

# Exploiting research opportunities in genomics

**Contract research organisation and biological resource centre Geneservice Ltd has recently confirmed a number of distribution agreements for clones and other genomic resources, including a major deal with a leading Japanese company. Tom Weaver, the company's CEO, describes its business model and future prospects.**

Cambridge, UK-based genomics services company Geneservice Ltd and Kabushiki Kaisha DNAFORM, based in Tokyo Japan, have just announced the completion of exclusive distribution agreements whereby the two companies will jointly distribute FANTOM™ clones developed by RIKEN and other genomic resources created by international research institutions. The strategic alliance gives the life science community access to the world's largest collection of cDNA and genomic clone resources from key model organisms such as human, mouse, rat, primate, *C. elegans*, *Drosophila*, and *Xenopus*.

"We are excited at the prospect of Geneservice partnering with KK DNAFORM for the ability to combine our clone collections with the impressive resources from RIKEN, and expanding our territorial reach into Asia," says Tom Weaver, CEO of Geneservice.

Geneservice is an innovative genomics-based products and contract research company recently formed from the UK Medical Research Council. The company's mission is to provide an archiving and distribution portal for emerging genomic reagents, such as bacterial clones and human DNA samples, generated by academic groups and consortia internationally. Geneservice also provides access to state-of-the-art high throughput technologies to academic and commercial clients for the study of gene expression and gene mapping, including disease gene identification, DNA sequencing, extraction and whole genome amplification; micro satellite and SNP genotyping; and RNA expression profiling.

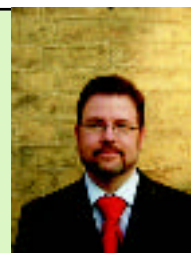
"The genesis of Geneservice began with the start of the human genome project in the early 90s when the UK Medical Research Council became convinced that there was a need to



**The determination of an exact DNA sequence is both an art and a science requiring investment in the latest technologies. Geneservice Ltd has recently been selected as one of three preferred suppliers of DNA sequencing services to the UK's Medical Research Council.**

## MEET TOM WEAVER OF GENESERVICE

Dr Tom Weaver is the Managing Director of Geneservice Ltd and was the Chief Executive of MRC geneservice (MRCg), the not-for-profit genomic biological resource centre and contract service provider which was part of the UK Medical Research Council. From 1998 he was Director of Technology Development for Incyte Genomics in Cambridge, UK, where his team developed high-throughput methods for mutation detection and genotyping in Mouse and Human. From 1996 he was Head of Biology at Hexagen Ltd, a functional genomics start-up company from the University of Cambridge Department of Genetics. Prior to this he was a post-doctoral research fellow at the University of Cambridge and MRC Lab of Molecular Biology. He received his PhD from the University of Wisconsin in the USA in 1990. Dr Weaver is also on the Scientific Advisory Boards of the Cambridge Genetic Knowledge Park and SmartBead Technology, and the UK BioIndustry Association's panel on Bioinformatics.



provide free and open access to emerging genomic biological reagents (cloned genes and libraries) and technology support services to the UK academic science base," says Weaver. "The creation of this core lab infrastructure was important in that it pump-primed the technology, particularly in small academic research labs around the country. As the field matured and demand for both the clones and services grew, a decision was taken in 2001 to create a separate not-for-profit trading organisation called MRC geneservice in order to test the feasibility of recovering some of the operating costs by charging users for access to the service, the revenue generated being used to contribute to the long-term sustainability of the programme. After four successful years of growth it was decided to spin out the activities into a fully for-profit commercial company, and Geneservice was born.

"Regarding the sequencing service, our scientific and technical heritage gained through participating in the human, mouse and pufferfish genome projects means that our staff have many years' experience with large genomic sequencing projects. The difference now is that we also offer 'community sequencing', meeting the needs of academic departments and individual research labs. As an example, Geneservice has recently been selected as one of the preferred sequencing service providers for the 35 MRC research sites across the UK. We are pleased to have established a sequencing partnering deal with the University of Cambridge Department of Genetics and we will continue to work in this direction with other Universities across the UK," he says.



