Building a Bioinformatics Services Company

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What is Eagle?

- Bioinformatics services for genomics/genetics research, based in Cambridge, UK, since 2008.
- ISO27001 certified and AWS Partner Network Consulting Partner.
- Design and implementation of:
  - workflows/pipelines (mostly for NGS) – built-for-purpose,
  - custom software (e.g. biological databases),
  - reproduction of computational techniques from the literature (e.g. does this method work on my data?),
  - reports into topics of interest (e.g. data management, cloud computing, etc.),
  - Eagle On-Demand.
- We work with big pharma and multinational corporations worldwide.
  - To assist us with managing our global customer base we have appointed local representatives in the USA, Germany, and India.
What kind of questions can we answer?

An in silico feasibility study in order to assess the possibility to use non-human stromal cells in human oncology studies while keeping sufficient deconvolution power against human tumour cells.

A phylogenomic analysis on virus sequence data to evaluate the viral genetic diversity and viral evolution rate, both on whole-length and selected epitopes of interest.

A pipeline for targeted NGS resequencing and variant calling, developed and validated in compliance with the prevailing CAP guidelines.

Compute ortholog/paralog relationships between a primate and human/chimp/mouse genes.

Report on the quality of microarray probe mappings, and provide opinion on the overall standard of the probes and their suitability for use in the customer’s current research.

Exploratory research consultancy to propose first steps toward an analysis strategy for comparative genomics as related to genomes from healthy vs. unhealthy individuals.

Implement a technique specified in a recently published paper, assess the quality and sense of the output data, and provide an opinion on how it should best be used taking into account the issues noted.
How do we work with customers?

• We ask the end-user scientists:
  – what is the research question they’re working on?
  – what information do they need to answer that?
  – and in what format?
• We do our research and produce a first proposal for the project design – customised to each individual need.
  – this can sometimes include suggestions on how to improve the experiment or adjust the approach to provide better results.
• We cross-check the design with the end-user scientists, and repeat this as often as necessary until it is accepted.
• We then execute it remotely on the customer’s data or install it for local execution by the customer.
What’s the business model?

• For well-defined, medium-to-large projects, with a high confidence in the requirements, we will provide a fixed-price quote.

• For smaller projects, loosely defined projects, or for a collection of tasks not defined at the outset, we offer a retainer-style model – Eagle On-Demand:
  – Access to the entire Eagle team, not just one contractor.
  – Set aside a fixed number of hours over a fixed period, e.g. 100 hours over 3 months, or 0.5 FTE over 1 year.
  – Can be used on anything within our skill set at very short notice until the hours are used up or the time period has elapsed.

• Almost all interaction is remote – we’re used to working across timezones – but we are happy to make on-site visits if there is a clear need to do so.
Why is Eagle unique?

- We are ISO27001 certified for data management.
- Science-driven approach – we start with the scientists, not with the technology.
- Breadth of experience from big pharma, crop science, animal health, etc. gives insight not available from someone working in just one field.
- Our team of bioinformaticians really is highly experienced.
  - Many are ex-EBI, Sanger, or ex-pharma.
  - Half the team have more than 12 years experience and nobody has less than seven years.
- We don’t take on projects that we are not convinced that we have the expertise to deliver at the best quality.
- Although we don’t have any key tools or software of our own, we have the expertise to bring together the best open and commercial tools and customise for in-house use.
  - Every project is built from scratch using the tools and/or public datasets most appropriate to the job, based on research carried out in the design phase of each project.
Feedback from customers

• “We worked with Eagle and the experience has been excellent. The Eagle team is not only very knowledgeable and professional, but also top-notch in meeting milestones and delivering the reports in time. We would like to highly recommend Eagle’s bioinformatics service!”
  – Dongliang Ge, Director of Bioinformatics, Gilead Sciences Inc.

• "Eagle is an enthusiastic young company with a great deal more professionalism than many other 'big names'. It is a pleasure to deal with someone you can rely on for impartial decoding of a complex subject.”
  – Martin Lawrie, Managing Director, Cytocell

• "Effective, efficient and very pleasant to work with.”
  – Machiel Jansen, Senior Consultant, Netherlands Bioinformatics Centre
So how did we get here?
DNA is just DNA

• Pharma is just one market, and it is volatile.
  – If pharma declines, you need other markets to fall back on.
• Bioinformatics techniques used to analyse DNA data are common to all genetics research areas.
  – Only configuration parameters and reference datasets need vary between species.
• Bioinformaticians often operate in ‘research silos’ because of organisational limitations.
  – There is no such thing as ‘cancer bioinformatics’, only ‘cancer genetics’.
Three key requirements for breaking out of pharma

• Track record and public image.
  – Build a strong reputation for quality content or opinion.
  – Do your pharma work well and use it to get references/testimonials to show to customers in other fields.

• Internal champions.
  – Nothing opens more doors than a friendly contact inside the potential customer. Nothing closes more doors than a hard-sell.

• Qualified staff.
  – Your first non-pharma customer will be more confident if you have at least one staff member experienced in their field. Subsequent customers will not mind so much.
Be flexible

• Don’t be afraid to take on projects on the margin of your usual line of business.
  – They can open doors to bigger projects that are more interesting to you.
  – They can help you improve ‘soft skills’ that will better support future projects that touch on these marginal areas.
• Never say no, always talk first to find out the details.
  – You might still say no, but you’ll have learnt about the customer.
  – Something else might come up in conversation.
• Never ever use the word ‘small’!