QIAGEN Deep Dive – QIAcuity digital PCR

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Sample to Insight

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Introduction

Voice-over: Some of the most important signals in biology are almost invisible. They can be a few molecules in a blood sample, a trace of a virus in wastewater, a tiny change in a therapy dose. Small signals but the decisions they drive are not. To continue a treatment or stop. To act early or too late. To release a therapy or hold it back. To make those decisions you need to know how much is there, what exactly it is and how certain you can be. Detection, quantification, confidence. That is what QIAcuity digital PCR delivers.

Moderation

Domenica Martorana: Hello and welcome to our next Deep Dive. Today it's all about QIAcuity digital PCR. We are going to answer questions around what is digital PCR, how does it compare with quantitative PCR and how does sequencing fit in? But before we begin, a quick legal note. As with any investor event, this presentation includes a Safe Harbor statement. You're likely familiar with this from our other presentations, so I won't read it in full. However, please remember that we will be making forward-looking statements. Actual results may differ materially from those projected and the factors driving those are detailed in our most recent Form 20-F filed with the Securities and Exchange Commission. A copy is also available on our webpage.
Let's now have a closer look into how dPCR, qPCR and NGS differ and why it matters. Huw Ricketts, our Head of Global Digital PCR and Francesca Di Pasquale, our Head of Digital PCR R&D, are going to take us on this journey.

Digital PCR differentiation and applications

Domenica Martorana: Huw, what are we doing here by the lake? I thought we are going to talk about digital PCR.

Huw Ricketts: I know, we are but I thought this would be a great location to talk about it. Earlier I collected this water sample from the lake here. But don't worry, German waterways are generally pretty clean, but this water sample could still contain traces of wastewater.

Domenica Martorana: Now I see where we're going. So, let's assume we want to analyze this sample for traces of Norovirus for early signs of an outbreak, similar to how wastewater was analyzed during the COVID pandemic.

Huw Ricketts: Right. Good point. It was used in the COVID pandemic. But this is the kind of sample where digital PCR can be really valuable. It's a complex sample. In this sample there contains millions of different

components. Could be bacterial DNA, could be viruses, could be human DNA, could be environmental material.

Domenica Martorana: So, how do we find a very small amount of genetic material from virus particles in all of that? There's different ways to approach it, right?

Huw Ricketts: Exactly. An option number one, next-generation sequencing, we don't look for one specific target like Norovirus. We look for the unknown. We will sequence or analyze all the genetic material in here. And at the end, we have a comprehensive overview of exactly what's in the sample and in what quantities like Norovirus, bacteria, human DNA and more.

Domenica Martorana: And with that, at the end, we have a very broad overview of what's in the sample.

Huw Ricketts: Yes.

Domenica Martorana: I know what I'm looking for, I could simply go with, for example, qPCR.

Huw Ricketts: Yes, with qPCR we don't analyze everything. We look for one known sequence.

Domenica Martorana: And how does that work?

Huw Ricketts: We specifically look for Norovirus. We make many copies of it and then we detect the signal and monitor that over time as it increases. The stronger the signal, the more Norovirus is in that. But we rely on a reference standard. We compare our sample to a sample where we know how much of the target is in there. We use that comparison to make a calculation of how much Norovirus is in the sample.

Domenica Martorana: And what about doing that in a complex sample like that?

Huw Ricketts: That's when it becomes more challenging. Substances in the sample can interfere with the reaction and if our target is of low concentration, it's difficult to detect the signal accurately and precisely.

Domenica Martorana: And this is where digital PCR comes in, right?

Huw Ricketts: Yes, instead of looking at the whole sample at once, you divide the sample into thousands of different reaction chambers, the so-called partitions.

Domenica Martorana: So, even with the very complex sample like this and at very low concentrations, we're able to get clear results.

Huw Ricketts: Yes, and this is particularly important in surveillance where we want to detect very low levels of target over time. For example, during the COVID pandemic, when we were looking at small changes in virus in the community. We want to be able to detect those signals early and with high confidence.

Domenica Martorana: So, how does this work in practice?

Huw Ricketts: Detection, quantification and confidence.

Domenica Martorana: Okay. Great. Let's go to the lab.

Huw Ricketts: Let's do it.

Domenica Martorana: Hi, Francesca.

Huw Ricketts: Hi, Francesca.

Francesca Di Pasquale: Ah, here you are.

Domenica Martorana: So, Huw and I, we just took a walk and we used this water sample to explore the difference between next-generation sequencing, qPCR and dPCR. And now we need your help to go one step further and have a closer look into QIAcuity digital PCR and how it works in practice.

Francesca Di Pasquale: Sure. What is really interesting is that what you have been exploring now does not only apply to wastewater. In both environmental and clinical samples, we are really interested in finding the tiny amount of signal within a very large background. In wastewater it could be a trace of a virus. In blood, indeed we could be interested in finding cancer cells or very few amounts of cancer DNA within a large background. Both applications are very different, but the principle remains indeed the same. In this blood tube, we have millions of healthy cells. And the key question is, do we also have cancer cells in it? And if so, how many?

Domenica Martorana: And where would we start to find that out?

Francesca Di Pasquale: The first step is always sample preparation. We extract the DNA from the sample. We load the DNA together with the required reagents onto the plate and we seal it. Then the plate is put into the QIAcuity instrument and the run is started.

Domenica Martorana: And what happens inside the QIAcuity?

