



INTELLIGENT TRAFFIC AVOIDANCE FOR URBAN AREAS

INTERNATIONAL CASE STUDIES

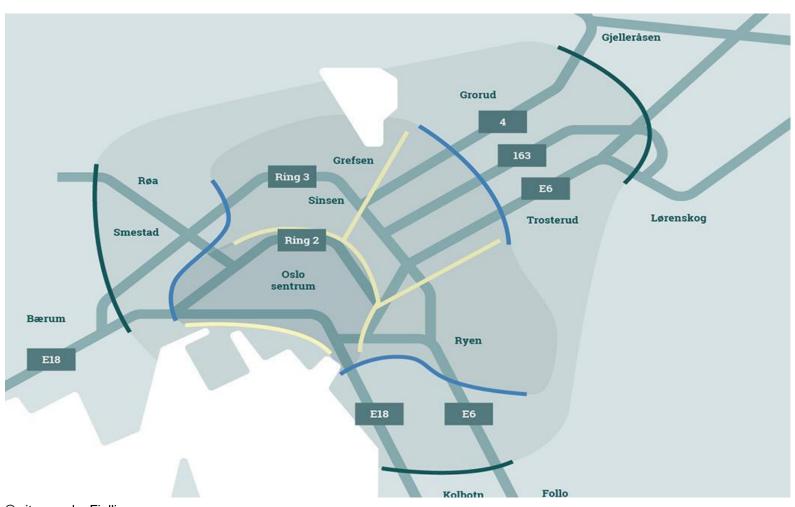
INTERNATIONAL MOBILITY DAYS 2021

HEIMO HAUB EFKON GMBH LEVEL OF SECRECY: PUBLIC 20211213 V1





OSLO TOLL RINGS BY JUNE 1ST 2019 (OSLOPAKKE)



- 72 CHARGING POINTS
- START FEE COLLECTION
 - JUNE 1ST 2019
- SERVICE AND MAINTENANCE
 - 8+ YEARS
- THREE DIFFERENT TOLL RINGS:
 - INDRE RING (PAY BOTH WAYS)
 - ENTIRELY NEW TOLL RING
 - PLACED IN THE CENTER OF OSLO (RING2)
 - OSLORINGEN (PAY BOTH WAYS)
 - THE "OLD" OSLO TOLL RING
 - BYGRENSEN (PAY ONLY IN TO OSLO)
 - THIS TOLL RING IS PLACED ALONG THE BORDER BETWEEN OSLO AND AKERSHUS
- LOWER PRICE PER TOLL CROSSING
- MORE CROSSINGS IN TOTAL

