

# Greater flexibility, higher performance

*Based in the US with operations worldwide, Finesse Solutions is a manufacturer of measurement and control solutions for life sciences process applications. The company, known as a leader in the market for single-use systems, recently announced the launch of beta testing of SmartVessel™, a single-use 3 litre bioreactor vessel with integrated single-use sensors for cell culture applications of mammalian cells, stem cells, insect cells, and plant cells. Finesse Solutions' CEO, Dr. Barbara A. Paldus, explains what the main benefits of SmartVessel are and reveals that the company plans to diversify into downstream processing equipment.*

Dr. Paldus founded Finesse Solutions together with Dr. Mark Selker, its current Chief Technology Officer, in 2005. She previously founded Picarro, where she led the team that developed the company's breakthrough photonic technology. She says they started Finesse Solutions because they saw a need for digital technology in bioprocessing: "After Mark and I attended our first industry trade show, we realized that bioprocessing was very much behind other industries such as medical devices or diagnostics in adopting technological advances in software and electronics. Bioprocessing needed better tools."

Over the past nine years, Finesse Solutions has become known for its scalable, robust, and high-performance solutions for single-use upstream bioprocessing. The Finesse product platform includes novel disposable sensors, modular automation hardware, and intelligent software that can harmonise data and technology transfer globally. Finesse also offers a complete set of services including commissioning and validation for rapid and reliable deployment of single-use equipment. These solutions are sold worldwide, from the US to Brazil to Europe through to China and India.

Equipment for growing cells is essentially Finesse Solutions' core business, explains Dr. Paldus. She estimates that the

company has 20% of the market for single-use automation tools in the upstream market. "The downstream market is bigger than the upstream market. This is why we plan to expand into filtration automation over the next couple of years, and subsequently also into chromatography."

Innovation in upstream technology is ongoing at Finesse Solutions, however. The company recently announced the launch of beta testing of SmartVessel, a stirred tank single-use bioreactor which allows working volumes from 0.5L to 2.2L and is supplied as a completely preassembled and presterilised unit that is immediately ready to use. It eliminates the need for

labour-intensive steps such as autoclaving or installation of probes, minimising the time needed for process setup. Dr. Paldus says that around 20 companies have signed up for beta testing of the SmartVessel. Interest in this new product underpins the growing popularity of single-use tools in bioprocessing, in her view. "Ten years ago there were doubts about single-use equipment. Now, the industry realises that single-use technology allows for more flexibility. Our technology is well positioned as we do not have pre-fixed strategies for bioprocesses like many of our competitors do."



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