Francesca Di Pasquale: The sample is partitioned into thousands of single reaction chambers, the so-called partitions. In every partition a PCR takes place, targeting the cancer markers that we are interested in.

Huw Ricketts: That's right. Each individual partition gives a clear answer.

Francesca Di Pasquale: This is also the reason why it is called digital PCR. Every single partition gives a yes or no answer, like the one and the zero in a computer logic. By counting these, the software uses statistics to calculate how many cancer cells were present in the original blood sample?

Domenica Martorana: And how long does it take?

Domenica Martorana: The whole process takes about two hours. Everything happens in only one instrument, fully automated and plate-based. And actually you can also detect more than one target at once, up to 12 in parallel. And this is multiplexing. No reference standards, no complex setup. Simple...

Huw Ricketts: Scalable...

Francesca Di Pasquale: ...and highly reproducible.

Domenica Martorana: We've seen how digital PCR works and why it delivers precise and reliable results. In real-world applications it's not about measuring once, it's about generating consistent results across labs, across studies and over time. But what does it mean for our customers? And why are more and more switching from qPCR to dPCR? Let's take a closer look.
Now, let's talk about our customers and their applications. So, Huw, why do customers switch from qPCR to dPCR?

Huw Ricketts: It's all about confidence in your data. Customers are facing increasingly complex samples and demanding applications. They need to be confident at producing reproducible data across different labs, across different operators and at different times.

Domenica Martorana: So, our customers get more out of their samples, they generate higher confidence data and all that at a very similar price point per experiment. But what makes the QIAcuity really stand out?

Huw Ricketts: It starts with simplicity. The QIAcuity is a fully integrated all-in-one system that reduces hands-on time and reduces complexity.

Francesca Di Pasquale: And it is also why it is one of the most user-friendly digital PCR instrument available. It really enables our customers to implement it easily and also scale it across different labs. And it also fits seamlessly into the QIAGEN ecosystem starting from the Sample technologies.

Domenica Martorana: And beyond simplicity and integration?

Huw Ricketts: Flexibility and scalability. Whether you're running a few samples or thousands, we have a one plate system for low throughput users to a multi-plate system for the high-throughput environments and that's with all the same technology.

Domenica Martorana: What else?

Huw Ricketts: Speed at scale. QIAcuity is very accurate and highly reproducible across all different throughput levels. The good examples in biopharma where you may have an R&D facility running many samples – screening many samples and then the same system can be used in the manufacturing where quality control measurements need to be made at much lower throughput.

Domenica Martorana: One system, different needs, right?

Huw Ricketts: That's right. One system across all those different applications. All-in-all, QIAcuity combines performance with simplicity, ease of use, flexibility and scalability.

Domenica Martorana: What about QIAcuity digital PCR in clinical and diagnostics?

Francesca Di Pasquale: Well, we have already shown that digital PCR brings a lot of value in research, but we do not stop there. With QIAcuityDx, we bring digital PCR to the clinical and diagnostic space.

Huw Ricketts: It forms a strong alternative where sequencing can be too slow or complex and where quantitative PCR is really coming to its limits.

Domenica Martorana: And this opens up important applications, doesn't it?

Huw Ricketts: Yeah. For example, in oncology, the QIAcuityDx is used to monitor minimal residual disease where you're looking for very small signals to help guide treatment decisions. This is where digital PCR can really make a difference to make fast, high-quality measurements that support decision making.

Domenica Martorana: So, this is how QIAcuity digital PCR is used today across research and clinical applications. Thank you, Huw. Thank you, Francesca.

Huw Ricketts: Thank you.

Francesca Di Pasquale: Thank you.

<u>Moderation</u>

Domenica Martorana: QIAcuity digital PCR combines precision, reproducibility and ease of use across a broad range of applications. But what does it mean in a real clinical setting? Let's hear from our customer, Sean Monaghan, from Brown University Health, who is tackling one of the most critical challenges in healthcare, sepsis. He's going to tell us more about how QIAcuity digital PCR is supporting decision making in the clinical environment.

Customer testimonial (Brown University Health)

Sean Monaghan: As a trauma and critical care surgeon at Rhode Island Hospital, I spend much of my clinical work caring for very, very ill patients. My research is devoted to understanding sepsis. A definitive diagnosis of that infection can take days. And you have this hurry in where you think the patient may have sepsis, but you don't know for sure. So, you give them broad spectrum antibiotics and hope that they improve. The issue is that every delay in appropriate antibiotics for those patients, we have an increase in their mortality rate. In my research lab, we have been studying RNA sequencing data from sepsis patients for about 7 to 8 years. We identified a method where we could identify RNA from pathogens of interest that are causing the infections. However, we knew we couldn't wait the days to weeks it takes for RNA sequencing data to come back for this to happen.
We decided to transition to a digital PCR machine and that is where we decided to use the QIAcuityDx. With the QIAcuityDx, or digital PCR in general, is that we were able to get this level or copies per microliter for those pathogen. With this level, it's no longer just a yes/no. Instead, we have a level that can correlate with patients outcomes. When we get a sample from the patient, we can go from sample to result in about five hours. We know that with the QIAcuityDx, we have a very high sensitivity down to five copies per microliter, which is a very small amount. I would have to say the most beneficial aspect of the QIAcuityDx for us is having this level of the result from the PCR that's very different from qPCR or any other really molecular techniques that are out there. And in our research, we are able to show that those copies per microliter have correlated with different clinical outcomes, such as whether the patient can be discharged from the ER to go home, whether patient needs to go to the ICU or even if the treatment is working.
The QIAcuityDx has allowed us to make our process from sample to actionable that much quicker. With the QIAcuityDx, we have a process where there are a few touch points, with a faster diagnosis we will be able to tailor those antibiotics directly to those patients so that we do not have to use multiple antibiotics and narrow it down to one and see if the antibiotics are working.

