LCR4.0

Together for Manufacturing.

European Union
European Regional
Development Fund

Conveyor Networks

Date: Spring 2018

Technologies: Virtual and Augmented Reality and Systems Integration

Sector: Manufacturing

Primary partner: The Virtual Engineering Centre

conveyornetworks
Automation & Software

Background

Founded in 2009 and based at Sci-Tech Daresbury, Conveyor Networks is a turnkey automation specialist, providing a one-stop-shop for complex logistics automation, software, parts and after sales support.

imio Software Solutions specialises in warehousing and fulfilment software. Originally developed to complement the automation solutions offered by Conveyor Networks, the imio software suite covers all aspects of warehouse management. imio engineers and deploys high level software, which integrates seamlessly with host IT & automation systems, offering great usability and real time warehouse communication.

Approaching LCR 4.0

Conveyor Networks and imio Software Solutions recognise the future potential for improving efficiency using new technologies in this increasingly automated logistics sector.

The company wanted to see how emerging digital technology could be leveraged to enhance their current offer to their own clients. They were also interested in how technologies such as Virtual Reality (VR) and Augmented Reality (AR) could be commercialised and integrated within imio's software suite.

Partner Support

The Virtual Engineering Centre (VEC) met with Conveyor Networks and imio to fully understand their current processes and evaluate how this could be improved. The VEC suggested developing a tablet-based AR interface which would serve as an extension to imio's software suite, bringing a new dimension to its portable interface.
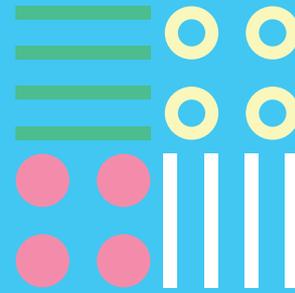
Results

The AR app can recognise physical hardware on the shop floor and allow engineers to pull up detailed, physical, electrical and mechanical schematics along with access to digital maintenance manuals. This offers employees instant and easily accessible information about the system used on a day-to-day basis, enabling them to interact with it in the most efficient manner.

With the growing prevalence of big data and artificial intelligence, the team wanted to showcase how AR could be used as a tool to provide a simple multifunction interface. The AR app also has the potential to provide real-time visibility of stock level and lead time for consumables used by a particular machine to enable up-to-date management of stock.

The app has a preventative maintenance dashboard, which is able to present data including noise, vibration, temperature and electrical characteristics of hardware, to highlight changes in trends and indicate the need for maintenance.

Philip Rowlands, Head of Software Delivery at imio Software Solutions said:

"Working with the VEC has helped us cut through the hype of Industrial Digitalisation. This project has demonstrated a practical use of augmented reality that draws together the threads of Industrial IoT, Big Data and AI. The results of this project offer the potential for efficiency improvements and productivity gains, by providing an intuitive and practical tool that will inform the next decade of interface development."

Working to the Future

Conveyor Networks and imio Software Solutions are looking to use this tool to provide a new platform for training and operations management. The intuitive graphical interface will help their clients to lever the power of artificial intelligence and big data in a practical and manageable way.

Since the LCR 4.0 support, Conveyor Networks and imio Software Solutions have secured Skills for Growth funding, which has allowed for continued work with the VEC, entering their digital sandpit model. This collaborative environment offers businesses access to the latest research, networks and facilities, as well as helping companies to better understand how incorporating digital technologies can improve current processes and efficiencies.

Here, the two businesses can further improve and develop the VR programme by introducing advanced interactions and functionality, as well as incorporating the use of a VR Power Wall to demonstrate their digital capabilities to a wider audience including future clients.

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