BioSpectrum the business of Bio & Health Sciences

Expert Opinion - Prahalad Achutharao

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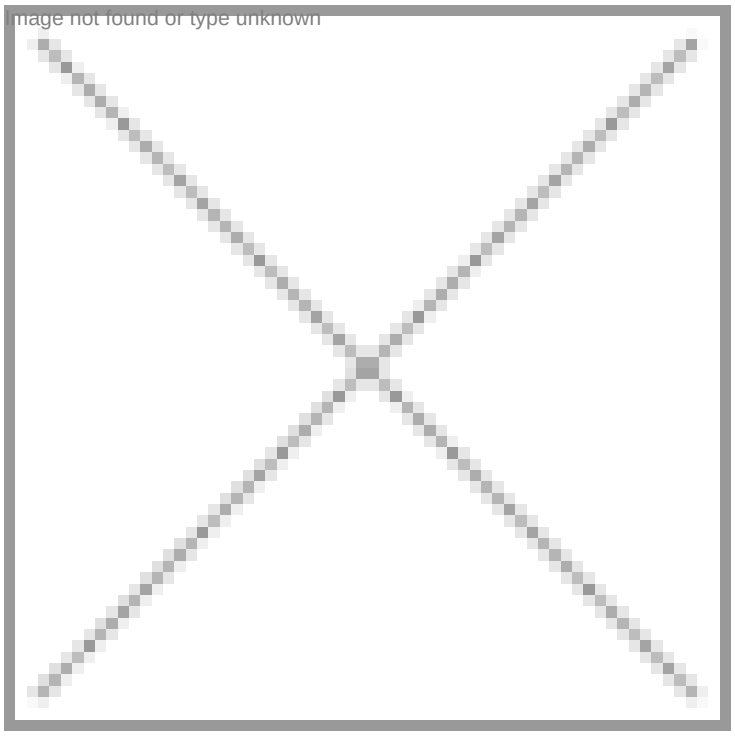

BIOINFORMATICS

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Capitalizing â€œomicsâ€?

With some standardization required, next generation sequencing will change the dynamics of biotech and medicine.

â€œI think the biggest innovations of the 21st century will be at the intersection of biology and technology. A new era is beginning.â€? - Steve Jobs

What Y2K and time-to-market was to IT, next generation sequencing (NGS) will be to biotechnology. With the innovation moving from big research centers, pharmaceutical and seed companies to small labs, NGS combined with high-end technologies such as high performance computing and cloud are expected to change the dynamics of biotechnology and clinical medicine. However given the nature of the NGS data, its sheer size and dimensionality lead to uncertainty in the data which only a smart eye (inter-disciplinary team) will be able to see.

Digging out compatible alternatives

A number of bioinformatics tools developed are open-source and free, therefore making available various tools to choose from. One tool solves one problem better than the other; but most of these tools are not general purpose tools. And, it is almost always difficult to select the best set of tools from a large pool which

is not compatible; because, data format of one tool is different from that of the other. Working towards changing this paradigm, the companies are developing various solutions and services models that can solve many problems related to omics sciences and translational bioinformatics.

Future outlook and market

Some of the biggest innovations in medicine and agriculture are bound to happen at the intersection of science, technology and engineering. Small to large biotech and pharma majors will eventually invest in genomic technologies for coming up with multi-busters. From drug discovery to patient stratification and clinical trials, we will see genomics playing a pivotal role. More and more hospitals will use genomic technologies for disease management and population health management for inclusive healthcare.

At present, since majority of the users of this cutting edge genomics technology are from academia and government research institutes, the revenues generated by companies depend on the funding patterns of these institutes. We expect this to change in FY 2012-2013 with healthy research budgets being allocated to life sciences research across the globe.

The key to translate hypothesis into discovery leading to applications in medicine and agriculture is to have an expert interdisciplinary team working on automated analysis workflow frameworks with faster and efficient algorithms that are statistically significant, scalable, simple and yet affordable; and this is what we are doing at Geschickten, building smarter technologies for a healthier planet.

- Prahalad Achutharao, co-founder and CEO of Geschickten Biosciences