Moderation

Domenica Martorana: We have explored the QIAcuity technology, some applications and customer use cases. Now, let's have a closer look into the business perspective. And with that, let me hand over to Nitin Sood, our Head of Product Portfolio and Innovation and Fernando Beils, our Head of Global Commercial Operations.

Business perspectives

Nitin Sood: Digital PCR is one of the fastest growing areas of molecular testing. And QIAGEN's QIAcuity is designed to make this technology more accessible. QIAcuity bridges the gap between traditional qPCR and NGS. It has the sensitivity and accuracy of NGS and combines it with the speed and simplicity of qPCR. The digital PCR market itself is $600 million and growing robustly at 15% CAGR through 2028. In addition, there are opportunities to convert selected applications out of the NGS market, applications that require less number of targets. On top of that, we have the qPCR market and applications in there that can

be converted to digital PCR that require more sensitivity and more accuracy. We are executing against our growth strategies and seeing strong momentum across the business.
In 2025, we did $89 million in revenue and are expecting to do about $100 million in revenue in 2026. We are winning because we are the easiest platform to use on the market. QIAcuity's workflow is as simple as that of traditional qPCR workflows. We also win because we cover low-throughput labs and high-throughput labs and we cover a wide variety of applications in Life Sciences as well as in diagnostics. And lastly, we are making inroads into gene expression, the single largest application for traditional qPCR.
Since we launched QIAcuity in 2020, we have focused on serving a broad range of customers and applications. For our academic customers or customers that are just starting out with digital PCR, we have QIAcuity One, which serves one plate. As our customers scale their applications, particularly in translational research or in biopharma or in clinical diagnostic labs, we have QIAcuity Four and QIAcuity Eight serving four and eight plates. To support a wide variety of applications, we provide more than 2,700 QIAcuity digital PCR assays. In addition, if customers have a need for novel applications or assays, we provide GeneGlobe where they can easily design new assays. All these applications have resulted in over 1,100 publications that referenced QIAcuity in 2025.

Fernando Beils: Our momentum in digital PCR is clearly driven by differentiation. With an installed base of more than 3,200 systems, which is a CAGR of ~75% and also as a result, we had a revenue CAGR of ~55%, this differentiation is clearly visible. One of the attractive, unique selling points in our digital PCR solution is the throughput per day. 1,500 samples per day we can process thanks to the variety and the scalability of our platform. At the same time, our multiplexing capabilities are continuing to increase so that we are able to test up to 12 targets in one single reaction. That differentiation is not only about performance metrics, what also matters is the feedback of our customers. From food testing to biopharma to wastewater testing, digital PCR represents and this is the customer feedback, the next-generation of PCR testing. What we achieved with all our engineers across these years with the breadth of our portfolio was to make it as easy as qPCR.
QIAcuity is part of a larger ecosystem which serves from R&D down to quality control. And I had the opportunity to meet a large biopharma customer who was using our QIAcuity dPCR solution in viral vector analysis. And this enabled them to apply our digital PCR solution QIAcuity from Sample to Insight. This is where we come in as QIAGEN and this is also our offering, how we can enable our customers to grow and we can customize the solutions for their needs, from quality control down to research and development. And this is another example on how QIAGEN expands and grows customer relationships across applications and workflows.

Nitin Sood: One of the biggest opportunities for QIAcuity is gene expression, the single largest application within the $2.7 billion qPCR market. What is gene expression? Gene expression is a foundational tool in disease biology that measures what genes are on and what genes are off. QIAcuity builds on the strength of qPCR and the fact that it's easy to use and it's fast. But it overcomes the limitations of qPCR by being more sensitive, by being more accurate and more reproducible, allowing researchers to uncover disease-specific gene expression signals that qPCR may miss.

In 2025, there were over 17,000 publications in gene expression and this number is growing by >35% annually. To serve this very important market, we are launching a series of products. First, we are launching assays in mouse, rat and human. In addition, we're launching the high multiplex mix that allows our customers to interrogate 12 targets in one reaction. Our new solutions will enable researchers to detect subtle changes in gene expression and their high sensitivity will enable researchers to find a needle in a haystack. When customers work with QIAcuity, they get access to the breadth and flexibility of our assay ecosystem. Customers can go to GeneGlobe, our assay design platform, where they can gain access to 10 million predesigned assays and unlimited customization abilities.

Fernando Beils: We as QIAGEN, we achieved to bring the simplicity, the control into digital PCR and the ease of use, the adoption, the scalability, the capability of multiplexing, you get this all in that platform. Furthermore, expanding into gene expression, furthermore expanding into other applications, be it in the clinical field, be it in Life Sciences, be it in applied, be it in translational, our QIAcuity digital PCR solution is covering this breadth of a field. It is designed with the customer in mind across all these segments. And furthermore, we are stepping into companion diagnostics.

Nitin Sood: We at QIAGEN believe in digital PCR, one of the fastest growing markets in molecular testing. And our QIAcuity platform is leading this market. QIAcuity's ease of use and performance wins the customer, its scale keeps them and our continuous innovation expands our customer base. With the QIAcuity ecosystem, we are well-positioned for future growth.