© city map by Fjellingen



CHALLENGE: INFRASTRUCTURE



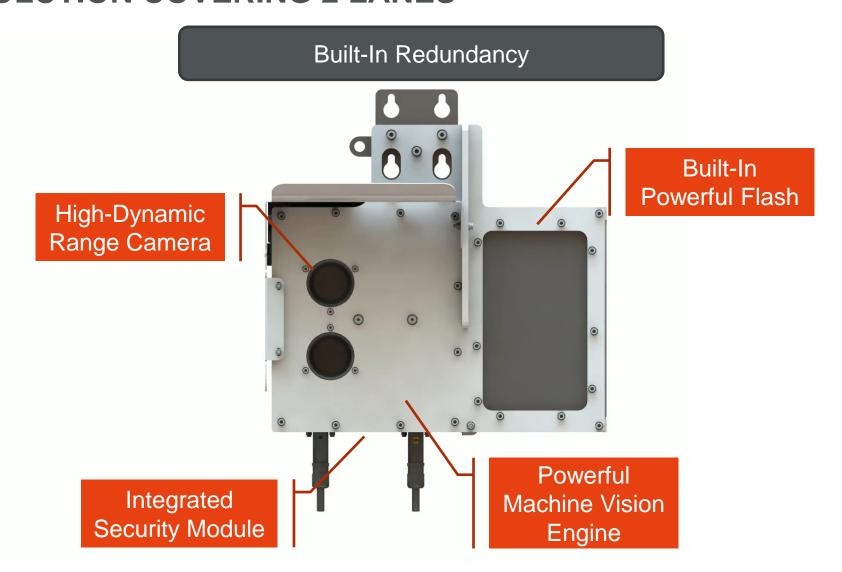


CHALLENGE: AMOUNT OF EQUIPMENT TYPICAL 2 LANE – FRONTSHOT ONLY / REDUNDANT





THE ALL NEW EFKON N-FORCE AVT-100 ONE-BOX SOLUTION COVERING 2 LANES





EFKON'S SINGLE GANTRY SOLUTION

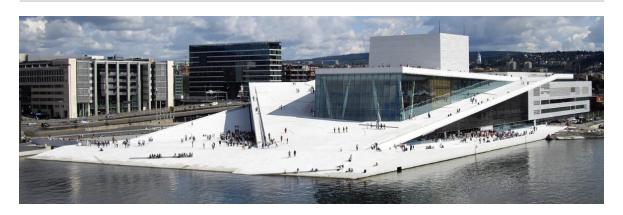






PASSENGER CAR SPLIT

OSLO OPERA

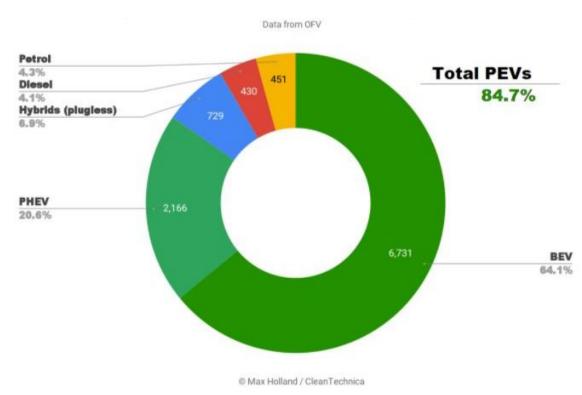


NEXT STEP



Ultra Low Emission Zone

JULY 21 NORWAY PASSENGER AUTO REGISTRATIONS







NOORD-BRABANT PROJECT

EINDHOVEN





DEN BOSCH





PROJECT OUTLINE

- Run-time: 2 years
- Avoid city-centre
- **Peak times** (07:30-09:30 & 15:30-18:30)
- Earn up to 100 €
- EFKON OBU mounted in every vehicle
- All journeys monitored
- IMPORTANT: Select the right users
- Selection process with CCTV
- > 1 Mio cars
- 42.000 invited
- 3.000 people (7%)
- Average 2.300
- Advanced travel information via smart phone



