

# Growing with the FLOW

Roche partners with a Munich-based molecular diagnostics lab to master rapid increases in throughput and sample variety



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Dr. Siegfried Burggraf  
Head of Molecular Biology Diagnostics  
Becker, Olgemöller & Kollegen

## The Challenge

The Munich-based molecular diagnostic lab Becker, Olgemöller & Kollegen has grown rapidly since its founding some 20 years ago. Throughput volume and sample variety have increased dramatically, while the market had a strong need for faster turnaround times.

The lab's head of Molecular Biology Diagnostics, Dr. Siegfried Burggraf, reveals how Becker, Olgemöller & Kollegen has partnered with Roche over the years to master these challenges. Advanced instrumentation and software, professional services and Roche's unique FLOW Solution for automating workflows and reducing errors have played a key role.

### ***What changes has your lab seen over the years?***

Twenty years ago when I was just starting, we were working with just a few samples, and we had only one technician. Now we have ten technicians. The main challenge we've faced is the increasing number of samples. We started with about five samples, and now we have about 500 samples a day.

### ***What does that mean in practical terms?***

Physicians get used to early results—and sometimes want them before the sample is even in the lab—so we have to be very fast. We also have to provide many different assays for all kinds of pathogens, and you can't do that manually. You need some kind of automation.



This case study is available as a video.

**Watch it now**

## The Solution

### *What instruments did you select to help you accomplish that?*

That first step toward faster diagnostics and the first big change was the introduction of real-time PCR. The first real-time PCR cycler the lab had was a LightCycler® Carousel System from Roche. More and more samples also meant that we couldn't work with silica columns anymore, so we decided to buy the Roche MagNA Pure 96. That gave us the ability to extract 96 samples in a run, and it took only about one hour to do so.

### *What impact have these instruments had on your workflow?*

The advantage of the MagNA Pure System is that you can run all different kinds of samples with the same protocol. At the beginning, I actually didn't believe that it was possible to do a nucleic acid extraction from RNA viruses, bacteria and DNA viruses using the same protocol while achieving the same efficiency and sensitivity. But with the MagNA Pure 96 System it was definitely possible. We continued to increase our installed instrument base step by step, and now we own five LightCycler® 480 Systems and two MagNA Pure 96 Systems. We also explored Roche's liquid sample handling options. We implemented a primary sample handling machine that has made adding primary samples to extraction plates easier for technicians and less error prone. Finally, we completely eliminated manual pipetting with a PCR Setup Unit that creates master mixes and distributes samples, assays and reagents to a PCR plate.

### *Can you tell us about how these instruments work together?*

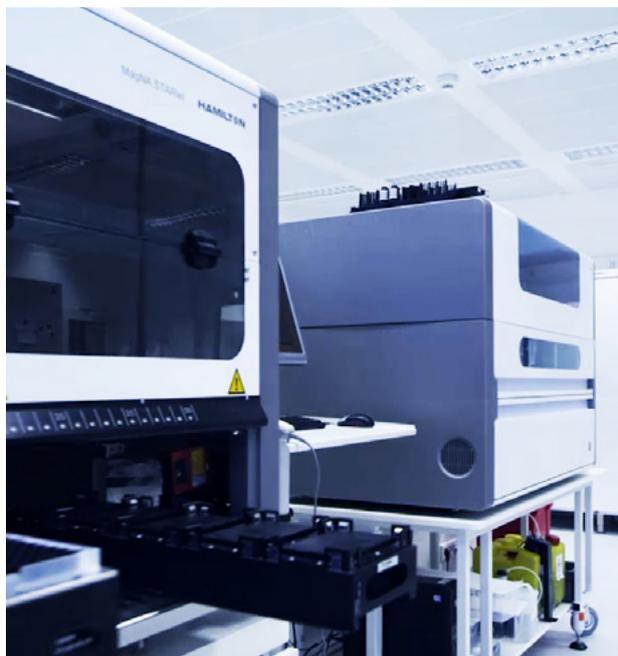
We use a middleware solution called FLOW Software. When Roche came to us with the idea of FLOW, it was a concept that I believed in right from the beginning. The main benefit is the documentation. Before, if you wanted to document who performed the assay, how the controls worked and whether the internal control was successful, you needed a lot of paperwork. With FLOW, this paperwork is no longer necessary.

### *What is the main benefit of FLOW for your lab?*

Quite simply, it eliminates the possibilities of making an error. In a laboratory with a high throughput of samples, it can help to get faster results, and it definitely helps to get more reliable results.

### *What is your experience with FLOW and working with Roche?*

A lot of colleagues from other labs come and visit us and want to see FLOW—I think they all like the concept. We've had many opportunities to work with the scientists and developers at Roche, and they have been very helpful. As we implemented FLOW, we were able to bring in a lot of our own ideas and suggestions, and the finished product is very useful to us. With Roche, we always found somebody with answers to the questions we had, so it's been a very good partnership.



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