

## The widest range of possibilities

*With over 30 years of experience in testing load cells of any range and type, NMI is your independent partner when it comes to achieving fast, global market access. Many satisfied customers know which certification institute offers the best value for money: NMI issues most of the Part- and OIML R 60-MAA Certificates for load cells worldwide.*

### MODULAR APPROACH

In practice, weighing systems are often produced by using components from different manufacturers. Many of these components play an essential role in the metrological quality of the entire measuring system. Load cells are one of these components.

As a manufacturer of load cells, you can increase the value of your products by supplying them together with an NMI certificate. This enables your customers, the manufacturers of complete measuring systems, to obtain an approval in a faster and flexible way. If their certificate can be based on a tested load cell and a tested indicator, they only need to add the construction which in many cases can be achieved without further testing. A certified load cell therefore offers great additional value. Your certificates can be used all over the world thanks to NMI's excellent reputation.

### TWO TYPES OF EC CERTIFICATES

When certifying a component of a weighing instrument like a load cell, you have two options to consider:

- **Parts Certificate (PC):** components with a PC may be used freely by the manufacturers of complete weighing instruments.
- **Evaluation Certificate (EC):** components with an EC may only be used by the manufacturers of complete weighing instruments after permission from the holder.

Most of the manufacturers of analogue load cells choose to use Part Certificates. If you wish to protect your product and use it only for a selective audience, for example when complex software in digital load cells is involved, Evaluation Certificates are the preferred choice.



### OIML R 60-MAA

In addition to a Part- or Evaluation Certificate, NMI can issue OIML R 60-MAA certificates. This OIML R 60 Recommendation is the world's most accepted standard for load cells. The OIML mutual acceptance arrangement (OIML-MAA) is an agreement between countries about accepting OIML Certificates of Conformity for national market access.

OIML R 60 has been developed to diminish the number of tests that need to be performed on complete weighing instruments. Many manufacturers of complete weighing instruments therefore prefer load cells which are tested according to the requirements as described in the OIML R 60.

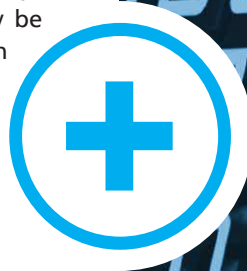
## DIGITAL LOAD CELLS

There are several ways to certify digital load cells and more options to consider. If used in non-automatic weighing instruments, it is possible to approve the digital load cell conform OIML R 60 or conform OIML R 76. Depending on the software, the choice for OIML R 76 is often made if weighing software like scale parameters and stability criteria are included. If a digital load cell is used in automatic weighing instruments, additional EMC (Electromagnetic Compatibility) immunity testing is necessary. For the use in Europe additional software requirements are applicable.

## ACCESS TO THE USA WITH AN NTEP REPORT

NMi can assist manufacturers of load cells, who are aiming to market their products in the USA, to comply with the National Type Evaluation Program requirements (NTEP). The USA signed the OIML R 60-MAA agreement (R 60 DoMC) under the condition that class III L and some additional requirements are taken into account. NMi has developed a special NTEP test report, based on OIML R 60-MAA and additional tests, that is accepted by National Conference Weight and Measures (NCWM) for market access to the USA.

When doing business in a particular part of the world, manufacturers tend to concentrate on securing one type of approval certificate only. For this reason, they may be unaware of the combination tests which NMi can offer its customers. By opting for conformity with both the NTEP and OIML programs, they can reach a much larger market.



## TEST SAMPLES

NMi tests load cells from a few kg up to 25 tons. As soon as you have sent us the specifications and technical drawing(s) of your load cell, our team of weighing experts will decide which test samples are needed to cover the entire family of load cells. Their findings will be described in a well-founded test plan.

For the selection of test samples within a family, NMi follows OIML R 60 chapter 7.3. In Annex B of OIML R 60 a practical example is given.

## WHY NMi?

- Over 30 years of experience
- Fast time to market within 4 to 6 weeks
- NMi can handle the largest range of load cell capacity
- Flexible test facilities
- NMi issues 80% of all Part- and OIML R 60 Certificates for load cells worldwide
- Worldwide acceptance of NMi certificates and reports