

> Pace of change - industrial avatars point to digital transformation

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Today in Western Australia Jeff Connolly addressed a group of Perth business leaders on the pace of change and the importance of Australian companies preparing for digital transformation and technology partnership.

Using James Cameron's movie, Avatar as an example, he was able to demonstrate how sometimes the truth is stranger than fiction.

There are many examples where technology is bringing fiction to life and creating a new truth. This month we saw the iPhone wristwatch announced; last year was the first mind-controlled bionic limb and now Siemens technology is used to create industrial avatars Jeff Connolly said.

All companies are experiencing change. We have seen a shift from capex to opex in industries such as mining but we're also seeing technology is also playing a major role in change.

What we're seeing is game changing technologies - changing the way we work, the way we bring projects to life and changing the skills we need," said Mr Connolly.

Connolly talked about the role of technologies of digitalization, automation and electrification in developing a sustainable world.

Less than 5 years after the highest grossing movie, Avatar, Siemens Tecnomatix portfolio is helping the U.S. energy industry minimise the amount of radiation its employees are exposed to at nuclear facilities through avatars. Such virtual test persons are also being used in the automotive and aerospace industries.

Working in a virtual nuclear power plant, avatars Jack and Jill are able to test the maintenance and repair operations that will later be carried out by real workers. These realistic representations of humans are being used to plan human work in facilities such as power plants. They also help in the planning of work processes and in testing the user-friendliness of new products.

These avatars are biometrically correct with 68 joints and can perform 135 movements that correspond almost perfectly to the physical movement capabilities of a human.

Both are depicted as average body types common to the population in the regions where they are used. Their Chinese versions are shorter than their North American ones, said Mr Connolly.

Avatars enable companies to consider the human factor at the earliest stages of product development, assembly, and maintenance planning processes. They can help reduce costs because there is no need for expensive physical prototypes and time-consuming and costly adaptations later on. This saves money, improves quality and safety and speeds up time to market.

The simulations created by Siemens are part of the company's Tecnomatix portfolio for industrial production planning – part of Siemens Product Lifecycle Management (PLM).

You can see where this is going into almost any industry in the future. According to Connolly, Jack and Jill are just one example.

Digitisation also has a huge impact on the economy and society. A Booz & Company shows a 10 percent increase in a country's digitisation rate leads to a 0.75 percent higher gross domestic product (GDP) per capita and a 1.02 percent lower unemployment rate.

Australia and Australian companies need to embrace and prepare for digitalisation by adapting our business models, our political models and academic models.

Such is the pace of change that our industries must work with and adapt or perish. But the question is how will your business adapt?

What I learned early on in my career is that it's one thing to have the latest technologies but it's the application of those technologies that brings it to life. So now more than ever, technology companies must partner with engineering consulting and construction firms, said Mr Connolly.

For the detailed article on the Digital Transformation | Human Simulation

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