Moderation

Domenica Martorana: Thank you, Nitin and Fernando. We now know what QIAcuity is all about, but there is one important aspect of our QIAcuity story that we haven't touched today and this is our pharma partnerships. Before my colleague, Huw, went into his digital PCR role, he was part of the companion diagnostics team and he had the chance to talk to Jonathan Arnold, Head of Partnering for Precision Diagnostics and Richard Watts from the Business Development for Companion Diagnostics team. Over to you.

Companion diagnostics interview

Huw Ricketts: Okay, Thank you Domenica. Jonathan, let's start, simply, for those who are not familiar with the topic. What is a companion diagnostic and why is it needed?

Jonathan Arnold: Sure. Thanks, Huw. Great question. And I will probably take it from a patient-clinician perspective. At the most basic level, what I consider companion diagnostics is essentially a patient has been diagnosed with cancer typically. Physician has assessed that patient, he is making a determination about therapies and essentially needs the diagnostic to determine if the patient is eligible for the therapy. And so, to me this is the perfect example of precision medicine, finding the right patient with the right drug at the right time.

From a pharma perspective, they're running a therapeutic program. They have developed the drug. The clinician is making a determination about what drug is right for the patient ultimately. And essentially, the pharmaceutical partner is going to have to invest in the diagnostic to ensure that we are selecting the right patients. And so, the pharmaceutical company really needs a partner that they can trust that has the competence, capabilities to develop the diagnostic because without the diagnostic there is no drug prescription.

Huw Ricketts: Where does QIAGEN come in and what's your role in the process?

Jonathan Arnold: QIAGEN really acts as a trusted partner. And we are that partner because of our competencies across the requirements that pharma needs. If you think about our leadership in PCR technologies, both qPCR and dPCR and the QIAcuityDx is really resonating with pharma. We also have more than 30 master collaboration agreements with global pharmaceutical companies. And this is important because it really establishes as repeat customers. And this is what I take most pride in, not just the absolute number, but it signifies that these partners trust us and they want to do repeat business with us.

Huw Ricketts: So, I think when people first look at companion diagnostics, they often think about developing the test as you've described there and just getting paid for that from pharmaceutical companies. But is that really the right way to be thinking about it?

Jonathan Arnold: Well, it's true that essentially we are commercial contract development business, so they are paying us to develop the diagnostics, which is great. It's a very important business to us. But that's not really what I think about the strategic value of our precision diagnostic business is to QIAGEN. The strategic value of our precision diagnostic business is developing innovative, differentiated content for QIAGEN platforms.
And so, the pharmaceutical companies are engaging with us to develop these novel, innovative diagnostics. We own the diagnostic. We then launch it onto QIAGEN platforms especially the QIAcuityDx. And this in turn make those platforms more attractive. So, it is a very virtuous cycle. So, we are launching novel content that no other company typically has access to, which then makes our instruments more attractive to our customers.

Huw Ricketts: It sounds like you're working with a broad range of pharma partners. How should we think about QIAGEN's position within the space today?

Jonathan Arnold: So, I think of it, we really have a leadership position. We've been doing this for a long time, as I mentioned, those 14 PMAs over roughly the last decade is testimony to that. Companion diagnostics is a tough business. If you think about these programs that we're supporting for our pharmaceutical partners, they are often billion programs. And so, really the concept of our risk is their risk and vice versa we take very seriously, but we execute on time. When we make commitments to these partners, we deliver.

Huw Ricketts: I guess, there has been recent interest in the field of ESR1, for example, as a biomarker, a companion diagnostic biomarker. And maybe, Richard, could you explain why that is?

Richard Watts: Sure, Huw. In breast cancer, ESR1 is a mutation in the estrogen receptor. Endocrine therapy is a key therapy that delays the progression of disease, endocrine therapy is treatments such as aromatase inhibitors. Those aromatase inhibitors do a great job, but over time, patients start to develop resistance and progress the disease. With ESR1 mutations progressing the disease, the biology isn't detectable in the image. And so, ESR1 mutation status needs to be characterized at the molecular level.

Huw Ricketts: And how does this play out in the patient journey? You've explained it a little bit.

Richard Watts: If a patient is diagnosed, as I mentioned, with HR-positive/ER-positive breast cancer, then that patient is given endocrine therapy and then, the patient is then monitored on a 6- to 12-month basis. It's when that patient starts to progress, when we start to see that disease developing resistance that we need to check to see if the ESR1 mutation is present or not. And that is where QIAGEN can step in with decentralized testing at the local level to help the oncologists make treatment decisions based upon analyzing blood samples taken from patients to determine if the ESR1 mutation is present.

Huw Ricketts: How could QIAcuity digital PCR be good for ESR1 blood testing?

Richard Watts: The QIAcuityDx and the application of digital PCR, it's really a magnifying glass to the molecular pathology world. It really allows us to go exquisitely sensitive into the analysis of the circulating tumor DNA that could be present in that patient's blood sample.

Huw Ricketts: So, that's how it works today, how CDx is working today, where do you see this evolving going forward?

Richard Watts: Well, the analysis of circulating tumor DNA is really a paradigm shift in oncology and treatment decision-making. We are looking for the detection of what we call minimal residual disease. The application of digital PCR is being applied in conjunction with next-generation sequencing towards MRD detection, generally speaking. So, it is a paradigm shift. It is opening a new form of treatment that can be given to patients to extend their life.

