

# Changes looming for workers as robotics, AI enter new phase

By [Claire Moodie](#)

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**Photo:** Ken Tan, Senior Pharmacist, Fiona Stanley Hospital with the robotic drug dispensary. (ABC News: Claire Moodie)

Industries from health care to the legal sector face being disrupted by the latest advances in robotics and artificial intelligence (AI), an expert warns, prompting a renewed warning in the wake of Donald Trump's US election victory.

Jon Williams, an analyst with professional services firm PwC, said governments in Australia need to have a serious debate about how to prepare for huge changes in the workforce.

"I think over the next couple of years, governments have to develop policies that allow them to support the development of new jobs and new industries or we'll see what we saw in the recent US election, where there's a huge disaffected group whose job in a factory disappeared and they haven't been able to replace it," Mr Williams told the ABC.

"The next five to 10 years will see jobs in the professions, in medicine, in the legal profession, in professional services starting to be replaced by computers and robots and machine learning."

Seven months after the biggest robotic drug dispensary in the southern hemisphere went live at Perth's Fiona Stanley Hospital, pharmacist Ken Tam is keen to talk up the benefits.

His research shows that the robots which scan, move and store \$200,000 worth of drugs every day are safer and more efficient than humans.

Mr Tam said all the staff who were previously working in the pharmacy, were re-deployed and it allowed staff, particularly nurses, more time to spend on patient care.

He said there had been a 70 per cent reduction in the number of times that the hospital's wards had run out of stock and the system is much faster.

"A re-supply of medication manually to a ward would normally take half an hour to physically collect all the stock," Mr Tam said.

"But with the new system, that can be done in under 10 minutes per ward."

Mr Tam said the robots read the barcodes on medication, eliminating the chance of human error.

## NOT ABOUT REPLACING HUMANS

IBM Australia said its Watson cognitive computer system is now being used for everything from health and education to fashion and banking.

"We believe that in the future, every decision that mankind makes is going to be informed by a system like Watson," the company said in a statement.



**Photo:** Woodside's chief technology officer Shaun Gregory. (ANC news: Claire Moodie)

Perth-based oil and gas giant, Woodside Energy, is already on board, but said the technology is all about improving access to information, rather than replacing humans.

Chief technology officer Shaun Gregory said 30 years' worth of data has been fed into its Watson system that can now answer complex, technical questions in an instant.

"It certainly reads a lot quicker than the human brain," Mr Gregory said.

"For us the problems are getting very complex and in order to solve those, we need better access to better information.

"Right now, we're creating more jobs. We grew a data science department at the beginning of last year and it's 20 strong."

## SHAKE-UP IN LEGAL SYSTEM

As Woodside embraces AI, Western Australia's legal industry is also preparing for big changes, with tech companies spruiking super-intelligent computers to law firms in the US.

President of the WA Law Society, Elizabeth Needham, expects there will be an impact on jobs.

"There is of course that concern, junior lawyers and paralegals who may well be doing the basic research and legwork on finding the relevant authorities, comparative law etc, and so yes that may have an effect," she said.

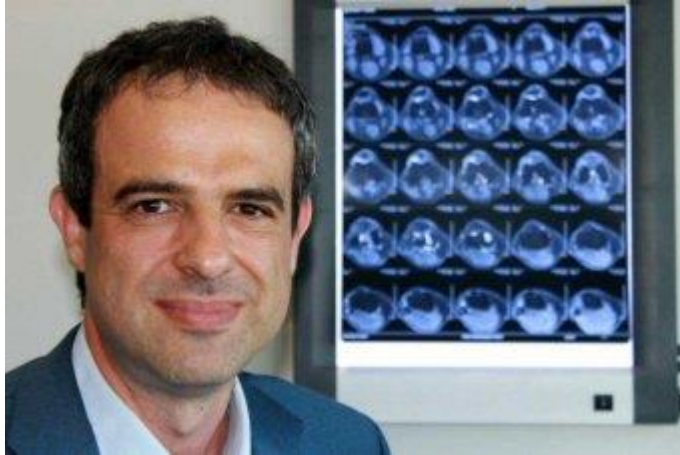
But Ms Needham said she was sceptical about claims that AI could create an "artificially intelligent lawyer".

"Watson has been touted as going to sit the bar exam; there's no reason why it couldn't. However at the moment, the best it has done is play Jeopardy," she said.

**"I'm sceptical about its ability to think like a human."**

It is in healthcare research that cognitive computing looks set to have big benefits.

IBM is currently working with the Melanoma Institute to advance early and more accurate detection.



**Photo:** Australian Medical Association vice president Dr Omar Korshid. (ABC News: Claire Moodie)

And the WA branch of the Australian Medical Association agrees that the diagnosis of patients across the board is likely to be aided by AI.

But, AMA WA vice president Dr Omar Khorshid said he does not see it replacing doctors.

"It's very hard for the rapport that's really critical between a doctor and a patient to be replaced by a robot," he said.

Analyst Jon Williams said the caring professions and those that focus on empathy, intuition and creativity will continue to be in increasing demand, as will the STEM skills.

## **SCHOOLS FUTURE-SKILLING STUDENTS IN ROBOTICS**

Some schools are already looking to future-skill students including Christ Church Grammar in Perth, where students have been helping to fine-tune a robot to go into emergency situations, using a kit designed by Perth's Curtin University.

"Robots and automation are going to continue to be more a part of the workforce and having people who are prepared to solve problems creatively and not be scared off by technology, I think will be very valuable," said teacher Patrick Loudon.

According to a recent national report, [almost 40 per cent of Australian jobs, including skilled roles, could be made redundant in 10 to 15 years due to advances in technology.](#)

A spokesman from the Federal Government said they were putting in place measures to ensure Australia was well positioned for the impact, including a national STEM Education Strategy.



**Photo:** Year 9 student, Ben Lane, of Christ Church Grammar School, has been helping to build a robot. (ABC News: Claire Moodie)

<http://www.abc.net.au/news/2016-11-12/robotic-drug-dispenser/8020380>

*Submitted by: Ruth Edge – Cardinia Shire Council*