

CIO Review

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BIOTECHNOLOGY SPECIAL

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20 Most Promising Biotech Technology Solution Providers 2016

The biotech industry is booming—emerging as an area that has a remarkable effect on virtually every domain of human welfare. Innovative biotech is pushing the traditional boundaries of clinical data collection by gathering and analyzing data from initial diagnosis through long-term treatment. This data is used to measure quality of life as well as improve existing therapies or develop entirely new ones.

Today, the population is actively taking role in monitoring and improving their health. Simultaneously, therapy advances are driving biotech organizations closer to the patient. These trends are inevitably creating a paradigm shift in the ways in which patients and healthcare providers interact. Whether it is for enhancing communication, deciphering the secrets of genetics, defining better drug targets, speeding up the

drug discovery process or improving clinical diagnoses, biotechnology organizations needs to leverage sophisticated computing platforms, and new technologies to stay ahead of the competition.

In this edition of CIO Review, we present you the “20 Most Promising Biotech Technology Solution Providers of 2016,” featuring the best solution providers offering tools and services in the biotech landscape. The companies compiled in this issue have exhibited extensive business process knowledge, along with in-depth, integrated, and innovative strategies. The listing provides a look into how the solutions and services work in the real world so that organizations can gain a comprehensive understanding of what technologies are available and how they shape up against the competition.



Company:
Golden Helix

Description:
Helps genetic research groups working with large-scale DNA-sequencing or microarray data in overcoming the challenges of bioinformatics roadblocks

Key Person:
Andreas Scherer,
President & CEO

Website:
goldenhelix.com

Golden Helix Empowering Precision Medicine through Next-Gen Technology

The quest for Precision Medicine is creating a paradigm shift in the way health diagnosis and treatments are being carried out today. Precision Medicine allows for more accurate diagnosis and treatment by leveraging an individual's genetic makeup, answering questions such as "What specific disease does this person have?", "How does this person metabolize medications?", and "What kind of treatment options are available based on the presence of specific genetic markers?" just to name a few. This shift extends to all facets of healthcare from research organizations to hospitals, testing laboratories, pharmaceutical companies and government organizations, bringing the challenge of managing, analyzing and cataloguing increasingly massive amounts of genetic data. To help overcome these challenges and empower Precision Medicine, Golden Helix, an analytics software company based in Bozeman, MT is putting its 17 years of experience with over 300 organizations in the industry to work.

Golden Helix's SNP and Variation Suite (SVS) software empowers research organizations as well as pharmaceutical companies to perform the complex statistical analyses involved in genome-wide association studies and rare variant analysis in order to uncover the associations between diseases and underlying genetic markers. SVS allows this complex process to be executed simply and easily, by the researchers themselves, without requiring the support of a bioinformatics specialist drastically cutting the OPEX.

For hospitals and testing labs, where the impact of Precision Medicine is more direct. Golden Helix offers a clinical suite of products, which helps to speed up the process of analyzing large data-sets. This in turn allows clinicians to diagnose patients more effectively and to quickly select the most appropriate treatment options, based on genetic makeup. "VarSeq is proving to be a highly valued tool in the clinical testing market," said Andreas Scherer, President and CEO of Golden Helix. "VarSeq has helped testing labs like Prevention Genetics achieve their goal of offering exome testing by helping them to speed up the analysis of exome sequencing data."

At the suite's core, is VarSeq which begins by providing a filtering and annotation engine to sift through large variant data

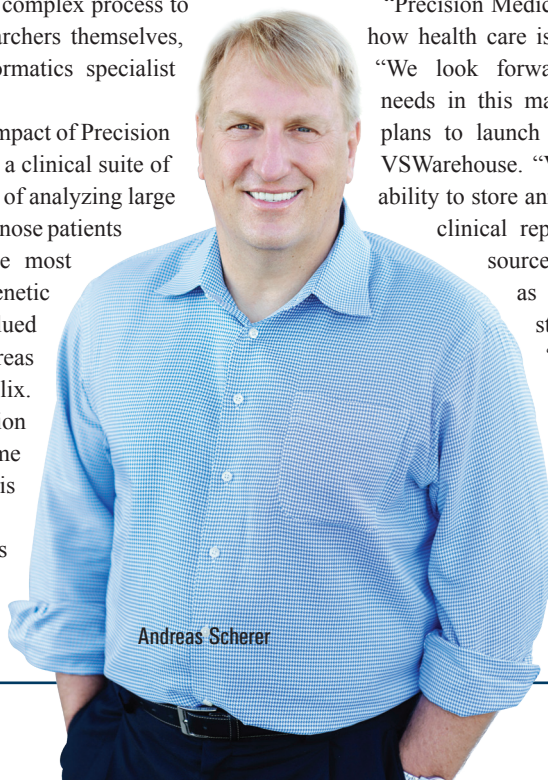
sets, zeroing in on those that are most likely to be connected with the observed phenotype. After VarSeq provides the variants of interest; VarSeq Reports can be used to generate a fully customizable, clinical-grade report based on ACMG guidelines. In a high-throughput environment, the clinical pipeline can be automated by implementing VarSeq Pipeline. VarSeq Pipeline allows for the creation of workflow-encoded project templates in VarSeq, locking down quality control and filtering parameters,

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Precision medicine will fundamentally change how health care is practiced

automating the entire pipeline and providing the lab with the requirements needed for a CLIA and CAP certified analysis. VarSeq projects produced by the automated pipeline can be used by lab staff to complete the variant interpretation and reporting using the easy-to-use graphical interface.

"Precision Medicine will fundamentally change how health care is practiced," reflected Scherer. "We look forward to serving the evolving needs in this market." In 2016 Golden Helix plans to launch its newest software solution, VSWarehouse. "VSWarehouse will provide the ability to store annotated variant data along with clinical reports, providing an annotation source for future clinical assessments as well as the basis for cohort studies," commented Scherer. "This is a key capability for pharma companies which are generating vast amounts of data in this space." The company's new warehouse solution will also serve as an integration point to other IT systems in laboratories and hospitals. **CR**



Andreas Scherer