Thinking like a major

A tiny company with breakthrough technology for targeting mineral deposits is forging partnerships with some major players, CEO Jean-Marc Lulin explains to Gary Toushek

Jean-Marc Lulin began his career 26 years ago as an exploration geologist for mining companies around the world. He was perplexed by the odds of the discovery process, the fact that based on traditional methods, there is one chance in one thousand of successfully drilling and hitting an economic mineral deposit on a geologically surveyed property. "This means that the overall success rate of the industry is poor, and has been for a long time," he says. "It's difficult today to find a large deposit at competitive costs. You need to drill at the right place, and after spending millions of dollars drilling, you can find yourself at the wrong place, which usually means asking your investors for more financing."

Realizing that typical methods of identifying and precisely locating potential discoveries were not efficient enough, and that he had to look outside the box, 15 years ago he took it upon himself as a personal career challenge to find a breakthrough technology that would improve the success rate of mineral exploration. "It was an obsession for me," he says. "I was driven by my passion to find a better way to make large discoveries."

He took a cue from the oil and gas business, which more than 25 years ago had begun to perform advanced processing of huge amounts of geophysical data, an approach that did improve the rate of discovery. Working in familiar territory (the province of Quebec) and having access to government data for the 160 or so mineral deposits discovered over a 100-year period, he set to work collecting, compiling and analyzing tons of data.

The sophisticated tool he came up with involves a computer software algorithm that can be applied to copious amounts of geophysical, geochemical and geological data collected by geoscientists (some of the data, for example, is derived from the systematic sampling of lake bottom sediments over vast regions); in fact, the more data, the better. This method actually works better for a larger land area, such as a country, but isn't as effective for smaller or local properties. "Using this data, which is as unbiased as possible, we can arrive at a statistical footprint of known discoveries and extrapolate for new targets." The next step is producing regional-scale assessment maps with few but quality targets, and then validating those targets in the field.

In 2003, Lulin reactivated the company Azimut Exploration, originally established in 1986, as a traditional junior mineral exploration company ("basically a healthy, empty shell with no assets"), with the intention of finding partners that could explore the targets generated by his technology.

Why not go right to the top, Lulin reasoned, and approach giant Rio Tinto? which agreed to apply his technology. He also managed to partner with Goldcorp, a leading gold producer, and with other pure explorers like NWT Uranium Corp, Silver Spruce Resources and Majescor Resources. In just four years, Lulin signed 19 option agreements with 11 different companies for an aggregate amount of C$60 million in exploration work on Azimut's properties. He bristles at the word 'client,' preferring 'partner'. "We are not a service company, we are a targeting exploration company that develops partnerships to help our partners achieve better success in discovering mineral deposits. We do the targeting, they do the exploration."

Azimut is still at an early stage and Lulin prefers not to disclose either details of his proprietary technology, or the nature of the creative deals he makes with his partners. "We propose to our partners that by working with us, they will achieve reduced costs in exploration, a more rapid project timeframe and, potentially, a much higher chance of discovery. It's a mutually beneficial relationship because our partners offer us a reduction of business risk since they pay for our target generation, and we retain an interest on each property. Together we intend to deliver a greater certainty of results than other exploration companies using traditional targeting methods," he says. This is essentially a new business model in the mining industry, using a proprietary technology, while creating alliances that cross the boundaries of typical joint ventures.

He jokes that the partnership with Rio Tinto is like collaboration between an elephant and a mouse, but a rather skilled mouse. "We offer Rio Tinto very specific targeting over a large part of Quebec for several commodities. They are hungry to find new, large resources, and we provide targets of the

McPhar Geosurveys

McPhar Geosurveys is a geophysical contractor specializing in high-resolution helicopter-borne surveys for mineral exploration companies. The survey systems used range from single-sensor HeliMAG systems to complex multi-sensor systems integrated with magnetic, electromagnetic and radiometric sensors. We are operating two multi-sensor systems for Azimut in Quebec, producing a variety of maps and an integrated interpretation of the survey results.

size they like. We're confident about the way we've generated those targets, and Rio Tinto, with its global knowledge, is pleased to work with us and continue to move ahead with the targets we identified." Lulin is using Quebec as a platform, a showcase to demonstrate how accurate this method can be. So far he has developed a province-scale target map for gold, for uranium and another for nickel. Target follow-up work brought positive results with the discoveries of many new mineralized occurrences, sometimes almost right away. This clearly indicates that the method works and may lead, at one point, to a "true major discovery".

It's difficult to estimate how much buzz Azimut is creating within the mining industry. Certainly it's being closely watched in Quebec, and Lulin hopes to attract the attention of the larger players, those with mineral rights over a wider, perhaps global, geographic spread. Azimut is a publicly traded company on the Toronto Stock Exchange Venture and reports regularly on its progress. Until recently it was literally a one-man operation; now Lulin has added two other senior experts with global experience—Normand Champigny, formerly head of mining industry services with IBM Business Consulting Services, and Sylvain Gérard, formerly the exploration manager for Barrick Gold in Peru.

As Lulin puts it, "the combination of using a sophisticated algorithm plus good old fashioned, practical know-how should undoubtedly produce substantially better results." He does not intend to patent the technology, which would necessitate publishing and therefore disclosing it, but he has granted an exclusive license to Azimut. Despite being a miniscule-size company, by market cap definition a junior in the Canadian mining industry, "we think like a major player, and we are defining our own way." ■