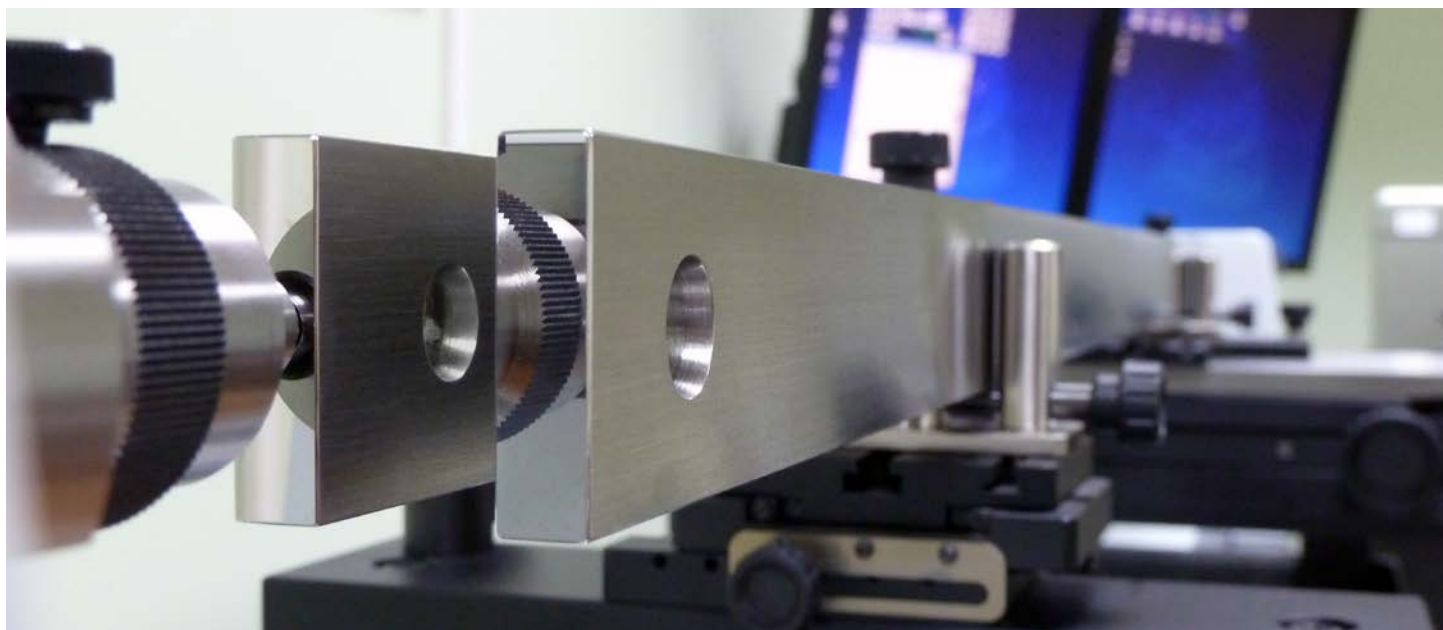


## APPLICATION NOTE

### Certification of Gauge Blocks in Metrological Center



**The Nizhny Novgorod Centre for Standardization, Metrology and Certification is one of the most important institutes in the Russian Federation. It is famous for its reliability, the quality of service and the level of accuracy offered.**

**The Labconcept Nano was selected among all competitors to equip a brand new laboratory dedicated to gauge block measurement.**

## Introduction

The Nizhny Novgorod Center for Standardization, Metrology and Certification (NNCSM) was founded on 23<sup>rd</sup> October 1900. Today, with over 400 employees, it has become one of the most important institutes in the Russian Federation.



*Nizhny Novgorod Center for Standardization, Metrology and Certification – 603950, Nizhny Novgorod, ul. Respublikanskaya, 1 – Russia – [www.nncsm.ru](http://www.nncsm.ru)*

The NNCSM counts some of the most significant companies in the energy and airplane industry among its customers. The metrological centre is particularly well known for a high level of accuracy as well as the quality of its service. It is specialized in the calibration of high precision gauges.

## Issue

Gauge blocks are widely used as length references in workshops and laboratories. The calibration of large gauge blocks may seem a basic task. However, it is extremely difficult to reach a high precision level for various reasons such as temperature sensitivity, reversal point search, alignment, user's influence etc.

In order to keep its leading position, the NNCSM has decided to invest in a new

laboratory dedicated to gauge block measurements with a state-of-the-art temperature control.

## Solution

Considering the metrological challenge, Trimos Labconcept Nano has been selected as the most powerful and suitable instrument to equip the new laboratory.

The integrated temperature compensation system allows a real-time compensation of the smallest temperature inhomogeneity. Once placed on the measuring tables and stabilized (usually several hours), large gauge blocks can be measured automatically, eliminating user's influence in terms of handling and heating. The motorized movement of the measuring table allows a perfect alignment of the gauge block and thus outstanding measuring results.



**Figure 2**  
*Waiting for calibration: Temperature stabilization of gauge blocks*

## Conclusion

With the latest investments, the NNCSM could strengthen its position as metrological leader and guarantee the excellence of calibration services also in future.

Thierry Keist, Trimos SA



**Figure 1**  
*The Labconcept Nano during calibration of a 1000 mm gauge block in the dedicated laboratory for gauge blocks measurements.*

<b>Instrument</b>	Labconcept Nano 1100
<b>Measuring range [mm]</b>	1100
<b>Max. permissible errors [µm]</b>	0.07 + L (mm)/2000

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