GE Healthcare Life Sciences pairs up with Advanced Solutions Life Sciences to create new opportunities for regenerative tissue manufacturing

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The world's first integrated 3D bioprinter + confocal scanner (BioAssemblyBot + GE IN Cell Analyzer 6500HS)

- *Strategic R&D and distribution partnership aims to advance the field of 3D biofabrication.*
- *Printed cells with vascularization would be first step toward more complex biological structures for bone, soft tissue, and organ replacements.*
- *The partners will create an integrated and agile way to print cells using cellular imaging and six-axis digital biofabrication.*

MARLBOROUGH, MA. and LOUISVILLE, KY. – December 8, 2019 – GE Healthcare Life Sciences and Advanced Solutions Life Sciences (ASLS) will enter into a strategic R&D and distribution partnership that sets out to personalize tissue regeneration. The integration of IN Cell Analyzer and BioAssemblyBot® systems technologies will embed cellular-level assessments into the 3D-bioprinting workflow used to create human tissue models.

Bioprinted tissues are small in size and die quickly, due to an inability to engineer small blood vessels – the body's supply network. ASLS' patented Angiomics® technology enables bioprinted microvessels to self-assemble into functional capillary beds, which deliver nutrients, oxygen, and hormones to the 3D tissue model and remove waste. This partnership would allow life scientists and tissue engineers to quickly design, build and image living, vascularized 3D tissues in a single, agile process.

Emmanuel Abate, General Manager of Genomics & Cellular Research, GE Healthcare Life Sciences, says: "Printing multi-material 3D objects inside of microwell plates allows scientists to efficiently move away from traditional 2D monocultures on plastic, to 3D discovery and cytotoxicity models that more accurately reflect native biology and disease. By combining this flexibility and precision of the BioAssemblyBot® with the image quality and speed of the IN Cell Analyzer 6500 HS confocal screening platform, the prospect of automating high content screening in 3D models can become a reality."

Currently, biopharmaceutical companies test their drugs in 2D models and animal models. Precise 3D models provide a more physiologically relevant environment for drug testing because they mimic human reactions.

Integrated system used to produce thick, vascularized 3D liver tissue models

"The power of both of these platforms brings a new level of efficiency, speed and quality with assay designs and 3D biofabrication," says Michael Golway, President & CEO of ASLS.

Traditional 3D bioprinters are not designed for quality or interoperability with the high-throughput screening methods that pharmaceutical developers use to identify drug candidates. This alliance will result in a new product to address this challenge: an integration of GE Healthcare Life Sciences' IN Cell Analyzer confocal imaging platform with IN Carta cell analysis software, and ASLS' BioAssemblyBot® 3D bioprinter with TSIM® design software.

For pharmaceutical companies, where the average time to develop a new drug candidate may take over seven years, moving from traditional stage-gate testing processes to a lean, agile workcell for 3D tissue fabrication and assessments will shorten development timelines. The integration between IN Cell Analyzer and BioAssemblyBot® enables the automated inclusion of cellular imaging information into the tissue modeling process so that new therapies can be scaled more quickly and effectively.

For a live demonstration visit booth #908 at the joint meeting of the American Society of American Cell Biology (ASCB) and the European Molecular Biology Organization in Washington, DC taking place from December 7-11, 2019.

About GE Healthcare Life Sciences:

GE Healthcare Life Sciences helps therapy innovators, researchers and healthcare providers accelerate how precision diagnostics and therapies are invented, made and used. Our products enable biological analysis, research, development and the manufacture of advanced therapies and vaccines. Life Sciences is part of the $19.8 billion healthcare business of GE (NYSE: GE). With over 100 years of experience in the healthcare industry and more than 50,000 employees globally, GE Healthcare helps efficiently improve outcomes for patients, healthcare providers, researchers, and life sciences companies around the world. Visit our website https://www.gelifesciences.com/about-us for more information.

About Advanced Solutions Life Sciences:

Advanced Solutions Life Sciences (ASLS) is dedicated to the discovery, design, and development of integrated software and hardware solutions for the fields of science that involve living organisms, molecular biology, and biotechnology. ASLS offers a full-service business model including its patented, cGMP and UL certified BioAssemblyBot® platform, as well as BioBot® Basic, TSIM® and BioApps® Software, VIPM™, and Professional Services. Visit www.bioassemblybot.com for more information.

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