THE REALITY BEHIND FACTORY OF FUTURE

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HI-TECH collaborative robots, or "cobots", designed to interact with humans in visual inspection tasks, are among the latest emerging technologies to be trialled as part of the Line Zero – Pilot Factory of the Future program.

BAE Systems Australia and Flinders University, which established Line Zero at the Tonsley Innovation District as a proving ground for new manufacturing techniques and technologies, conducted the trials as part of the defence group's efforts to introduce more digital processes in its Future Frigates program at the Osborne Shipyard.

Recent trials involved participants wearing a 'HoloLens' – an augmented reality headset – to support assembly tasks at Osborne. Participants navigated the HoloLens' virtual instructions to successfully assemble electric cabinets, then activated a cobot fitted with an optical recognition camera to perform inspections.

BAE Systems Australia – Maritime, Research & Technology deputy project manager Sharon Vafiadis said the Line Zero program enabled BAE Systems employees and Flinders University researchers to test and trial innovative technologies before adapting them to the Osborne Shipyard.

"The technologies we are experimenting with would usually be seen in 3D computer-aided design and gaming, so it was exciting to explore them in a shipyard environment," she said.

"The information collected will help to adapt potential technologies that aim to increase the safety of our workforce, as well as efficiency and productivity."

Flinders University pro vice-chancellor of research innovation John Spoehr said shipbuilding was just one example of the industries likely to benefit from advanced manufacturing technologies being trialled at Line Zero.

"Research in real-world production environments, such as the Osborne Shipyard, is essential in determining how best to support new technology adoption for advanced manufacturing," he said.

“Augmented reality headsets offer mobility, hands-free operation and real time data-transmission, which holds the potential to support the timely completion of work to a high standard.”