**Geneservice is one of the largest cDNA and genomic clone distribution companies in the world, and its portfolio of over 12 million clones is constantly growing.**

### Distinct business activities: products and services

The company's business is divided into two distinct but mutually interconnected parts: products and services. The products arm of the company makes available innovative functional genomic products for the worldwide scientific community. Genomics resources for various organisms are marketed and sold primarily via the company's Website. Services are focused on both commoditised laboratory procedures, such as DNA sequencing, genotyping and whole genome amplification, and bespoke services such as experimental design and bioinformatics data analysis.

"Our consumers are mainly senior scientists, post-docs and academia/industry lab managers," says Weaver. "The development concept of a contract research one-stop-shop, pursued by Geneservice, requires investing in the latest genetic and genomic technologies. We are here to empower our customers with new research tools and to help them concentrate on their core research rather than laboratory routine. Therefore, strategically, we are continually looking at various experimental techniques and platforms, identifying those that could turn into commodities in the near future. Also, as a service provider, we are committed to offering only those platforms and methodologies that have already become accepted standards. Our objective here is to fine tune and make robust existing techniques rather than to develop new ones."

Geneservice has invested, and continues to invest, in the latest genetic and genomic technologies:

"We have the latest high-throughput hardware from such manufacturers as Affymetrix, Applied Biosystems, Agilent, and GE Healthcare," says Weaver. "This hardware is managed by experts to give the best in quality, turnaround times and pricing. Just recently we launched, together with German company RNAx GmbH, the new mRNA expression PhenoFiler™ service platform. Exploiting an *in vitro* si- and shRNA validation technology as a complement to our gene expression profiling and gene network analysis services, we will provide researchers with a complete solution for comprehensively profiling tens of thousands of genes and then immediately screening for molecular or cellular phenotypes in a co-ordinated set of experiments."

Recognising the customer need for biological data analysis support, Geneservice has also launched scientific consulting services.

"Specifically, our service development team is quite successful in promoting our proprietary analysis tool, ReLyte™," says Weaver. "This tool is designed for inferring functional links between genes and built on the basis of the cutting-edge machine-learning techniques."

### Addressing productivity issues

Weaver says that genomics services have a major contribution to the pharmaceutical industry's needs to address the issues of poor productivity and poor-quality leads:

"The reasons for pharma to outsource have been clear within the community for quite a while now. These are: getting access to quality external expertise; focusing on the core competencies; and improving productivity, quality and time to market, etc. As a service provider, we address a certain niche in this market, specifically we are accredited and so guarantee quality, but also can take a lot of routine work off the research teams, helping them concentrate on other issues. The bottom line here is no different from that in any other industry: small-to-medium sized enterprises like us are usually more efficient in their particular field of expertise. There is no point for pharma/biotech in doing what the others can do better and faster for the same money. As more stages of the drug discovery pipeline turn into must-do standardised routines, the outsourcing argument will become more and more valid. Some analysts already estimate the global growth potential for outsourcing as 20 per cent per year and we think that our opportunities in local markets are very good."

Weaver says that both pharma and biotech companies are faced with the same need of keeping a development pipeline full of new drug candidates:

"To keep up with accelerating market pace they look around for new ideas, so they need to tap into scientific insight and technical expertise of other companies through licensing deals and collaborations. We, by no means, pretend to be a 'blue sky' research institution coming up with actual targets for pharma, but we surely are reliable research subcontractors and flexible collaborators for preclinical R&D programmes."

### Helping customers get results

"In terms of customer relationships, our strategy is to focus on customer service, understand what the client wants, and deliver high-quality data on time," says Weaver. "We are also aiming to increase and integrate our services into a single pipeline, for example adding scientific consulting on bioinformatic analysis has paid off and we will continue promote it. This means that our remit is to help customers get maximum return on investments in their research programmes, to put it plainly, to help them optimise their experiments and get meaningful results." <sup>sp<sup>2</sup></sup>

#### FURTHER INFORMATION

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