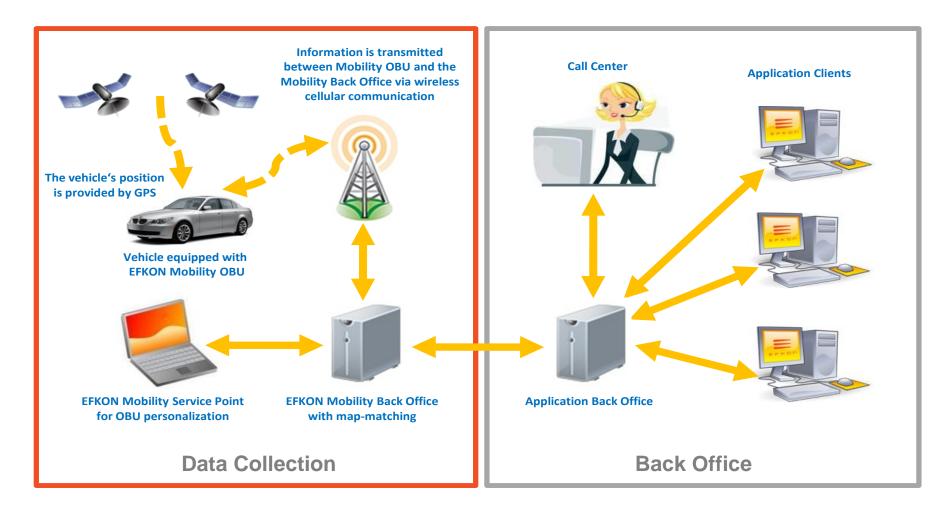
EFKON GNSS TRACKING ON-BOARD UNIT





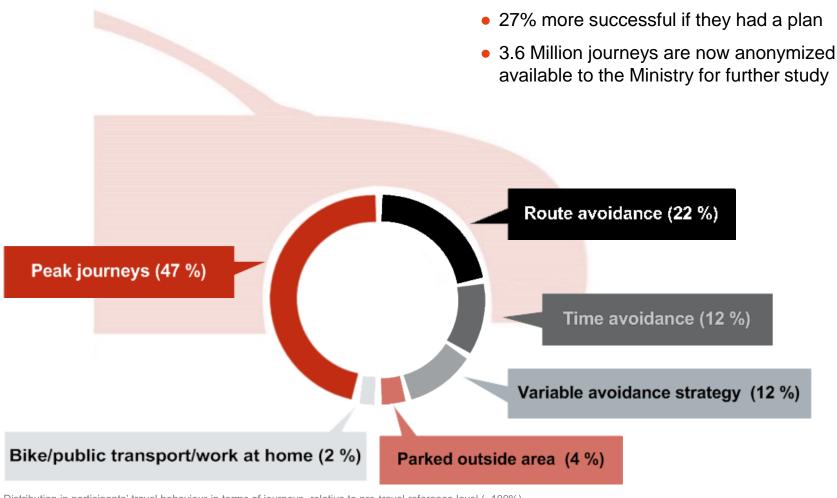


EFKON MOBILITY SYSTEM – SYSTEM ARCHITECTURE





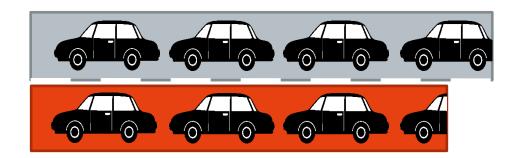
WHAT HAS HAPPENED



Distribution in participants' travel behaviour in terms of journeys, relative to pre-travel reference level (=100%) Source: Noord-Brabant Provincial Authority



WHAT HAPPENED 4 MONTHS AFTER THE PROJECT?



53% avoidance during trial

47% avoidance 4 months after financial rewards ended

0% 50% 100%

So I arrive less stressed

My experience is that avoiding the peak pays, both financially and in terms of time gained

Cycling is good for your body and mind. You arrive fit and ready and you can ditch all your work concerns on the ride home

So I arrive less stressed and can start work more

You gain time because on public transport you can work (laptop), read or relax after a working day

calmly

Shorter travel time and relaxed journey

Avoid the peak teaches you about your own travel behavior.

Rate of peak traffic avoidance by participants, relative to pre-travel reference level (=100%) Source: Noord-Brabant Provincial Authority





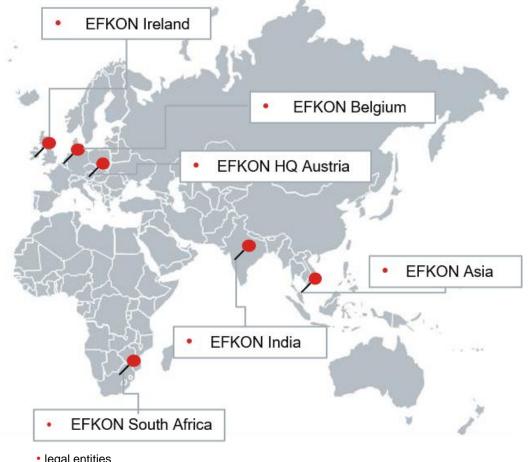
EFKON AT A GLANCE

FACTS & FIGURES

- EFKON is one of the worldwide leading providers of intelligent transport systems (ITS), electronic toll collection (ETC), enforcement and traffic telematic solutions.
- We deliver high quality state-of-the-art equipment tailored to individual customer needs.
- We have significant know-how on all major electronic tolling technologies.
- We have over 500 employees.
- Our headquarters is in Raaba, Austria.
- We are certified acc. to ISO 9001/ISO 27001.
- We are located in Austria, Belgium, Ireland, India, Malaysia and South Africa.

We offer customized solutions based upon tested standards and proven concepts.

STRONG MARKETS









CONTACT

HEIMO HAUB

heimo.haub@efkon.com

EFKON GMBH HQ DIETRICH-KELLER-STRAßE 20 8074 RAABA/AUSTRIA

TEL. +43 316 69 90-0 FAX +43 316 69 90-600

office@efkon.com www.efkon.com



