



Best Imaging Science Workflow Integration Specialists - USA



Eyes are the windows to the soul and the brain, but unfortunately, more than three hundred million people across the world today suffer from some variation of ocular disease or disorder that can also affect the brain. With the advancements in science and medicine that continue to be made today however, there is a greater than ever chance scientists and doctors alike can study these disorders in order to better understand them, whilst helping individuals along the way. Translational Imaging Innovations (TII) is a firm dedicated to such service, and we took a closer look to find out how.

The eye is intimately connected to the brain, and understanding the eye is a vital piece of the puzzle when understanding more about the brain. Imaging technology has come such a long way that scientists are now using it to study neurological diseases such as Alzheimer's and multiple sclerosis via the eye. Demographic trends estimate a doubling of eye disease patients, and a tripling of neurologically-impaired patients by 2050. Advanced imaging and imaging analysis, big data techniques, artificial intelligence, and strict adherence to regulatory requirements are at the core of research development across the field of ocular science. The sheer volume of images collected and the myriad of ways to create images is growing rapidly, but there must be more growth. Everyone has unique needs. Collecting, managing, and accessing all of these images can be really complicated and frustrating. That's where TII comes in.

Enabling clients to move image-driven medical breakthroughs to the patient faster, with less frustration, and at a lower

cost, the TII team is changing the game for ocular imaging technology, offering a glimmer of hope for those 2050 forecasts. TII's Integrated Translational Imaging™ platform simplifies the collection, management, and analysis of images whilst easing the burden of regulatory compliance. LATTICE is web-based software for patient recruiting, exam tracking, and data collection. MOSAIC is both a development environment, and an analysis platform for advanced ocular image processing and artificial intelligence. Together, they form this integrated platform that reduces administrative costs and improves scientific efficiency, accelerating the translation of medical breakthroughs to patient care.

Whilst advancements in imaging technology are fantastic, they are only the beginning. The amount of information embedded in today's images is truly staggering. What the industry is missing, and what TII seeks to provide, is an efficient, practical way to unlock all of the medical value hidden inside these images. The firm is integrating imaging workflows and data management with image processing and algorithm

development to accelerate the development and validation of new imaging biomarkers for improved diagnostics, and as objective outcome measures for the development of new therapies. It takes a significant volume of images and data to apply the techniques of artificial intelligence and deep learning to biomarker development. The management of images and segregation into traceable training, testing, and validation sets is critical to the robust validation of new algorithms. TII is building its platform on a transparent and traceable backbone to assure that it stays at the forefront of regulatory science with regards to artificial intelligence.

Of critical concern to so many businesses and industries today is data privacy and especially patient privacy within the medical communities. TII's platform is designed to facilitate efficient use of images and data, whilst ensuring maximum protection of patient privacy. In all cases, the firm ensures that every piece of data has been collected with the proper consent for retrospective research. The use of patient data is a critical and controversial topic, but TII's

commitment to advancing the capability of imaging research has never come by sacrificing the patient's rights to data and privacy protection. People come first. However, when offered the chance to provide their images in the name of advancing scientific research into cures for their eye disease, experience suggests that many patients want to be a part of the solution. Educated and informed consent is the best way forward; a practice TII is more than skilled in.

Given the staggering statistics around eye diseases and disorders, it is likely that many of us know someone affected by one. Or perhaps a neurological disease whose origins can be traced through ocular imaging. TII's endeavours are seeking to change that trend, offering hope to many patients throughout the world that their eyes may hold the key to turning the tide in the fight against neurological diseases everywhere. More than science, more than innovation, and more than technology; TII is a source of hope.

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