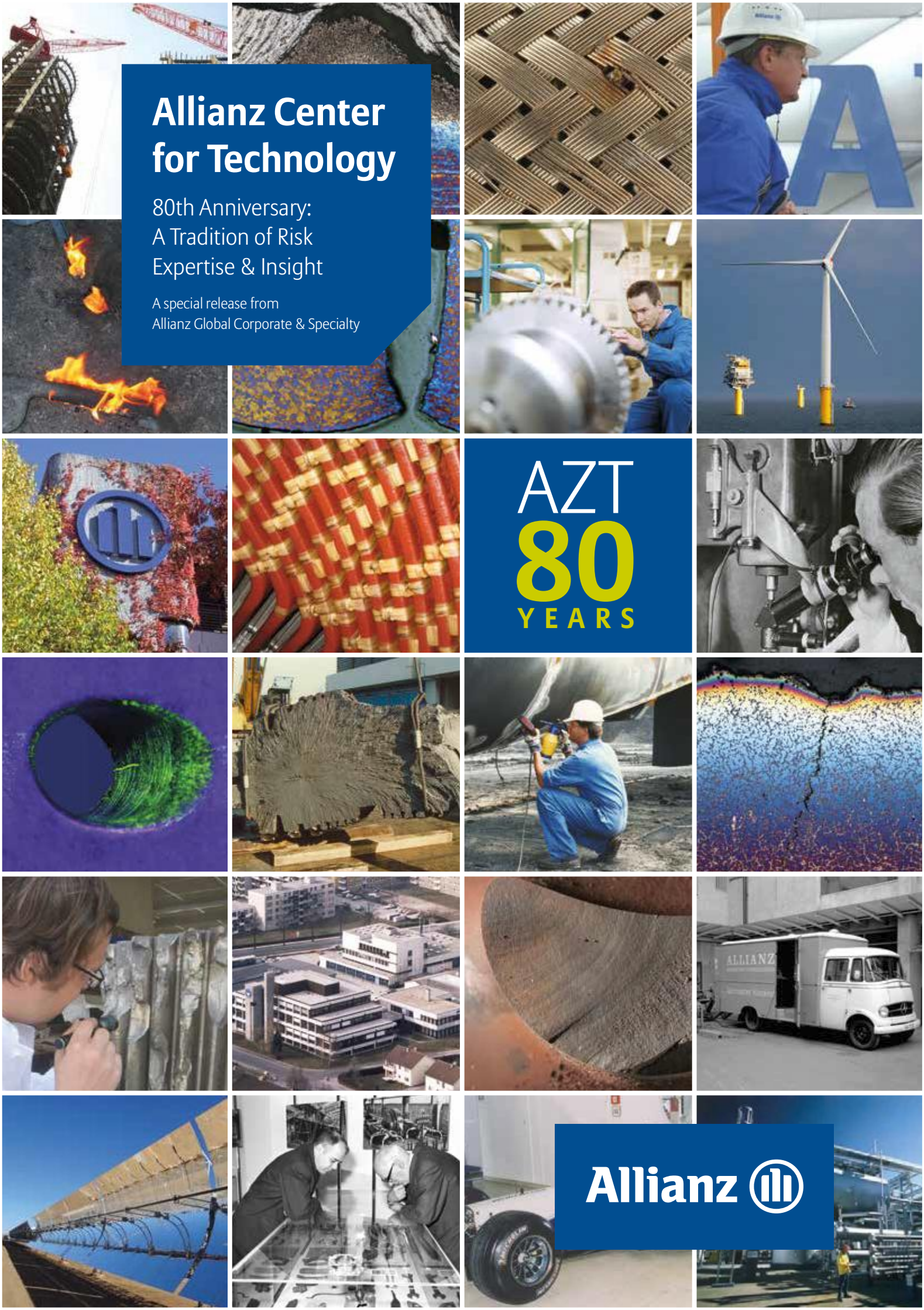
Allianz Center for Technology
80th Anniversary:
A Tradition of Risk Expertise & Insight
A special release from
Allianz Global Corporate & Specialty
AZT
80
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"It's a win-win situation!"

