



Photos: QIAGEN

Zollner services in the areas of:
Development. Preparing products for
serial production. Serial production.
Life Cycle Engineering.



Success Story: QIAGEN

„In the shortest time Zollner developed a precision device for genetic research“

Customer and Product:

QIAGEN is the worldwide leading provider of sample preparation and test technologies for molecular diagnostics in human medicine, academic research and the pharmaceutical industry. With the help of this technology, DNA, RNA and proteins can be isolated and processed from blood, tissue and other materials. Bioinformatic software and knowledge databases then analyze the data. QIAGEN offers solutions for more than 500,000 customers across the globe.

Over the past years Zollner Elektronik AG has continued to expand its strategic collaboration with QIAGEN and strongly focused on offering our development services as a partner. At the end of 2018 Zollner received its first development project order from QIAGEN: QIAcuity.

The device is the entrance for QIAGEN into the market for digital Polymerase Chain Reaction (dPCR), a growing market in genetic research. It allows for verification of the smallest concentrations of individual

nucleic acids in a sample. These indicate genetic mutations or illnesses and are typically hard to find, like needles in a haystack.

What was the big challenge of the project?

QIAcuity is available in three models: the smallest device includes a sample carrier, which executes the individual process steps, one after the other. Four sample carriers can be examined simultaneously with the middle model and eight with the largest one. To make this possible, process steps partially take place in these two devices in parallel. For Zollner Elektronik AG that meant developing three devices with various requirements. And that in the shortest amount of time because QIAGEN wanted to jump into the digital Polymerase Chain Reaction market as quickly as possible: the targeted finish date was in summer of 2020. Making the short time schedule even harder was the tense procurement situation.

What solution did Zollner find?

All specialist disciplines in the corporate Research & Development division were involved: along with mechanics, electronics, layout and software came testing and verification and product accreditation. Colleagues from Analysis and Materials Technology also accompanied the development steps to take over material selection for critical points in the device and qualify them with an applicable series of tests. Development and test steps in the individual sample phases ran parallel to each other for time reasons, and accreditation and endurance testing was pulled forward.

When procuring the components for these complex devices, Zollner Elektronik AG decided to exploit its

internal potential. Various company divisions provided mechanical components, cabling and PCBs; Healthcare & Life Sciences took over testing of the modules, final assembly and subsequent final inspection of the instruments.

Thus, in just 18 months of development time, the first device was submitted for accreditation testing. As soon as accreditation was secured, and thanks to good preparation, Zollner was able to ramp up to serial production with extreme quickness. Procurement and module assembly started even before the completion of development.

This is what our customer says about our collaboration:



Photo: QIAGEN

„The dPCR market is strategically critical to QIAGEN because QIAcuity will become one of our most important future growth drivers. During development it was extremely helpful to have a strong partner on board with Zollner, who brought the entire spectrum of technical expertise into QIAcuity development. This remains critical relative to production, quality assurance and future system development.“

Dr. Gerald Schock, Director digital PCR Instruments, Life Science Automation, QIAGEN

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