Huw Ricketts: So, maybe going back to you, Jonathan. Beyond oncology, how far do you think this model could extend?

Jonathan Arnold: Great question. It's one thing to think of our companion diagnostic business at QIAGEN as so much of a platform. It allows us look into the future. I often say we don't have to be smart, we just have to follow the money. And so, we're able to see where pharma is investing. Biomarkers. Technologies. And if you think about how we apply that, this is what I mean by innovative testing. We are always ahead of the curve because pharma is looking across the horizon as well. And so, in partnership with them, we see these things. They basically contract with QIAGEN to develop them and then we launch

them on these platforms. And so, I really think of our CDx business as a platform enabling QIAGEN instruments and consumables.

Huw Ricketts: Fantastic. Thanks very much, Jonathan. Thanks, Richard.

Moderation

Domenica Martorana: Thank you, Jonathan and Richard. This is clearly an exciting opportunity for our QIAcuity digital PCR. Now let's hear from our CEO, Thierry Bernard, on how QIAcuity is positioned for future growth.

Concluding remarks

Thierry Bernard: Thank you, Domenica and good afternoon to everybody. I have two key messages. You have seen Nitin and Fernando presenting the value of our solution, QIAcuity. You have seen multiple testimonies from customers, research, companion diagnostics, but also clinical customers. My two key messages are very simple. First, digital PCR at QIAGEN or digital PCR by QIAGEN is not just a technology anymore. It's a full ecosystem, a sustainable ecosystem, where QIAGEN fully masters the instrumentation, the consumables, the reagents, applications menu and the bioinformatics.

Second, we are just at the beginning of what we believe to be a revolution in molecular biology, digital PCR. We believe that QIAGEN is already a leader, but we want to continue that leadership and continue to invest to provide every day more solutions to our customers, be it in research, academia, pharmaceutical companies or clinical labs.

If you think about it, what do customer want today? First, they want reproducibility. Second, they want scalability. And third, they want to able to detect more pathogens into one single sample simultaneously. Many companies are able to provide customers with reproducibility, with scalability, with multiplexing. But there is something also very important that customer want. It is simplicity. And I think it is fair to say that QIAGEN is the only company to be able to offer and provide customers with reproducibility, scalability, multiplexing, but also simplicity.

Digital PCR by QIAGEN, as you have heard from Nitin, from our customers, from Fernando, it is one sample in and the result out. It is a fully integrated box. So, this unique feature of digital PCR by QIAGEN, of QIAcuity translate in numbers today. We launched it roughly four years ago. In four years we took more than 12% of an estimated market already at $600 million. More than 3,200 system placed since we launched that solution. 1,100 publications to support the value of QIAcuity. This is probably unprecedented. We are already the number two on this market and we are on our way to become the clear number one.

But there is no way we are going to stand still and we want to continue to invest to enhance that leadership. And I see three ways or three priorities for those investment. First, obviously continue to increase the potential application available for customers. We started with a lot of application at the beginning for research and academia, we extended it to pharma companies, but we want to move also to new fields. Think about human identification, forensics.

Second, companion diagnostics is probably one of the major growth field for QIAcuity and digital PCR. We are extremely well-placed at QIAGEN because we already can leverage more than 30 pharma partnerships to push that solution to our pharma partners. And the third major investment for our company in the month, the weeks, the years to come, is to be the leader converting the gene expression market into digital PCR. Gene expression is probably one of the major application in qPCR today all over the world. But think about it, customers will continue to look for more targets, for speed, for accuracy, but in a simple workflow. QIAcuity is ideally positioned to answer those needs.
I am not saying that tomorrow digital PCR will fully replace qPCR. That is not the point. And by the way, digital PCR will not fully replace next-generation sequencing either. But see it that way digital PCR is allowing our customers to find more targets in one sample in a fast way than traditional qPCR, but, and this is very important, without the complexity of next-generation sequencing.
And so, when I think about QIAcuity for the future, I see a double-digit growth potential for our company. I see QIAGEN clearly taking the lead in this market. I see QIAGEN clearly converting more and more qPCR applications into digital PCR. I see QIAGEN leading the move of PCR in gene expression for qPCR to digital PCR. And I see it as a very major investment for our company.
And now back to you, Domenica.

Moderation

Domenica Martorana: Thank you, Thierry. Before moving on to the Q&A, we are happy to share more customer voices and their experiences with the QIAcuity.

Customer testimonial (Tracer Biotechnologies)

Gopal Ramachandran: My name is Gopal Ramachandran and I am the CSO and Co-Founder of Tracer Bio. For decades, imaging has been the mainstay of how we monitor cancer patients. Minimal residual disease is an attempt to go beyond that and measure microscopic amounts of disease in a patient's blood that are not detectable by imaging. This allows us to more quickly assess whether a patient is responding to therapy, when we need to switch therapies and catch recurrence much, much earlier. At the logical extreme of MRD, we want to be able to detect a single molecule from the tumor in a blood sample from a patient. This requires every step in the process to be perfect from sample collection to DNA extraction and then, ultimately detection of that single molecule using digital PCR.
When we first started working with the QIAcuity, we, I think, like many others, saw QIAGEN as the maker of kits that come in blue boxes and reagents. When we started at Tracer, it would take one technician a ton of manual work. What that meant was it would take them approximately one day to build an assay for a single mutation per single patient. With the simplicity of the QIAcuity workflow, we have been able to automate all of the pieces around this. Now, the technician doesn't have to do any of the work. It is all done robotically. And the robot can build assays for 10 different mutations in 20 minutes. This has yielded a greater than a 100x speed-up in our workflow.

