connected everything.

Newsletter: Issue 12, Summer 2021

Introduction

Wow, it has been a busy summer for Connected Everything. We kicked it off with our annual conference, which was a big success with over 170 delegates joining us over the week. Creating our own virtual space was a risky experience, but feedback from delegates showed it was worth the effort with new connections being formed between members. Alongside this, we had a summer of Early Career Researchers (ECRs) focused events leading up to our joint funding call with EFutures. The feedback from these events has been positive and we're looking forward to seeing what these projects go on to achieve. There was the Industrial Internet of Things of Connected Factories Summer School hosted by The University of Leeds attracting over 69 participants from 12 different countries. You will find summaries of these events and more, such as the COVID recovery program, in this newsletter issue.

Connected Everything stepped up to answer the UK Government's call for evidence regarding The National Resilience Strategy. At Connected Everything, we felt the current strategy had failed to address the potential industrial digital technologies offers to achieve a resilient UK. Thank you to the network members who attended our workshop in early September to help shape the [Network's response](). The current challenges to the UK supply chain offer an opportunity to rethink traditional practices and promote digital manufacturing solutions. We look forward to continuing to work with our network members as we address the question 'how do we support the future of manufacturing in the UK?'over the coming 6 months.

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Annual Conference and Festival Film

The 2021 annual Connected Everything conference took a different turn this year taking place as a 5 day online festival of events during June 2021. It was great to see over 170 delegates join us throughout the week across our 8 sessions, which included presentations from our feasibility study teams, thematic areas' panel discussions, multiple ECR career support sessions and a digital manufacturing 2050 foresight roundtable. This was all made possible by the 25 conference presenters and panel members that contributed towards these sessions.

To make the festival a little bit different to other online webinars and add in more networking opportunities, the Network decided to build our own virtual conference space in Gather. This was a new experience for the network; however, it proved to be our largest conference yet with over 170 delegates throughout the week. The space allowed us to have a conference hall with a stage, research poster presentations, and network areas in the library and buffet space which you "walk" around with using your own avatar. While it felt quite a risk to move away from MS Teams, Zoom and the like, the feedback from delegates showed it paid off. People were able to "bump" into each other, people did have unexpected, unplanned conversations, new connections were made.

Festival Film

The excellent Sean Riley, Boardie LTD, has produced a Festival Film showing all of the week's highlights, which you can watch ***here.***

Keynote presentations were given by:

1. Stefania Soldini (*University of Liverpool*), *'Manufacturing of 3D-printed morphing origami solar sails for the next generation of CubeSats'*

2. Alexandra Brintrup (*Cambridge University*), *'AgentChat: Feasibility of large-scale multi-agent based coordination for freight co-loading'*

3. Anna Chatzimichali (*University of the West of England*), *'Embedded intelligent empathy in design'*

4. Azfar Khalid (*Nottingham Trent University*), *'Studying mental stress factors in occupational safety in the context of smart factory and COVID-19'*

5. Rami Bahsoon (*University of Birmingham*), *'Novel digital twins for compliance debts in smart manufacturing'*

Research Poster Winners

The festival was all brought to a close on Friday where Dr Nik Watson presented the winners of the best research poster presentation and runner-up awards. All the posters were of the highest quality, which made the voting extremely close.

1. Best Poster Presentation, **Erhan Gulsen** (*University of Nottingham*), *'Combining Ultrasonic Measurement Methods and Machine Learning Techniques to Assess Baked Product Quality'*

2. Runner-Up for Best Poster Presentation, **Laura Pereira Diaz** (*University of Strathclyde*), *'Prediction of Powder Flow from Physical Properties using Machine Learning'*

Summer School, July 2021

Industrial Internet-of-Things of Connected Factories, 12th - 14th July 2021
University of Leeds, University of Huddersfield

This year Connected Everything II Summer school was jointly organized by the School of Electronic and Electrical Engineering at Leeds University, UK in collaboration with the School of Computing and Engineering at the University of Huddersfield, UK. The core theme was "Industrial Internet-of-Things (IIoT) for Connected Factories".

The school was attended by over 69 participants from 12 different countries with majority of participant being ECRs. Over the course of three-days students participated in live, pre-recorded lectures, live demos, industrial panels, and hands-on activities.

