

# LTL-M mobile retroreflectometer — a global success

LTL-M from DELTA was introduced in 2011 and has been very well accepted by the global market for measuring retroreflection of pavement markings. The instrument is used both on roads and more recently on airfields.

One of the first users of LTL-M was Ramböll RST, a Swedish service provider offering measurement services, primarily of road surface parameters. In December 2017, DELTA interviewed Berne Nielsen, Department Manager, about Ramböll's experience with LTL-M.



## Who is Ramböll and Ramböll RST, and what is your line of business?

Ramböll is a leading community adviser with over 13,000 experts in the Nordic region, North America, UK, Continental Europe, Middle East, and India and has a significant representation in Asia, Australia, South America, and Sub-Saharan Africa. We are passionate about inspirational and innovative solutions that will benefit customers, end users, and the society.

Ramböll RST is a leader in rational and economical operation and maintenance of traffic facilities. Ramböll RST's unique skills and analytical methods allow road and street maintenance to be controlled for the greatest technical and economic benefits.

#### Why has Ramböll RST chosen LTL-M?

We had previously used instruments from two other manufacturers, but we were never really satisfied with their performance and measurement accuracy. When DELTA announced that they were developing LTL-M, we contacted them early to test the instrument. The LTL-M impressed us positively in terms of accuracy and repeatability, but also how easy it is to handle and calibrate.

#### How many LTL-M does Ramböll RST operate?

We ordered a couple of units early and over a couple of years we have been replacing all instruments of other makes with LTL-Ms. In total, we and our system customers now have 10 LTL-Ms in operation. We expect the number will increase to 12 during 2018.

#### What does Ramböll use the LTL-M for?

Ramböll currently uses LTL-M for national state measurements in Sweden, Norway, and Denmark. The aim of the measurements is to objectively determine the road marking function in the different regions of the countries and for different road classes. Furthermore, we use the LTL-M to analyse how well the road marking meets the government's requirements.

In addition to the marking function measurements, we also carry out numerous checks on new markings and inventory measurements annually to support maintenance operations. Ramböll RST mainly conducts check measurements in the Nordic region and in northern Europe.



### Why is Ramböll RST satisfied with the LTL-M?

As we build and develop measurement systems, we are always interested in using the best sensors in the market. LTL-M is, according to us, the best option today for measuring a road marking retroreflection. A big bonus is that LTL-M is also easy to handle and use. DELTA's service level has so far been very good, which is of great importance to us.

Additional information about Ramböll RST and Ramböll can be located on www.rambollrst.se and www.ramboll.com.

DELTA – a part of FORCE Technology Venlighedsvej 4 2970 Hørsholm Denmark Tel. +45 72 19 40 00 roadsensors@delta.dk roadsensors.com