



Interview with Robert Schmidt from T&S GmbH

Flexibility, speed and accuracy: the rolling bearing industry is changing rapidly and so are the requirements for measurement technology. We met with T&S Managing Director Robert Schmidt to talk about the current requirements of the rolling bearing market, innovations and the BAW.

Your company has been in the measurement business for over 25 years. How have the requirements of the market changed in relation to the rolling bearing industry during that time?

Schmidt: T&S has now been in existence for 32 years. The requirements have changed significantly in the direction of flexibility and quick reaction to changing boundary conditions. There is less and less demand for special single-purpose measuring systems, but rather for devices that can be adapted very quickly and flexibly to constantly changing requirements.

Your company specializes in the measurement of contours and roughness, and measurement technology has also been developing rapidly in this area for years. In this respect, has tactile measurement technology finally matured? Or do you see further potential for improvement in certain areas, especially for the rolling bearing industry?

Schmidt: The possibilities in measurement technology in the area of contour and roughness measurements are far from exhausted. In the tactile area, i.e. measurement by means of the stylus method, the basic technology has been sufficiently researched, but the equipment technology and above all the evaluation software still offer considerable potential for further innovative developments. As already mentioned, the increasingly flexible production technology also demands correspondingly flexible measuring systems, through which it is possible to react very quickly to product changes. In some areas, measurement technology even comes close to production quality. The measuring accuracy should be 10 times more precise than the part tolerances, and this is now becoming difficult.

What are your company's core competencies? What sets your company apart from other metrology manufacturers?

Schmidt: Our core competency is the area of tactile length measurement technology, especially the measurement of contour and roughness. Due to our many years of experience, flexibility and innovative strength as a small company and the close proximity to our customers in the industry, we have developed numerous solutions that specifically relate to the area of rolling bearing inspection. We were the first to establish a rotary motion into the otherwise linear stylus method. In contrast to three-point coordinate measurement, we therefore measure only one section of the workpiece and thus infer the entire workpiece. This makes our measuring machines significantly faster, more cost-effective, more user-friendly and more flexible to use.

How is your company positioned on the international market? How can international customers also get in touch with your company?

Schmidt: Our customers are international, and since our systems are often used throughout the group, we inevitably have to keep up with them. Since we as a small company cannot establish a worldwide service, we work with local sales and service partners who take on this task locally in the respective countries. Our partners are intensively trained here with us so that they can carry out all requirements



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from sales to training and maintenance on site in our interests.

What innovations are planned by your company for the rolling bearing product in the future?

Schmidt: We are currently working on various special evaluation algorithms in order to be able to measure more reliably under critical measuring conditions, for example, the influence of form errors in the case of large radii and small radius cutouts, such as those that occur in the case of roller face contours. We have just completed the development of a measuring system for the raceway and angle measurement of large bearing rings with a diameter of over 4 meters. Here we are then moving into the area of tunnel boring machines and wind power, where large bearings are needed.

Are there any areas in which you are particularly interested in the future or in which you want to or even have to invest in the future in order to remain competitive?

Schmidt: First of all, we remain true to our roots and what we are good at. Currently, we see considerable potential with our measurement technology in the areas of thread measurement and also in the watch industry, which is completely changing its requirements.

Have you had an exciting project in the rolling bearing industry so far?

Schmidt: Over the course of more than 30 years with rolling bearing manufacturers, really many. This concerns special evaluation methods, in other words software, as well as special measuring systems and, above all, the universal fixture for clamping bearing elements.

Where do you see the future challenges in measurement technology for the rolling bearing industry?

Schmidt: To significantly increase flexibility, speed, accuracy and ease of operation. The consequences are higher measuring reliability and cost savings, because the measuring system no longer has to be procured on a project- or product-specific basis and can be used for any other requirements at the end of the project.

Are there any changes (for example normative) that are to be expected in the near future in the rolling bearing industry for measurement technology and that are perhaps not yet publicly disseminated? If so, how are you preparing for them?

Schmidt: Yes, the DIN ISO 21920 1-3 standard is currently in the final phase and has already been approved as a draft standard. This provides the basis for roughness measurement on technical products and will have a major impact on surface roughness measurement. We are currently in the process of implementing these specifications so that when the standard is adopted, we are able to offer the solution.

What advantages does digitization offer the industry?

Schmidt: First of all, the term digitization has to be defined. If digital means that the measurement results are no longer forwarded to higher-level systems via the human station, then hardly any „non-digital“ systems are now used in production monitoring and measurement technology. The reason is the increasing level of complexity of measurement tasks, the obligation to document measurement results and, last but not least, the economic efficiency of measurement processes. That is why the question of „advantages of digitization“ is basically no longer an issue; digitization is a „must have“. The handling of our internal processes as well as the processes with our business customers have also become



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digitalized to a large extent as a result of the pandemic. Since face-to-face training was not possible for a long time, we have built a demonstration room here on site where we can now conduct digital training. This means that product demonstrations are also possible worldwide and in real time, which of course saves an immense amount of time. Another advantage is that we can react immediately to problems and find a solution together with our customer via video chat.

Where do you see the advantages of the BAW virtual trade fair?

Schmidt: In the specialist focus on rolling bearing production and its peripheral areas, as well as the international orientation.

What were the decisive factors for you to participate in BAW?

Schmidt: Because of the proximity to the rolling bearing industry, which is our main customer, and the opportunity to help shape this new trade fair from the very beginning, it was immediately clear to us that we would participate. This forum is an ideal springboard for us to get in touch with more users from the industry and to present our solutions. We look forward to participating in the coming years as well.

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left: Dipl.-Ing. (FH) Dominik Helfrich, right: Robert Schmidt – CEO profile method T&S