concepts, but not so big that any failure is fatal.

"I don't think any state puts their hand up and says, 'We're the entrepreneurial state', they have it off to the side and they do their other stuff," he says.

"We've put this (Lot Fourteen) in the middle of the city, we need to be the entrepreneurial state, we need to be the sandbox state.

"We need to be like Silicon Valley – Come and have a try here."

There is still a ways to go though, he says.

He echoes Kirk's concerns on a lack of female founders. He also wants to see more schools embracing the concept (SA has five special entrepreneurial schools – Heathfield High, Seaton High, Banksia Park International, Mt Gambier, Murray Bridge), as well as continual political, business and community leadership.

"First and foremost we've got to get the kids," he says. "We need a lot more female founders and so to do that, we need to talk to the schoolkids.

"There's five entrepreneurial high schools and you get the kids to present to you what they've done, what they're thinking.

"And you look at the Year 12s telling you how proud they are. And a lot of these kids think outside the square. They're not the rote learning kids. These are the kids who are probably seen as the mischievous ones, or the loud ones, or the ones who can't concentrate in class because their brains are always moving.

"You walk out of there with a tear in your eye and you realise we're actually in a good place."

The key now is to expand on these types of programs and spend the next decade or so developing the culture, role models and success stories, Nunn says.

"I'm a big believer in saying you can't be what you can't see, particularly for kids at that age, years 7-12. "They need to see that leadership, they need to see examples of who they aspire to be. And then they think they can do it."

Nunn argues this is not only fundamental for building a genuine culture but a centrepiece of strategy if the state ever hopes to stand on its own two feet away from government handouts and the vagaries of GST dividends.

"I sit on a number of private, commercial boards and I hate it when it's asked 'How do we get more money out of government?' whether it's state or federal," he says.

"How about we look at how we stand up and then we can choose our own destiny? Let's do that.

"There's always a role for government to add value to what we do, but the more that we can actually control our own destiny, the better."

Lot Fourteen is one almighty step in the right direction, he says, and that word "ecosystem" makes its final appearance.

"This thing is like a focal point, it's almost co-ordinated dating," he says.

"You know, you guys need to meet these guys, and you need to work together. By creating an environment where people can actually sit and have a chat about what they do in the same spot … it just helps. When you do everything by Zoom, there's no culture."

He smiles when it's put to him one of the criticisms of the precinct is that it's all smoke and mirrors with little substance.

"I'll walk you around and introduce you to 50 start-ups that will blow your mind," he says.

We assure him that work has already been done. ∎

INTELLIGENT ALE

CASE STUDY 3

Barossa Valley Brewing founder Denham D'Silva pours The Rodney IPA. Picture: Tom Huntley

What do you get when you cross a few hundred thousand recipes, an advanced neural network, a bunch of computer scientists and a handful of beer lovers?

It sounds like the start of a really bad joke but, in truth, these are the basic ingredients which spawned the first known Australian beer created by artificial intelligence (AI).

Barossa Valley Brewing founder Denham D'Silva, a former investment banker, says the seed was planted when his brewery started supplying drinks for some of the businesses at Lot Fourteen. Connections were made. Friendships formed.

One of those was Professor Anton van den Hengel, who was then the director at the Australian Institute for Machine Learning.

"Now he is a big beer fan, as is the current director Simon Lucey," D'Silva says. "And I was an AI geek. I was very much just an enthusiast and was well aware that things like algorithms were controlling and influencing us much more than we understood and would have an increasingly powerful influence on everyday life.

"And that was what they did professionally. It was all inverse. Their interest was in beer. AI was their profession. My interest was in AI … it's pretty funny when you think about it."

Then the serious talk started: How

could they use AI to create a new beer? "So basically, we created a neural network," he says. "AI basically needed to understand what was important to a beer; there are thousands of potential variables in creating a beer. And we talked to the computer scientists to build this neural network to understand what was important. It learned from accessing about 400,000 recipes. We narrowed it down to IPAs (India Pale Ale), which is why it is rather strong."

He's not kidding. It is a strong, deeply flavoured IPA, with a kick in the tail. We are trying The Rodney, 5.5 per cent alcohol and 1.8 standard drinks (named after Rodney Brooks, an Adelaide born professor at MIT's Artificial Intelligence Laboratory). D'Silva says quite apart from proving the technology works, they wanted to ensure the beer felt neither bland nor artificial.

"One of the things I was quite optimistic about was that craft beer is so much about passion and so much about the skill set of a brewer," he says."And if we hand this over and all it creates is a bland but popular beer. You know, easy drinking. It's not that at all."

The reason? The AI "learned" from the brewers at Barossa Valley Brewing.

"We were able to impart our values for what made a beer into the network. We then narrowed down the recipes generated and picked the one," he says. "I like to say we put the art in

artificial intelligence. It's this wonderful collaboration between ancient brewing culture and the latest AI technology."

Beyond the knockout taste – the beer won several awards at the International Beer Awards in Melbourne – D'Silva now wants to use the technology to help other craft brewers who find it difficult to compete against the bigger companies.

"I found by implementing AI into our system, we were able to create significant efficiencies, which will allow us to compete into the future," he says.

"Our development cycle generally for beer is about 16 weeks. The big brewers will take a year to get a beer into market. So 16 weeks is really short.

"But this boils it down to five weeks, and frankly, we could probably bring it down to four weeks."

They also plan to use the technology to improve the beer; bar codes on the can asking users to rate the taste are fed into the AI, which updates the recipe. This explains why D'Silva has just returned from the US where he is working with two brewers to share the technology, which he will manage under a new company, Deep Liquid.

"Most people think AI is going to benefit the big end of town but it is the smaller guys that have the potential to gain the most," he says. "Small brewers have a better connection to customers. This allows for better data collection. They also get product to market faster."