You can learn more about the summer school and what the participants got up to, by reading the *summary report.*

Feasibility studies

Connected Everything II most recent, and final, funding call has finished with four projects being funded. The studies have time frames of between 6 and 12 months. The project teams are multi-disciplinary and include one or more industry partners. Further details of these studies are available at _feasibility studies._

Feasibility study information sheets

Developing the future of adaptive materials based on HD-reprogammable matter

University of Lancaster

Solar Skin: Additive manufacturing of customised, fully integrated, photovoltaic products

University of Liverpool

Participatory Housing Manufacturing

University of Plymouth

A Flexible & Low-Cost AR/AI Solution for Critical to Quality Feature & Defect Identification for SMEs

University of Wales, Trinity St David

Connected Everything ECR Funding

Two new Connected Everything funding activities were launched this summer, which were the COVID Career Recovery Fund and Smalls Grant Call. These calls have now closed and two expert panels selected from Connected Everything Network members are currently reviewing both sets of applications. At Connected Everything, we have enjoyed working with EFutures to experiment with new ways of supporting ECRs and are looking forward to seeing the outputs from the successful applications. More details to follow about the funded projects to follow in our next Newsletter.

Early Career Researcher Mentoring Programme

Connected Everything supports Early Career Researchers in many ways. We are exploring new ways to do this through a pilot mentoring programme. We envisage that within the Connected Everything network we can match mentees to mentors for a period of 12-18 months.

Please complete the form found *here* to request a mentor. It will take about 10 minutes to fill out. The information you provide will be used only by Connected Everything to register you onto a mentoring matching database, and then for the mentor to mentee matching purposes.

Listen here to *hear* our latest Podcast with John Oyekan, *University of Sheffield*, mastermind of the scheme to learn more about its benefits.

In September we all pulled together our findings from an Early Career Researcher survey to help us learn how to better support you. The summary report is on our website and has been shared with EPSRC.

Summer Skills Building Program

In partnership with eFutures, Connected Everything hosted a skills-building program over the summers. We put together workshops on topics including career connections, developing an elevator pitch, ideation, working with industry and grant writing. We had some great feedback at the end of the program from the ECRs that participated. One highlight was

"All the Connected Everything programmes are very helpful for us to build this proposal. We formed the research team in the CE festival 2021. Then we identified the topics and discussed them at several online meetings. Through attending the writing workshop as well as pitch training session, we had a chance to practice and strengthen our writing and communication skills. More importantly, we received practical strategies of collaborating with industry partners from the "Working with Industry" workshop. We successfully built the connection with industrial practitioners and will collaborate on this feasibility study as well as future opportunities."

Members' News

Servitization LIVE

The 'as-a-service' trend is everywhere – but where is the business growth?

Servitization Live is your opportunity to learn from Schneider Electric, Goodyear and BDR Thermea-Baxi's experience of growing business through innovative services this October.

Servitization Live will see industry experts and leading academics showcase the way that servitization can be used to transform the future of manufacturing. Taking place 4-6 October with a packed programme delivered in person at the ICC and live streamed online, it is the conference solely dedicated to Servitization and Advanced Services.

Over the course of three days, the event offers a mixed programme of keynote speeches by industry experts, interactive workshops and manufacturer showcases featuring service leaders and their servitization solutions.

Registration is now open and free of charge.

Event: *Servitization Live*

Date: 4-6 October 2021 Venue: ICC Birmingham and online

Organiser: *The Advanced Services Group*, *Aston Business School*

Servitization Live is sponsored by *Servitly*, *Capgemini*, *IFS*, *Xait CPQ*, and *DLL*, and and supported by *Field Service News*.

Job Opportunities at CMAC Future Manufacturing Research Hub

Do you want to make a difference in the world of medicines manufacturing research? We have some amazing opportunities to join #CMAC, a world leading research centre at the heart of cutting edge innovation.

With over 10 vacancies available and more in the pipeline, there has never been a better time to contribute to our broad portfolio of research, translation and skills in award-winning facilities in collaboration with global pharma and technology providers.

More details available *here*.

Join Connected Everything at connectedeverything.ac.uk

- Visit our website

- Find out about forthcoming events and activities

- Let us know what would be useful to you

- Promote an event through Connected Everything

- Interact with members through our LinkedIn group

- Follow us on LinkedIn and Twitter - @ConnectedII