



Dear readers,

The extension of CETA's company building has now been successfully completed. The extra office space and the addition of a new cooperation partner in India provide the basis for further expansion of our business activities. Through cooperation with the company 3S we are able to provide leak tests for gas- and liquid-filled products and detection of leak rates down to  $10^{-6}$  mbar·l/s. This is a technological enhancement of our solutions portfolio. 3S will be represented at CETA's exhibition stand at the Control trade fair. These are only a few of the topics covered in the present newsletter. You can find us at the CONTROL 2016 trade fair in hall 1, stand 1423. We are looking forward to meeting you.

Wishing you a pleasant reading,  
Yours,

*Günther Groß*  
Managing Director

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### Extension of CETA's Company Building

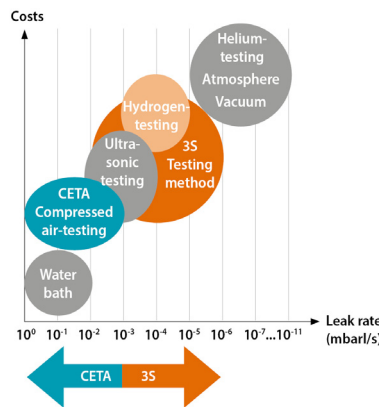
During the initial construction phase of CETA's company building in 2001, allowance was made for the possibility of future extension. After a one-year period of planning and implementing, the extension of the building was completed at the end of 2015. An additional floor was added to the two-storey building and its front was optically set off against the rest of the building. Furthermore, an extension was added to the production department. Altogether, floor space has increased by more than 50 %. The interior is bright and open due to large skylights. With adequate measures, the legal requirements on fire protection have been fully met. In the course of extension works, all server rooms as well as the DAkkS calibration laboratory have been fitted with air-conditioning.

A large conference room with 20 seats has been provided for training courses and large meetings. All new rooms are equipped with plug-in compressed air connections as well as modern and ergonomically designed office furniture and are ready to use. As a result, the company has now additional capacity to plan business expansion.



### Leak-testing of Gas- and Liquid-filled Products - CETA cooperates with 3S

CETA has been working since May 2015 with the company 3S, specialists in gas-detection technology, based in Saarbrücken. A broad range of applications is made possible by the use of a procedure patented by 3S and of temperature-modulated operation of the used gas sensors – and this does not only concern testing of moulded parts and components by using forming gas as test medium, but also and especially leak-testing of gas-filled and liquid-filled products. This is made possible by the use of a highly sensitive gas detector that can be adjusted to special gases and vapours such as hydrogen, alcohols or solvents. With this method, leak rates down to  $10^{-6}$  mbar·l/s can be detected during the production process.



In the context of this cooperation the company 3S has technically adapted its portfolio of devices to meet the special production-accompanying leak-testing requirements for the automotive industry and the mechanical engineering sector.

Thanks to this cooperation and the use of 3S testing technology, CETA is now able to extend its solutions portfolio to leak-testing of gas-filled and liquid-filled products. Typical fields of applications include leak-testing of products from the pharmaceutical, cosmetics, food and automotive industry.

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## CETA Awarded Excellent Credit Rating for the Fifth Time in a Row

In 2016, as in the previous years 2012 through 2015, CETA has been awarded "excellent credit rating" by the agency Bisnode Deutschland GmbH and formerly by their predecessor Hoppenstedt Kreditinformationen GmbH (Bisnode Rating Certificate no. 318664026). The rating process consists in analyzing company information and financial key indicators in the course of risk assessment. The result is a Bisnode Credit Rating that reflects the financial power and probability of default of the surveyed companies. In order to be granted a creditworthiness certificate, a company has to maintain a solvency index of 1 throughout the last 12 months and a steady "very good" rating in the Bisnode database. This neutral and objective rating is a help and guidance for companies looking for strong, trustworthy and reliable industry partners.

## CETA Initiates Cooperation with New Partner in India

A large number of CETA test devices are already being used by well-known industrial establishments throughout Asia. Our cooperation partners provide extensive customer support and technical service locally. We are now striving to enter the upcoming Indian market with the help of our new partner. The company **SP Leak Test & Automation Pvt. Ltd.** is based in Bangalore, an important business hub in India housing a large number of multinational companies. SP Leak Test & Automation Pvt. Ltd. has many years of experience in the field of leak-testing and will



handle the projects of major Indian customers operating on a national and international level.

For SP Leak Test & Automation Pvt. Ltd. and CETA Testsysteme GmbH, competent project handling and a high level of customer satisfaction are the basis for successful business rela-

tions. With currently 12 cooperation partners, CETA has thus far always succeeded in this endeavour. Further extension of the cooperation network is in planning.

## CETA practical tip: Influence of Measuring Line Material on $C_g$ Value

In the course of integral leak-testing with compressed air, the entire measuring circuit including measuring line, adaption and test part is tested. Hereby, it is important that the measuring line should have sufficient inherent stability. Otherwise the results could strongly vary and lead to a larger standard deviation. Since the standard deviation is used to determine the capability index  $C_g$  (see CETA newsletter no. 5 and no. 13), it follows that the latter decreases. A series of tests was performed to analyze the impact of the material of the measuring line on the capability index. For this purpose, a heat exchanger (inner volume 160 cm<sup>3</sup>) with admissible leak rate of 0.87 ml/min was tested for leakage at a test pressure of 2 bar. The faulty part was simulated with the help of an adequate standard leak. The measuring line was 1 m long and had an inner diameter of 4 mm. Stable conditions were obtained with the following parameters:

filling time: 3 s, stabilization time: 8 s, measuring time: 5 s, venting time: 1 s.

The only modification concerned the material of the measuring line.

Material Measuring line	PA-Tube	PU-Tube	Silicone
$\Delta E$ @ 2 bar	0.00 mm	0.02 mm	0.12 mm
Average pass	5.52 Pa	5.35 Pa	39.96 Pa
Average fail	39.24 Pa	36.88 Pa	70.12 Pa
Tolerance	33.72 Pa	31.53 Pa	30.16 Pa
Standard deviation	0.60 Pa	0.97 Pa	1.05 Pa
$C_g$	1.88	1.08	0.96

In the case of measuring lines without inherent stability, the diameter of the line varies when pressure is applied and the standard deviation increases. In the case of silicone, a rather soft material, we also have a significant offset of the measurement values. The use of measuring lines without inherent stability has a negative influence on the "capability" of the testing process. This fact is often underrated.

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