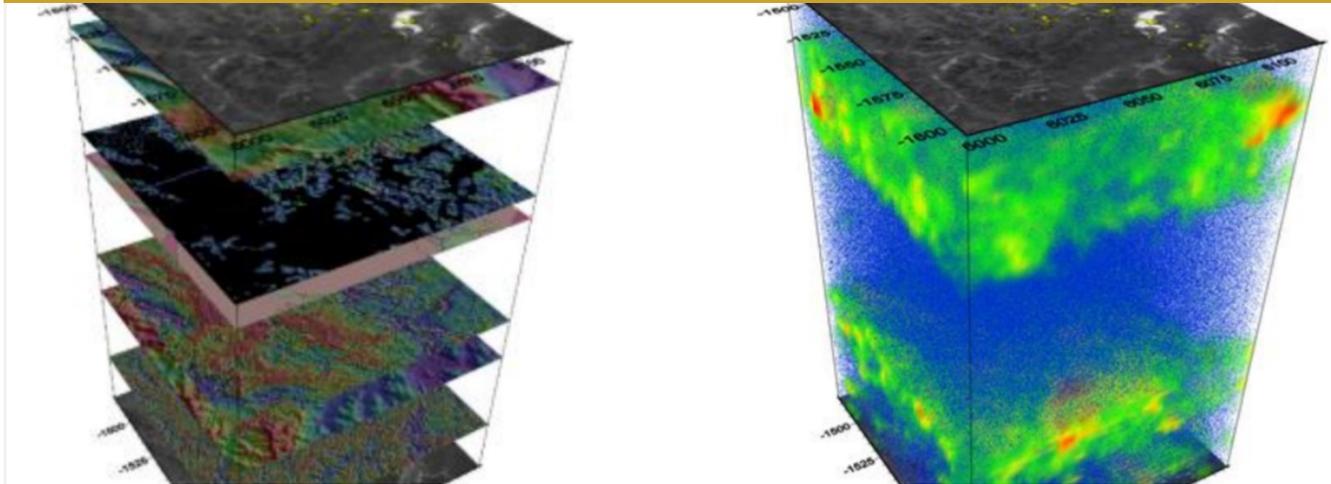


SensOre AI aims to change Yilgarn gold hunt

PRIVATELY-run “exploration disruptor” SensOre is aiming to bring some Silicon Valley-style disruption to the business of finding new discoveries, using artificial intelligence and machine learning to locate overlooked gold deposits in Western Australia’s Yilgarn region.



A conventional exploration model (left) and SensOre's DPT data cube.

[Haydn Black](#)

Reporter

Founded by big data evangelist Alf Eggo, who has been working on concepts of machine learning in exploration for more than 20 years, SensOre has raised A\$2.4 million from its 30-odd shareholders, including high net worth individuals, who have seen the promise in the high-tech exploration tool if it performs as well in reality as it has in testing.

CEO Richard Taylor, who landed with SensOre after leaving Terramin Australia, said Eggo was “about 10 years ahead of the same” in applying the big data approach to large geological databases.

Its Yilgarn dataset includes more than 200 million drill hole samples and six million surface samples, and it was used to secure around 500sq.km in the Yilgarn, after interrogating some 12 billion data points.

“Our predictive value has achieved a point where it can define about 85% of the known Yilgarn endowment,” Taylor told *MNN*.

“It achieved that when we removed the trained data set, and the blind testing achieved the same.”

The proof of the pudding is in the eating, and SensOre is planning to drill 7-9 targets now it is confident its technologies work.

Its proprietary Discriminant Predictive Technology platform uses dozens of algorithms to interrogate the fundamental data. It also uses feature engineering and data imputation techniques to infill data that are routine in oil and gas industry.

After successfully predicting the known deposits in the Yilgarn, the DPT system has flagged more than 50 targets with potential for more than 1Moz, plus a new greenstone terrane covering 30,000sq.km of mostly open ground at Providence Bore. That is currently classified as granite.

It used the data to refine the best areas it could access, such as Tea Well.

Taylor said DPT successfully predicted the 4.8Moz Meekatharra deposit for depth, grade and location, and two mineral systems at Tea Well, with six plus-5Moz targets within an area with no known endowment, no drilling and just 68 soil geochem targets.

One sits in a synform structure, unlike Meekatharra.

“That reflects human bias. People weren’t looking in this setting,” Taylor said.

In anticipation of success, SensOre is expanding its dataset to look for nickel in the Yilgarn, copper in South Australia’s Gawler Craton, and is working with another company on the potential of the Victorian expanse of the Lachlan Fold Belt.

“It took more than a decade to get to this point. A lot of the data was previously held up by geological surveys, and attempts were confounded by different systems and approaches,” Taylor said.

“Where work like this has been done, it has been on a small scale, but we are thinking bigger. Ultimately, we’d like to cover all of Australia and some overseas jurisdictions.”

SensOre’s aim is not to be an explorer or developer, but it has taken on exploration assets to prove up its technology under its own control.

“We are primarily a disruptive tech company, and we expect we’ll eventually work with clients,” Taylor said.

It wants to form strategic partnerships with top-tier companies who, likely, already have the best tenements.

SensOre believes discovery costs can be reduced 100-fold.

The drilling should begin in May.