Customer testimonial (Florida State University)

Prashant Singh: I'm an Associate Professor at Florida State University. My lab works on developing methods which can reliably test for presence of *Salmonella* in poultry, presence of *E. coli* in red meat samples so that companies can reproducibly test their food and protect people. I started working on digital PCR assays in 2023. I was having a conversation with the stakeholders that we don't need to only do presence/absence testing of *Salmonella*, we also need to count how many *Salmonella* cells are present in the food sample. If they have a higher *Salmonella* load in the food sample, that product should be also eliminated or stopped from entering the commerce.
Working on food samples for the last 10, 15 years, I know that relative quantification will be always challenging with food samples because food samples are high in protein, high in fat and high in all PCR inhibitors you can think of. And that is why I chose dPCR for quantifying *Salmonella* in beef and poultry samples. What I value most about QIAcuity digital PCR platform, the one unit does everything from partitioning the plates, doing the PCR and also imaging the plate. Everything done in one box. Second part, it quantifies this presence of target DNA. I also very much appreciate its ability to detect two or more targets within one cell of bacteria.

Moderation

Domenica Martorana: Thanks, Gopal and Prashant. We have seen today three customer voices and we have prepared three more for you, which you can see after the Deep Dive on our web page coming from Novartis, Berliner Wasserbetriebe and Cellares.
Now, we come to the last point of our session today, which is the Q&A. And if you haven't done so, please type in your questions into the Q&A box in the web portal and we are happy to take them just in a minute. Today, together, joining the Q&A session with me in the studio are Daniel Wendorff and Huw Ricketts, welcome.

Q&A

Domenica Martorana: Thanks, Gopal and Prashant. We have seen today three customer voices and we have prepared three more for you, which you can see after the Deep Dive on our web page coming from Novartis, Berliner Wasserbetriebe and Cellares.
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Huw Ricketts: Hi, Domenica.

Daniel Wendorff: Hi, Domenica.

Domenica Martorana: And we also have more speakers for today's Q&A that you can see on the screen, which are Thierry Bernard, Nitin Sood, Fernando Beils and Jonathan Arnold. Welcome.

Thierry Bernard: Thank you.

Nitin Sood: Thank you.

Fernando Beils: Thank you.

Jonathan Arnold: Thank you.

Domenica Martorana: Perfect. Thanks a lot. I think we are ready with the first question. Daniel, please.

Daniel Wendorff: Yes. Well, the first question is what differentiates QIAcuity most strongly when customers evaluate competing digital PCR platforms?

Thierry Bernard: When we launched QIAcuity four years ago, the main differentiation was coming from the simplicity. It was the first time that a company was launching a digital PCR system fully integrated, one box, sample in, result out and this for three different kinds of instrument. And clearly in the recent years, some competitors have tried to also integrate their solution. With our plate-based technology that makes it simpler and much more cost-efficient than any other competitive solution at the moment in the market. And this is why notably on the American market, any time we are faced with competition, our hit rate is above 70%. That's quite remarkable. Perhaps, Nitin or Huw, if you want to complete that differentiation?

Nitin Sood: Yeah, I will add a couple of points to that, Thierry. One is that in addition to being much easier to use, it's one platform that scales from one plate to eight. So, when a user gets used to our software, our ecosystem, they can very easily scale. And the second is that scalability extends from research all the way to diagnostics. So, they can start out on our research use platforms and as they move into the diagnostic application, they can use the Dx platform. Again, the same underlying technology platform, same software. And then lastly, we have the GeneGlobe ecosystem where there are tens of millions of assays to choose from, lots of customizability available to our customers. And then >2,700 validated assays for them to pick from. Anything to add, Huw?

Huw Ricketts: No. I think you've captured everything there, Thierry and Nitin, I think I can't add anything else. It's perfect.

Domenica Martorana: Perfect. Let's go to the next one, you mentioned that customers are increasingly switching to digital PCR. Where in that transition curve are we? And do we expect the majority of our qPCR installed base to switch to digital PCR or will we have customers that use both qPCR and dPCR?

Thierry Bernard: I think we need to be very clear here. QIAGEN, in many different situations, has repeatedly said cannibalization is not what is going to happen. Digital PCR is not going to fully cannibalize

qPCR. Digital PCR is not going to fully cannibalize next-generation sequencing either. But by combining the fact that we are giving more answers with digital PCR than with qPCR without the complexity of next-generation sequencing and the time to result of next-generation sequencing, we have created a new need. So, we are also opening new frontiers from our customers, be it in pharma company, clinical lab research or academia. So, there will be some conversion obviously on both sides, both from qPCR and also from NGS. But it is not purely cannibalization. For us, as we said in that presentation, one of the major potential for conversion will be around gene expression. We all know that gene expression is one of the key markets currently in qPCR. Will that all the market for gene expression will move to digital PCR? No. Clearly no. But we want to convert a big part of it.
As for the transition from our own portfolio to digital PCR, it's very fair to say that in the coming years, QIAGEN will invest much more in digital PCR than in qPCR instead. But what is important is being a leader in molecular biology. As of today, QIAGEN is the only company on the market to offer varied solutions in qPCR, in digital PCR and in next-generation sequencing and to offer those solutions to both research, academia, clinical customers, pharma and many other customers.

