Steve Lewis 00:10
Welcome to Speaking of Mol Bio, a podcast series from Thermo Fisher Scientific about molecular biology and its trending applications in life sciences. I'm Steve Lewis, and welcome to another Mol Bio Minutes mini episode today. I'll be staying with you to talk about a topic that is near and dear to me.

Steve Lewis 00:34
Here's a situation that happens all too often in today's biotech and pharma environments. Let's say you're a scientific team who has just raised a series B. Your investor loves what you built as a prototype, but they want you to scale up as quickly as possible. So your assay works, your clinical data looks strong, the science is solid, and now you need to scale up to bring it to market. We might be talking about custom consumables, like a uniquely made cartridge for your own instrument. It could be a unique tube, a custom filtration device, or even a microfluidic workflow that you need to scale up for your customers fast. The biology works, but the plastics part doesn't scale, until now. Physical product design often determines whether something can reach the market. This gap led to us building the Thermo Fisher Scientific Plastics Prototyping Services.

Today, the standard process is that customers hire separate design, prototyping and manufacturing vendors for their product development pipeline. This often happens simultaneously with the science that's being verified in the laboratory. While that's going on, timelines and tolerances must be coordinated across the different groups. You might have an engineering team and you might have a scientific or R&D team in the lab working in parallel. Until today, no single life sciences focused partner can take your idea, your science, from idea to commercial scale manufacturing. That led us to develop the Thermo Fisher Scientific Plastics Prototyping Services.

The fragmented nature of today's market, where you have to hire multiple vendors for design and prototyping, making a mold, and then ultimately, manufacturing at scale, slows down innovation and increases risk. So we built a coordinated, end-to-end life sciences specific approach to bringing your products to market today. What does that look like? A starting point may be a benchtop prototype, a workflow issue, or a concept. Engineers, again, will collaborate with your scientists early. You may have a custom instrument, for example, and you may need a unique microfluidic cartridge that's used in that instrument. Structured design and prototyping cycles with equipment that can be used in the laboratory, like 3D printers enable rapid iteration, but they don't enable large scale manufacturing So often when you're making design decisions at the small scale in your laboratory alongside maybe an engineering team, you're not really thinking about commercial scale manufacturing from day one. And that's where our service is very unique. We have launched this product service offering that can take products from idea, through prototyping, through commercial scale manufacturing, all under one roof in the same building and with the same team. This integrated approach leads to extremely efficient timelines.

We kick this process off by working with a very specialized team, engineers who are experienced in life sciences applications. We work in ISO certified facilities, and we offer clean room environments. We have experience in contamination control and regulated markets. Projects can include things like instrument cartridges, automation plates, microfluidics, scale consumables, as well as other instrument consumables. If you can come to us with an idea, chances are we can build it. The way that we've made this process so efficient is integration across our own ecosystem. Because Thermo Fisher offers

reagents and instruments, as well as many different manufacturing capabilities, we really ultimately design our products with the idea that we can get them to market very quickly. In our case, we have integrated across our whole ecosystem. So when it comes to the actual plastics resin selection, the polymer chemistry is something that this team will look at up front. We also look at the physical design of the cartridge architecture, if you're building an instrument cartridge, alongside its reagent performance. So yes, that does mean that with the Thermo Fisher Scientific Plastics Prototyping Services, you can not only scale the plastics component, for example, an instrument cartridge, we can also fill it with the reagents that you need for your assays and other scientific processes.

From the very first moment you meet with our team, we coordinate the consumables integration, and development with your custom hardware needs. That reduces friction as well as accelerates the path toward commercialization. We built this specifically for Series A, B, or C, life sciences companies that are focused on building physical products. Teams who may be doing research in molecular diagnostics that need custom cartridges, for example. Instrument startups requiring unique consumables is another use case. We are really interested in bringing your verified science to a scalable physical solution.

We were inspired to build these plastics prototyping services because scientific programs should not stall out due to manufacturing gaps. We bridge innovation all the way to commercial scale manufacturing. So if your biology works but your product doesn't yet scale, that's actually very solvable. Visit the plastics prototyping services page in our episode notes and start early. In molecular biology, innovation moves quickly, and the path to scale up should as well.

Steve Lewis 06:48
With that, this is a wrap of another Mol Bio Minutes mini episode. Coming up next month, we'll have another full episode as well as another Mol Bio Minutes episode. So stay tuned for those to drop, and until then, cheers and good science. Speaking of Mol Bio is produced by Matt Ferris, Sarah Briganti, and Matthew Stock.