

‘Driverless cars are the hardest problem you could want to solve’ – Oxa’s Gavin Jackson

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Driverless cars are here – if you happen to live in San Francisco, at least. Regulators voted last week to allow two companies to run driverless taxi services in the city. So it is surprising to hear from the British boss of an autonomous-car company that the next step – the dream of a car that can drive you anywhere – may still be a decade or more away. Gavin Jackson, of British startup Oxa, says it could be 10 or even 20 years before an “Uber effect” takes over and robo-taxis are capable of going anywhere without human intervention. “It’s just the hardest problem you could possibly want to solve, because the variables are infinite,” he tells the Observer over lunch in London. Plenty of money is being expended to solve it. Venture capitalists poured \$3.2bn (£2.5bn) into the autonomous car sector in the year to April, according to data company PitchBook (although that was less than the \$15bn spent in 2021 during the pandemic “everything bubble”). The UK government, which has given grants to Oxa, has said it is hoping for 38,000 jobs and a £42bn industry by 2035. A host of analysts, management consultants and tech bros – led by Tesla’s boss, Elon Musk – insist that full autonomy is just around the corner. In contrast, Oxa’s approach veers towards realism (or pessimism, depending on your taste). The company, previously known as Oxbotica, was co-founded in 2014 by Paul Newman, a robotics professor at the University of Oxford who still serves as chief technology officer. Jackson was hired in December 2021 to oversee its shift from promising startup to profit-making business selling autonomous driving software. That has meant focusing on autonomy in more controlled situations, such as petrochemical refineries, mines and factories. Oxa is trialling tech with investors including BP, Ocado and the German automotive supplier ZF – although a pilot with the London taxi firm Addison Lee has fizzled out. But Oxa is on the brink of rolling out its technology with paying customers. It will announce a US deal for driverless shuttle buses carrying 10 to 15 passengers in September, and work for a “logistics giant” in airports and depots early next year, Jackson says. Oxa is also working with an unnamed leading manufacturer on “a turnkey autonomous vehicle product for mass transit”. So, a bus? It’s “a bus of sorts,” Jackson acknowledges, but he insists it will be the “first of its kind in the world”. “It’s a through-the-looking-glass moment,” he adds. An unlikely path Oxa employs 310 people, and is looking to add another 100 in the next year. They are “almost wall-to-wall PhDs”, says Jackson. Given that fact, and the intensive work the company does on probabilities and programming at the limits of technology, his route to the top job is a surprise. Jackson was born in Northampton, and spent his early years living in a Hertfordshire pub. Up to this point, he has been speaking animatedly over a burrata salad about the challenges of autonomous driving and of growing a business, but, talking about his own path, he starts to pause. “As happens a lot, the family situation changed somewhat and my family, me and my siblings, ended up in

hostels, and we were sort of formally homeless,” he says, carefully. “And then we went through the whole welfare system for forever, until eventually I, you know, I was able to land on my own two feet.” Those two sentences clearly contain a lot. Jackson does not want to focus on what he half-jokingly describes as the “sob story”, although he does say he and his father have reconnected: they watch football at Watford, where Jackson is a season ticket holder. It is a long way from being a school leaver with no degree to holding senior positions at some of the world’s biggest technology companies. After working at a warehouse and in an insurance business, his first tech job was selling point-of-sale card machines. He then started a rise up the corporate ladder, starting at the cloud computing companies Dell EMC and VMware. He joined Amazon in 2015, where he co-managed its huge cloud arm, Amazon Web Services (AWS), in Europe, the Middle East and Africa, before a stint leading a robotics software company, and then Microsoft UK’s Enterprise Commercial business until December 2021. Those jobs created some serious name-dropping potential. At AWS, Jackson worked under Andy Jassy – a “mentor” – who took over the chief executive job at Amazon from founder Jeff Bezos. (Jassy is now the owner of a Watford shirt.) Jackson also says he worked in “close proximity” with Satya Nadella, now Microsoft’s boss, and former VMware boss Pat Gelsinger, who now leads the chip giant Intel. His disrupted childhood motivated him to “break out of that cycle” in work, and gave him a work ethic that is “just different to some people”, he says. ‘They want to build Rome’ Other self-driving car companies are still shooting for full autonomy (known as “level 5” in industry jargon). They include the two companies that will be allowed to operate in San Francisco: Cruise, which is owned by General Motors, and Waymo, part of Google owner Alphabet. Google-provided generative AI may help train Oxa’s algorithms, but Jackson says there is no rivalry because the two companies are aiming for very different things. “They know Rome wasn’t built in a day, but they want to build Rome,” he says. “It’s not where the value is today. Alphabet has the patience and the capital to wait. Not everybody does. We can’t wait.” Oxa has raised £250m so far, including £140m in its last fundraising round. Jackson is coy about the company’s valuation, but concedes it is “in the ballpark” of “unicorn” status – meaning a private startup worth more than \$1bn. Whether Oxa can cement its position as a British driverless technology champion will be tested in the coming months, but Jackson readily slips into tech-boss vision making with ease. “It’s not a science project,” he says. “This needs to dramatically change the landscape, dramatically change how the Earth moves.” CV Age 46 Family Married to Susie, with two sons aged 16 and 14, a daughter aged 10, and soon – from the end of August – a dog. Education Primary school in Hertfordshire, Bushey Meads secondary – “the same school as George Michael” – followed by a BTec in land administration, planning and surveying at Oaklands College. Later completed management courses at Cranfield University, the International Institute for Management Development in Switzerland, and Harvard Business School in the US. Pay “Money, and stock ... and joy.” Last holiday Corfu with family. Best advice he’s been given “[Microsoft boss] Satya [Nadella] saying that ultimately you can have all the knowledge in the world, but knowledge is fleeting. That’s why having a growth mindset is so very critical, because change is so fast. There’s a graveyard of companies that didn’t do that.” Word he overuses Industrialise. “My team are sick of me saying it. What we need to do is develop the scale.” How he relaxes “One of the things I like to do with the family is build Lego – complex Lego” (including a grand piano that plays). Also managing his son’s football team – “my second job”.