process by offering monitoring techniques, above-normative constructive reviews, models that predict the service life and decision support systems.

## SMART INFRASTRUCTURE USING SENSORS –WORLD CLASS MAINTENANCE

REG-466102 A-lab

Collaboration between companies, road authorities and research institutions has resulted in an innovative method to raise standards of infrastructure maintenance using sensors.

## SMART SUSTAINABLE DISTRICTS WITH TNO'S URBAN STRATEGY

With the help of the Utrecht interaction table, we can design the future city together. The table uses data, maps and analysis from TNO's research instrument for integral urban development: Urban Strategy

## COOPERATIVE AND AUTOMATED DRIVING

Automated driving has been attracting attention around the world for quite some time. But TNO has given this concept a whole new dimension: cooperative driving. Instead of being picked up by a fellow carpooler at a particular time and place, you will soon be free to join a convoy of automated vehicles. A number of government ministers from EU member states will be travelling to the Innovation Expo in TNO's ground-breaking vehicles.

## GREEN CANALBOAT TRIP

REG-459328

During the Expo in Amsterdam, the European ministers for the environment and transport will tour the city in an electric canal boat. By 2025 at the latest, Amsterdam aims to restrict commercial canal boats in the city canals to vessels that do not produce harmful emissions. TNO has been examining the best way to achieve this, from both a technological and an economic perspective.