Dr. Julius Nickl, Organization for Materials Testing

Dr. Julius Nickl is Managing Director of the Organization for Materials Testing (Gesellschaft für Werkstoffprüfung, or GWP). The damage analysis company has a history of close cooperation with AZT and, since 2008, the two have shared GWP's laboratory and testing facilities just outside of Munich. We talked to both Nickl and Dr. Johannes Stoiber, Co-Head of AZT, about the partnership.

Dr. Nickl, tell us how the partnership with AZT came about.

Nickl: We had been working in similar fields for some time. The Allianz board of management asked AZT to begin looking for potential laboratory cooperation partners and so they came to us. AZT works a lot with large, heavy duty machinery and industrial parts, but it also needs to work with smaller samples for analysis. That's where we can help out. We have a number of clients that work with smaller parts, from the automotive and medical sector, for example. The equipment required for carrying out the lab work is very similar.

What are the benefits of this partnership?

Nickl: It's a win-win situation for us. One of the most important factors is that there is a great deal more work carried out in our laboratories. Having a certain workload here allows us to run the various top-level machinery that we have. Clients come to us with a range of problems, so we need to have the capability to provide a variety of solutions.

Stoiber: The facilities available here are different to the production labs where quality controls, analysis of layer thicknesses and other more 'basic' tests are carried out. Here at GWP, we are able to work together on much more in-depth, tailored investigations.

Nickl: Information exchange between us and AZT is also very important for both parties. And it's not just about learning directly from each other; we have access to a range of other partners and experts via AZT that we wouldn't normally have, and vice versa. Together, we organize technical seminars and events with these partners from both Germany and abroad.

Describe a recent key project you have worked on together.

Nickl: New boiler tubes, which had to be tested as part of a public research project that looked into new steam power plant technology. These tubes must be able to handle steam temperatures of 700°C and above. Most conventional plants operate at around 450-500°C, but increased steam temperatures would bring increased efficiency. To do this, the materials used have to be improved significantly.

Stoiber: One of our engineers had a large number of boiler tube samples from a test rig. He used the lab at GWP to test oxidation scales, thickness and also element distribution to understand the mechanism of oxidation in these materials. It was a difficult job because the layer thicknesses were below one micron. The image quality had to be extremely good.

Nickl: This was a project that really showed the mutual benefits of our partnership – AZT was able to provide certain levels of expertise that we don't have, while we were able to offer the right laboratory equipment for the investigations.

Drs. Nickl and Stoiber standing in front of a steam turbine rotor damaged during the 1987 Irsching incident.

How has your focus of work changed since partnering with AZT?

Nickl: A certain degree of change over time is inevitable but the change in the services that we offer and the methods we use has certainly intensified. It's difficult to quantify, but I believe that our association with AZT has been beneficial in terms of attracting new clients. We used to concentrate predominantly on working within Germany, Austria and Switzerland, but our business has become more international.

And how do you see this changing in the future?

Nickl: There are two main sectors that are becoming increasingly important: renewable energies and lightweight materials. In the future, we will be working with AZT to look more at photovoltaic panels, for example. From an insurance point of view, it is important to know more about the damage caused by fire and hail incidents. We plan to examine panels that were exposed to these elements to see how power output is affected.

The GWP is the laboratory partner for the AZT that helps enable analysis of smaller parts and samples.

A large part of our current workload comes from production-related questions – how to improve the performance of traditional materials such as cast aluminum or steel. However, lightweight materials take in so many different possibilities, from polymers to carbon fibers and magnesium. This is a growing market. My vision is that in five years or so, GWP and AZT will open up a new center to tackle the various tasks that we have on the horizon.

What challenges does working with these new materials bring?

Nickl: With a material like steel, we have more than a hundred years of experience; we know how it behaves. With materials such as composites, however, we have much less experience and the methods used for analysis and testing are still very much in development. But the unknown is appealing – it is a challenge that tests our knowledge and skills to the limit. To be successful, you have to have the right team, the right equipment and the right partners to work together with. As a company, we feel secure and confident, because we know that we have a knowledgeable and reliable partner that we can turn to.