Domenica Martorana: Perfect. So, let's take one on clinical and then we move on to gene expression. Can you speak about some more of the applications in the clinical setting that we see our customers moving to digital PCR? And what are the fastest growing areas of this clinical market and which applications do we think provide the biggest opportunity for us?

Thierry Bernard: It's a market in the making, but, Huw, you might want to take this one and also what we presented within companion diagnostic is a good answer.

Huw Ricketts: Yeah. Thank you very much, Thierry. Absolutely. It's a great question. And we do see an expansion in clinical applications. Anything where you may want to take repeated time points, samples over repeated time points, for example, the ESR1 example that Richard talked to us about, that's classically strong for digital PCR. You get the precision in the measurements between time points. It is a critical point. So, anything in that oncology space is going to be important for clinical applications. But also something like transplant, we're seeing quite a lot of opportunities in transplant, monitoring of patients who have had a transplant.

Domenica Martorana: Perfect. Daniel, do you want to continue with gene expression?

Daniel Wendorff: Yeah. One question which came quite often is how important really is gene expression as a future growth driver for the QIAcuity platform?

Thierry Bernard: I think Nitin could give some indications here.

Nitin Sood: Yes, gene expression is a really important market as you heard in the presentation, 17,000 publications in gene expression, growing at >35% year-over-year. So, it continues to be an extremely important tool in analysis of diseases. And where QIAcuity will shine is in finding the needle in the

haystack, finding the gene expression signals that traditional qPCR will miss. And that's going to uncover more disease biology, help obviously develop better diagnostics and better drugs.
Today, 10% of our instruments go into gene expression. And with the launch of our new kits that we just announced, we expect that to increase. And then we're not just stopping there. You've heard us say we're working on our second-generation platform and that will further accelerate the penetration into the gene expression market. It's a very important market.

Domenica Martorana: Perfect. And we have one on the $600 million total addressable market in 2025. How much of that was clinical versus research and also similarly for our growth outlook through 2028, how is the break between clinical and research?

Thierry Bernard: Well, the majority of the market is still in research and academia. As we said, the clinical market is in the making. And QIAGEN's strategy is to boost that evolution via our pharmaceutical companies, partners and our companion diagnostics. But it's also the strategy to put that technology in the hand of as many customers as possible.
You saw the example of Sean Monaghan, for example, he is developing his sepsis approach in Rhode Island thanks to our technology he is developing it, we are supporting obviously. But there are many applications like this where we want to push customers in HID and forensics, in agri-business, in food control for example to try that technology because we know it brings value. So, it's fair to say that the market is probably at the moment still 60% to 70% research and academia, but the clinical applications are moving fast.

Domenica Martorana: Thanks. Daniel?

Daniel Wendorff: Yeah. We have one more one more question. What are the biggest barriers preventing broader conversion from quantitative PCR to digital PCR today?

Thierry Bernard: Huw, as Head of Marketing, would you want to take that one?

Huw Ricketts: It's a pleasure. Thanks, Thierry. I think in the past, many customers were, let's say, fearful of digital PCR because of the difficulty with the workflow. It's a challenging workflow. With the QIAcuity that's gone now, it's an ease of use. It's just like qPCR. You're using a plate-based system, you're setting up basically a qPCR reaction using digital PCR. So, I expect customers will adopt this because of the ease of use.

Domenica Martorana: Okay. Perfect. Then I would say let's move to companion diagnostics. And what's the real status of the three partnerships for the QIAcuity CDx?

Thierry Bernard: Jonathan?

Jonathan Arnold: Sure, I can't comment directly on any individual program. These are highly confidential for our partners. But I can confidently say they're on track. We're expecting launches in the next 12 to 24

months. It's always hard to precise a timeline because essentially we're married to the clinical timelines as well for the therapeutic. I'm also very, very bullish on our pipeline as I see the progression of digital PCR into our pipeline with pharma. In the medium-term it will be the primary technology for our companion diagnostics business. So, things are going very well on the companion diagnostics side. Pharma understands and appreciates the value proposition of the QIAcuityDx. As we look at those monitoring applications, we see it as that nice complement to NGS. NGS will always be the primary diagnostic in my mind for oncology, but there's other applications where it's not the best and we see that's where dPCR is resonating right now. So, things are good.

Domenica Martorana: That's good. Daniel, do you have one more?

Daniel Wendorff: Yeah. I have one more. Where within in the approximately $2.7 billion PCR market do you see the greatest opportunity for digital PCR conversion?

Thierry Bernard: Fernando or Nitin, you want to come back to this one?

Nitin Sood: Yeah. I mean, we talked about this. We expect, again, the gene expression market, which is about 50% of the $2.7 billion market to be the most exciting opportunity. But broadly wherever you require high sensitivity, accuracy, precision and you want to do repeat monitoring, we expect digital PCR to make inroads into the qPCR market. Fernando, anything to add?

Fernando Beils: It will be easy for our future customers in regard to reproducibility, easiness, multiplex you heard up to 12 targets were just coming up. And on top of this, more than 2,700 assays available and the large variability of customization opportunities. So, we more than make it easy for our customers and future customers to convert pretty easily.

Domenica Martorana: Perfect. Then let's give additional color on the revenue mix across different applications. Gene expression, cell and gene therapy, liquid biopsy as mentioned, quality control and so on. But also end customers, academia, the clinical field where are we with that conversion?

