

Woodside Petroleum to roll out Siri-like virtual assistant 'Willow'

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Woodside senior vice-president and chief technology officer Shaun Gregory says Willow will grow in its capabilities. **Christian Pearson/Misheye**



by [Angela Macdonald-Smith](#)

She's still in training but Woodside Petroleum's new "cognitive assistant" Willow is set to extend her influence.

[The Siri-like system, which can talk to systems and databases inside the oil and gas producer](#) and can search in seconds through millions of files and provide answers to questions that otherwise may take months to find, is being used by just over 200 Woodside employees in Perth.

After the initial soft roll-out in July, Willow is to be progressively rolled out to the wider business, starting next month, according to chief executive Peter Coleman, with productivity and efficiency expected to improve as a result.

Willow is being trained to understand the needs of each user, whether an offshore engineer assessing the risks of drilling a well, or the chief operations officer monitoring production plants across north-west Australia. It is also used by people in administrative functions.

"Willow is rapidly improving the way we work by augmenting the intelligence of our employees, putting all of Woodside's collective knowledge of operating experience at their fingertips, enabling faster, data-driven decision making," Mr Coleman said.

The trialling of the system is part of a broader push within the Perth-based player to capitalise on the huge amount of data produced by its plant control systems and at multiple layers within the business over many years. It is pioneering the use of advanced analytics and cognitive computing in its operations with the aim of improving plant reliability and operational performance.

Robotics is also part of the strategy, with [Woodside having taken delivery in June of a "robonaut" named Rick as part of its partnership with NASA](#). That project may lead to robot workers being rolled out initially at the onshore Karratha gas operations and later to offshore platforms to carry out mundane or dangerous jobs.

'Constantly learning'

The algorithms behind Willow – which speaks with a female voice – have been built by Woodside employees and are being fine-tuned as staff rate its performance.

"Willow is constantly learning, with users asking questions and providing feedback," chief technology officer Shaun Gregory said.

"In the last month alone our people have asked around 12,000 questions."

Mr Gregory said Willow learns to tailor responses to an individual's needs, and will gradually grow in capabilities and access more systems.

It sits a layer above [the IBM Watson cognitive supercomputer system that Woodside uses across its operations](#).

As part of Woodside's advanced analytics work, live data is streamed back to the Perth office from its production plants, to be used by engineering and operations teams to improve plant reliability, planning, process control and maintenance. Just a small improvement in reliability at an LNG plant, for example, can significantly lift revenues.

Mr Coleman said the amount of data streamed from just one of Woodside's plants, the Pluto LNG plant on the Burrup Peninsula, back to the Perth head office every second is equivalent to the number of tweets on Twitter. But the amount of data gathered from seismic imaging is 10,000 times that, he said at an innovation conference in Sydney recently.

"The escalation of this is absolutely enormous. These are tremendous opportunities that we've got out there," he said.

Woodside said it wants its employees to focus on solving business problems rather than spending time looking for data, or even not realising that data exists.