

LCR4.0

Together for Manufacturing.



European Union

European Regional  
Development Fund

# Acorn2Oak

## Background

**Date:** 30/06/2017

**Technologies:** Sensor Technology

**Sector:** Manufacturing

**Primary partner:**  
Virtual Engineering Centre

Acorn2Oak Innovation Solutions Ltd is a provider of innovative manufacturing solutions with a focus on manufacturing and product developments using advanced carbon fibre composite solutions.

In order to conceptualise a virtual factory to prove the concept of an innovative carbon fibre production line, Acorn2Oak required expert support from the LCR 4.0 consortium. Having recently moved to the Liverpool City Region, Acorn2Oak is establishing partnerships and a digital supply chain within the region.

## Approaching LCR 4.0

Acorn2Oak were very interested in creating a factory simulation to test their innovative ideas before building physical layouts, including a production line within a factory.

It was envisaged that using a factory simulation could help identify flaws within the current or planned layouts, as well as identify manufacturing timings and process bottlenecks, allowing for their early removal and improvement to the layout and processes used before implementation.

## Partner Support

Working closely with the Virtual Engineering Centre (VEC), Acorn2Oak were able to investigate manufacturing throughput, factory layout and setup for an innovative carbon fibre production line using factory simulation software (SIMIO).

The VEC worked closely with Acorn2Oak to ensure all requirements (process times, equipment numbers and costs) were considered in the simulation. Furthermore, the factory model was exported to VR resulting in meaningful presentation material for investment/funding and commercial opportunities.

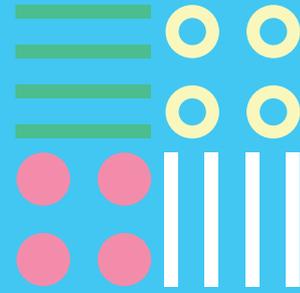
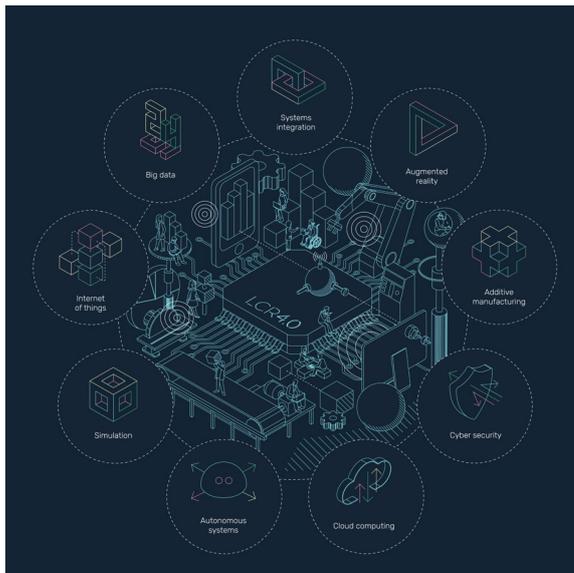
## Working into the Future

Acorn2Oak will use the simulation and VR material to showcase the process when developing commercial activities and applying for investment and funding. This will show that their extensive research and innovation activities are ready for commercial exploitation, worthy of funding and/or investing in.

Acorn2Oak are also looking to continue their targeting of industries such as transportation, advanced materials, sensor technology and manufacturing processes in the automotive, aerospace, space, rail, and marine sectors amongst others.

Acorn2Oak are engineering the future now by embracing the 4th Industrial Revolution and learning from the past.

Contact Acorn2Oak Innovation Solutions at: enquiries@a2ois.com



## Results

The VEC was able to build a simulation which looked toward successfully optimising the factory layout and manufacturing processes. This test data was then presented to Acorn2Oak in a final report showcasing an initial factory setup and some fine-tuning via alternative layouts. In addition, the creation of a Virtual Reality (VR) video was provided which can be used for presentations, demonstrations and bespoke layouts in the future.

# Acorn 2 Oak Innovation Solutions

# LCR4.0

Together for Manufacturing.



**European Union**  
European Regional  
Development Fund



Part of the Local Growth Hub

