



Structural Biology Platform and Services Enabling Small Biotech and Large Pharma Companies to Accelerate Drug Discovery



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“Our company enables other companies, be it large pharma or small biotech, in their pursuit of drug discovery by means of structural biology. Our scientists bring industrial experience and institutional memory that you cannot get almost anywhere else.” - Dr. Artem Evdokimov

CEOCFO: Dr. Evdokimov, what is the focus for HarkerBio today?

Dr. Evdokimov: Our company enables other companies, be it large pharma or small biotech, in their pursuit of drug discovery by means of structural biology.

CEOCFO: What does structural biology entail?

Dr. Evdokimov: All of us are made of cells and each cell is a complex, still poorly understood system built from (and by) proteins, dna, lipids, sugars etc. Many of these molecules can be perceived as microscopic machines that are constantly created and destroyed for a certain function (replication, information transfer, energy, transportation, garbage collection etc.) – whereas others are analogous to the brick-and-mortar parts of the cell. Structural biology is an in-depth look at the details of structure and function of essential cellular components. We look at protein structure at atomic level, which helps us explain how molecular machines function and interact with one another - and we understand how they interact with chemicals (small molecule candidates) that will someday become drugs.

CEOCFO: Who is turning to you for services?

Dr. Evdokimov: There are several broad categories, starting with large pharma: \$-billion-plus multinational companies that seek to augment their internal functions. There is also a slice of mid-sized pharma that may or may not have structural biology groups on-site; and then there are small and virtual pharma companies that do not have their own structural biology facilities - but are in need of structural biology to advance or accelerate their projects. There is also biotech, meaning companies that do not derive income from the pharmaceuticals market but are involved in biotechnology – for example companies that use engineered enzymes to manufacture fine chemicals, or research reagent supply companies and so on.

CEOCFO: What are some examples of typical interactions, what a company would ask you to do, what the process is that you go through and what you are able to supply back to them?

Mr. Evdokimov: Say a large pharma company has a target, meaning a protein that they want us to clone, express, purify and to determine the structure. Later in the game, they also may need us to determine a structure of their target in complex with their candidates molecule(s) from their own discovery pipeline. After we sign a confidentiality agreement the client would share the sequence of the target with us (an amino acid sequence uniquely determines what protein it is). We research literature, make calculations and produce a project scope – which is like a quote but is much more detailed. Then if we reach an agreement with the company in question, we would sign a deal and proceed to determine the structure of the protein by first preparing the protein and then crystallizing it, solving its structure and (if they ask) solving structure of the protein in complex with the molecules that the client company would provide. That is one common example of what we do. Another example would be where a company would approach us with a ‘biologic’ – meaning a protein that is itself a drug, so no small molecules are involved. For about 20-25 years a lot of emphasis in drug discovery

business has shifted from discovering small molecules (that is things like Aspirin or Prozac) to large molecules – proteins and nucleic acids. For example, these days there are plenty of commercials advertising medicines whose name ends in the letters “MAB” (for example **Abrilumab**, **Rituximab** etc.). These letters stand for ‘**monoclonal antibody**’ These antibodies are proteins - administered to achieve a specific therapeutic effect. These proteins have structure and the structure is of interest to both the company that makes the drug and to the regulatory authorities. This is a very broad secondary reason why people come to us - the desire to study proteins that are therapeutic themselves rather than are targets of small molecules.

CEOCFO: *What does HarkerBio understand on a basic level about looking for these things that would cause someone to turn to you rather than competition?*

Mr. Evodokimov: Our scientists have a wealth of experience in the field. For example, I have been in pharma and biotech for the last twenty years or so, starting with Procter & Gamble Pharmaceuticals, then Pfizer and most recently I have worked for Monsanto. Our scientists bring industrial experience and institutional memory that you cannot get almost anywhere else. There are certainly competitors of ours out there but we win because we are very detail oriented and knowledge based. Everything we do is about structure - it is our central axis, and we are not distracted by other things.

CEOCFO *Is the industry familiar with HarkerBio? How do you reach out to potential new customers?*

Mr. Evodokimov: I would say that the industry is becoming familiar with Harker. The company technically existed in 2014, but when I came on board a year ago, I completely reestablished the entire process, the entire way we are -- and we have also grown since then - we are now twelve people and we are hiring. We are becoming established but far from a fixture of the industry. We are young. How we reach out to customers: I would say that it can only work be on a personal level, because of the complexity of the work involved. We certainly go to meetings or trade shows and we visit companies in person. We have ways to interact on a deep level because our staff is experienced and there is a lot of personal networking involved in becoming an expert. Also, about six months ago we hired a very experienced chief business development officer whose main job is to build bridges with potential clients.

CEOCFO: *What attracted you to HarkerBio, knowing there was restructuring needed?*

Mr. Evodokimov: It was the opportunity to change things and do something I wanted to do. It certainly was a risk and I am well aware of it – after all, I have left a very nice permanent job (with Monsanto) for this one. I think it was a justifiable risk given the wealth of opportunities that presented themselves. It is my personal growth and the ability to grow a company from small to large, from relatively obscure to hopefully well known in the future and to develop all the other things we are involved with; in particular I like the idea of growing our internal intellectual property portfolio. To develop internal IP that we actually own is a phenomenal attraction for me. Finally, Buffalo is a very nice town and I like working with the locals – very friendly and knowledgeable people.

CEOCFO: *What surprised you as you have been working and growing HarkerBio?*

Mr. Evodokimov: What surprised me primarily is the prevailing attitude towards technology partnering companies. Service companies carry a stigma as being sort of a competition to existing departments inside bigger clients, even though nothing could be any further from the truth. We are deliberately not positioning ourselves as a CRO (Contract Research Organization) and I don't even like using this acronym - I much prefer to call ourselves a technology partnering organization. We do not replace - we add value. My personal desire is to see that nobody ever gets out of a job just because a company like ours took it. We want people to prosper and grow with us.

CEOCFO: *What is your geographic reach today?*

Mr. Evodokimov: We are mostly in the US. This is our first real year, as far as I am concerned. We are slowly reaching out to Europe – we certainly made connections in Europe already. We are also looking at Asian markets. I probably will at some point make a more determined approach towards an Asian market, but at the moment the continental US is where most of our customers are. Some are in Europe but not many.

CEOCFO: *Are you seeking investments or partnerships?*

Mr. Evodokimov: We are very interested in partnerships and there is still an investment round ongoing – although we have filled it by 75-80% already, there is still a small opportunity left. Most of our investors are local (i.e. Western New York, Buffalo). Again, strategic partnerships are appealing to us and we've established a couple already (AMRI and ZeptoMetrix).

CEOCFO: *Why does HarkerBio stand out?*

Mr. Evodokimov: We are one of the few cases where the entire company is based on science. We try to do most of what we do under the highest-quality scientific standard. I feel that we are not necessarily unique but we are very rare; especially in the CRO/Technology Partnering community in the sense that we are science-based first and business-driven second. To a degree it is an experiment and it might not work out - any small company faces a huge challenge ahead which is to make it to the big leagues, but we have a clear strategy to approach this challenge and we shall see if we are right or wrong.