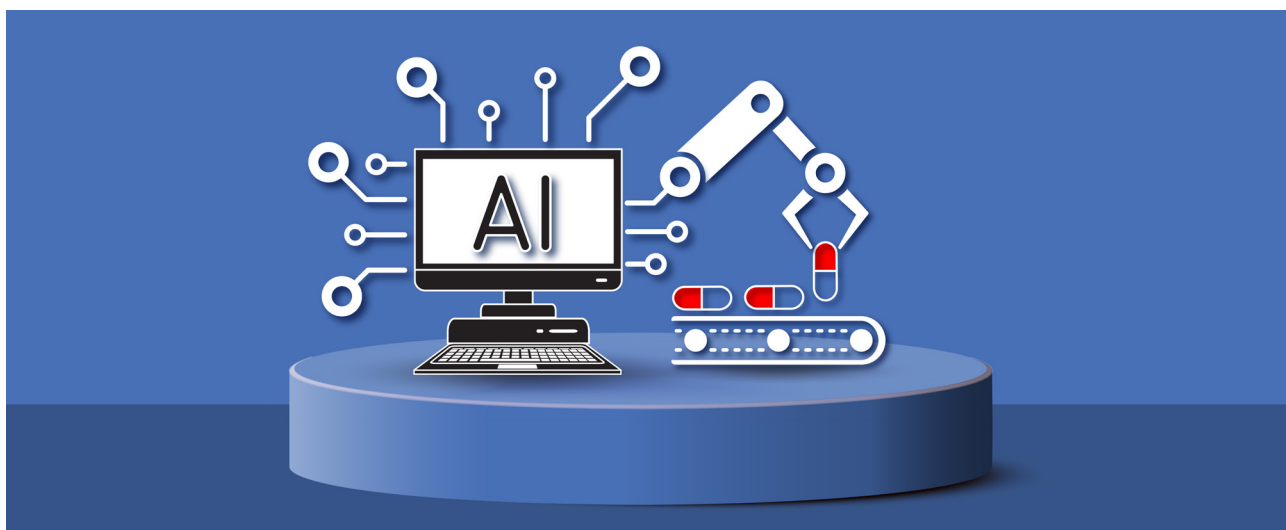


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Becoming Aitia: why GNS shifted from AI provider to drug discoverer

BY KAREN TKACH TUZMAN, DIRECTOR OF BIOPHARMA INTELLIGENCE



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Aitia's decision to move into drug discovery after more than 20 years as a technology partner is a bet on its causal AI's capacity to extract value from the recent boom in multi-omic patient data. The Massachusetts-based company formerly known as GNS Healthcare Inc. is keeping its focus on preclinical development, with plans to partner programs before IND.

CEO Colin Hill told BioCentury the company considered the shift five years ago, seeing appetite from investors and pharma partners, but held off to focus on its core technology, Gemini — an AI platform that uses molecular and clinical patient data to identify the biological circuitry most likely to be causal drivers of disease, and model disease progression and drug response at the individual patient level.

“Companies that make the move too early into drug discovery and development eventually end up having to put all their resources and focus onto the drug and the clinical trials, and the big innovation ends up becoming diluted over time,” he said.

The equation changed as patient data from large initiatives such as the UK Biobank and the Accelerating Medicines Partnership grew “exponentially bigger,” said Hill.

“I think the biggest change that's created this opportunity for us is the multi-omic patient data,” he said. “Five to seven years ago, you could count on two hands the multi-omics datasets that had at least a few hundred patients, which is the minimum for us to get going.”

Hill added that the breadth of opportunities emerging from Aitia's platform was another deciding factor. “If we had one or two things we would probably approach it differently, but we're approaching a large number of new targets, and have validated them across cohorts.”

As part of the shift, Aitia named Alnylam Pharmaceuticals Inc. (NASDAQ:ALNY) founding CEO John Maraganore chair of its board in November, and plans to raise financing around its new positioning.

Even as it builds out its pipeline, the company plans to stick to its computational bona fides in-house, turning to external

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partners instead of building its own wet lab capabilities, and making deals before programs reach the clinic. “We want to get a smaller stake in a larger number of programs,” Hill said.

He said Aitia is modality-agnostic, and is considering small molecule, antibody and gene knockdown approaches, noting that the abundance of transcriptomic data is providing actionable windows into the consequences of modulating gene expression.

“In silico, we’re running siRNA experiments on a big scale. You could say siRNA as a therapeutic modality would be a good match,” Hill said, adding that the approach is in line with Maraganore’s expertise.

According to Hill, Aitia’s long history of biopharma partnerships and technology development since its 2000 launch gives it an advantage over newer players in AI-driven target discovery, and its causal modeling methods are more likely to find impactful targets.

“We think our tech is more validated than other AI. We’ve been doing it longer than other people,” he said. “We can go beyond spurious, misleading patterns from high dimensional data that deep learning often produces, and get at the underlying mechanisms and drivers of disease.”

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