

Precision Medicine requires precision processes: CPGR and LTS Health join forces to optimize NGS-based applications

CPGR recently formed Artisan Biomed, a venture aimed at shaping Genomic Medicine in South Africa through the implementation and development of 'omics' based assays for molecular and diagnostic purposes. Advancements in NGS-based molecular diagnostics and Precision Medicine solutions depend on rigorous validation and benchmarking of lab- as well as bioinformatic pipelines.

To optimise the performance of Next Generation Sequencing (NGS)-based applications, CPGR chose to work with LTS Health in implementing PinpointBPS®. This solution enables the laboratory to test and measure the impact of complex decisions and track the ongoing performance of workflows. It simulates the laboratory environment using detailed process models and ensures that an agile, cost-effective and scalable laboratory service environment can be designed and optimized.

The implementation and management of high-end genetic sequencing techniques can be complex due to the number of variables at work. Changes to the application, process and scheduling can have significant performance implications and requires careful planning to ensure a positive outcome, not only in terms of quality and turnaround time, but also cost. Effective cost management remains a major priority for laboratories – and this is especially the case for resource constrained environments such as Africa, where optimal use of resources is essential.

PinpointBPS® will enhance Artisan Biomed's Precision Medicine offering by virtue of measuring critical test performance metrics along complete value chains in facilitating learning, continuous improvement and decision-making in a high-end laboratory environment. Utilising PinpointBPS® will enhance quality and utility of tests by locally rendered by Artisan Biomed.

About Artisan Biomed

Artisan Biomed was created in September 2015 with a vision to use the CPGR's capabilities in Genomics and Proteomics to develop and provide Precision Medicine solutions in Africa – for Africa! Artisan's mission is to (i) develop Precision disease and health management solutions using molecular and data-intensive applications; (ii) provide 'omics'-based Translational services to enhance clinical trial work done in Africa; (iii) develop tailored medical solutions for individuals of African descent.

In early 2016, Artisan entered into a joint venture partnership with [Lancet Laboratories](#), one of the big private pathology groups operating in South Africa. The partnership combines cutting-edge Genomics and Proteomics capabilities with high quality pathology services to deliver cutting-edge 'omics' based diagnostic testing and clinical services to the health care market in (South) Africa.

Information about Artisan Biomed can be found at www.artisanbiomed.co.za

About CPGR

The CPGR is one of Africa's first fully integrated 'omics' service providers, built to leapfrog South Africa's ability to conduct information-rich biomedical research onto a globally competitive level. Amongst others, the organization offers the following 'omics' capacity: Next-Generation Sequencing: NextSeq500 (1x), MiSeq (1x), MiniSeq (1x), IonTorrent PGM (2x), IonProton (1x), for sequencing projects; Microarrays: Affymetrix GS 3000 and Affymetrix GeneTitan for genotyping and gene-expression analysis; Mass spectrometry: ABI 4800 MALDI-ToF/ToF; Waters Xevo TQS triple quadrupole, SCIEX API4000 triple quadrupole and Thermo Q Exactive for MS-Proteomics; High-throughput PCR: QuantStudio 12K Flex Real-Time PCR System, QuantStudio 3D Digital PCR System and ABI 7900 for qRT-PCR and genotyping applications; Automated DNA/RNA QC, library handling and sample processing; dedicated IT infrastructure and bioinformatic applications for data analysis and interpretation.

The CPGR is a non-profit company located in Cape Town, South Africa, based on an initiative by the [Department of Science and Technology](#) (DST), and financially supported by the [Technology Innovation Agency](#) (TIA). The CPGR combines state-of-the-art information rich genomic and proteomic ('omics') technologies with bio-computational pipelines to render services and support projects in the life science and biomedical arena in (South) Africa, all run in an ISO 9001:2008 certified and ISO 17025 compliant quality management system.

Among others, the CPGR has recently launched an [accelerator program](#) to stimulate the creation of South African start-ups based on 'omics' technologies.

Information about the CPGR can be obtained at www.cpgr.org.za and www.cpgr.org.za/blogspot.

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About LTS Health

At LTS, it is our mission to help laboratories move the world forward. Founded in 1998 with offices in Cape Town, (South Africa), London (United Kingdom) and Atlanta (United States), LTS is an independent specialist in laboratory performance improvement and trusted ally to laboratories across the globe.

Every day, laboratories make healthcare more affordable and provide medical professionals with the evidence they need to make the right decisions with certainty. Every day, the work that we do as the diagnostics industry moves the lives of millions.

With its roots in industrial engineering, innate ability to make complexity simple and accessible and *Let's Do It* mantra, LTS has established itself as an expert in its understanding of laboratory operations, offering consultant services globally. LTS has since expanded on its original offering to include training and a wide range of technologies.

Information about LTS Health can be found at <https://LTSHealth.com>

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