Thierry Bernard: Well, first, I think the first thing I'm going to highlight is that digital PCR, QIAcuity is clearly one of our pillars in growth. As a result, we basically also received one of our highest investments into research and development. We have dedicated people on the field who are selling only digital PCR. We have a dedicated team for companion diagnostics who is focusing also on pushing this technology through our pharma partners. So, you know the numbers, Nitin has given you the numbers for 2025, the target for 2026 as well. We are not splitting those numbers into clinical or research and academia or into gene expression, QC and so on. What is clear, the key messages are the following. Since we launched digital PCR, we have developed the number of applications to fuel that growth. We started for research and academia and then moved also to cell and gene therapy and moved towards sort of QC control. We are now moving into gene expression in the second half of 2026.
Since the launch of QIAcuity, again at the beginning research and academia, we brought that solution to regulatory authorities IVDR, FDA. We brought that solution to our pharma partners. That's how we invite

you to see. We have a target, which is to become the number one on this growing market. We see digital PCR as a double-digit growth product in our portfolio. This market is growing. We have a good solution. We have a differentiated solution. We have a cost-efficient solution. We have people dedicated to market it and sell it. Maybe as I said many times – we will be number one in digital PCR. And if we don't, it won't be because of the solution, it's because of management. I would say, it's just a matter of execution at our end.

Domenica Martorana: Perfect. And we have a couple of questions on conversion NGS to digital PCR. So, can we talk more about digital PCR? When digital PCR would be used over next-generation sequencing, particularly as in the oncology space? So when you can get more genetic information from NGS alone why going with digital PCR? And if not completely used over NGS, specifically how is this used in tandem with NGS?

Thierry Bernard: Insisting again on the fact that it's not about cannibalization, but providing customers with a new added-value solution. I would invite Huw and Nitin to take that question. But again it's not about cannibalization, it's basically bringing value compared to what NGS brings to clinicians and patients and compared to what qPCR brings to clinician and patients.

Huw Ricketts: Absolutely. Thanks, Thierry. And you heard from Jonathan as well, in oncology NGS is going to be the primary diagnostic most of the time. Where we see, as Thierry said, digital PCR is a complement to NGS and actually often they combined together to give more information. In onco-hematology, we see a lot of digital PCR being used because often onco-hematology is defined by a small subset of genomic alterations. So, you don't necessarily always need NGS and you might need speed. These patients are extremely sick needing an answer quickly, so digital PCR fits very nicely there.

Domenica Martorana: Perfect. On the Hamilton integration, what percentage of customers would benefit from Hamilton integration and what are good examples of potential use cases?

Thierry Bernard: Nitin, you want to take this one?

Nitin Sood: Yes. So, one of the primary applications we're targeting with this integration is really in the cell and gene therapy QC space as our customers are moving from sort of method development and moving digital PCR from that space into QC of released drugs, they need higher throughput. And as a result they would benefit from automation and higher scale. And likewise, as we scale out, our customers are scaling out in applied testing as well as in clinical diagnostics. Those are another category of customers that would benefit from more automation.

Domenica Martorana: And we have time for one more, I guess. What products are you launching to target gene expression in the second half of 2026 and already 10% of instruments today, so what's changing?

Thierry Bernard: Nitin, on the assays that we are going to launch in the second half of the year.

Nitin Sood: Yes, we're launching two categories of assays. First, as you heard, we are launching panels that target various pathways in mouse, rat and human. These are mouse and rat being model organisms and, of course, human being a very important category. And then we're launching the one-step twelvefold multiplexing kit in gene expression. One-step meaning you will able to do generation of cDNA from RNA and amplification in one step in the instrument itself, just making the workflow simpler. And then I just want to remind everyone that at QIAGEN we also have our bioinformatics solutions, our IPA, which does pathway analysis which also contains the latest greatest information about the new pathways that are being discovered. So, we'll continuously add new pathway-specific gene expression panels and so that's going to drive our growth. And then as I've mentioned, we continue to innovate and we have more things in the pipeline that will help us accelerate penetration into gene expression.

Domenica Martorana: Thank you. And with that, we are almost at the end. Before closing the session, I would like to hand over for some final remarks.

Thierry Bernard: Yeah. Well, thanks again, all of you, for your attention. And I continue to believe, I hope that you appreciate this format of one hour investor relations Deep Dive. I would like to thank the Domenica and the team for the preparation of this event. Obviously, we remain open to your questions if you have further questions by email. And the final message from me would be very simple. For a molecular biology company as QIAGEN moving into digital PCR was clearly a natural step. What we have executed and achieved over the last four years is nothing short of remarkable. It's probably the fastest growth of an installed base in tools, Life Sciences and diagnostics clearly, achieving more than 3,200 systems in such a quick time is remarkable. But as Nitin said, as Jonathan and Huw said, we don't want to standstill. Already in our pipeline is a new instrument, we call it QIAcuity version 2 or generation 2. Obviously, we will update you as we go. But see that investment as a clear proof that one, QIAGEN is definitely a digital PCR company and two, that we are going to fuel our ambition to convert the market of qPCR and anytime we can also the market of NGS to this new technology. Thank you and talk to you soon.

Domenica Martorana: Thank you. And with that, we are at the end of this QIAcuity Deep Dive session. Thanks for your participation and for all the questions that we received. And with that, have a great day. And if you have any further questions, always feel free to reach out to us. Happy to help and see you then. Bye bye.