

### Exciting News!

Following 3 successful years of CPE, we are delighted to announce that the project recently received approval to extend its current operations until the end of May 2022!

We would like to express a sincere thanks to all who have supported CPE along the journey so far, and we look forward to continuing working alongside West Wales and Valleys enterprises towards developing their products and processes through the use of photonics technology.



### Day of Photonics 2021

*Thursday 21<sup>st</sup> October marked the Day of Photonics 2021 and to celebrate the occasion, CPE took part in a full day online photonics extravaganza.*

A series of 'Byte-Sized Photonics' mini podcasts and several 'Photonics Phacts' were shared across all CPE social media outlets throughout the day with the aim of raising further awareness of the world of photonics.

The online posts reached over 5000 people across all social media outlets and the podcasts have also received hundreds of views.

We were also delighted to be awarded with the Day of Photonics Virtual Badge for the most popular online activity. CPE was successfully selected from a wide field of photonics organisations worldwide.



### Wales StartUp Awards 2021

CPE attended the annual Wales StartUp Awards ceremony on Thursday 9<sup>th</sup> September held at The Depot, Cardiff.

Following a record 750 entries, where 90 finalists were shortlisted across 27 different award categories, the award winners were announced at an evening ceremony with an audience of approximately 650 guests.

We would also like to extend our congratulations to industrial partners, Grafmarine, for their nomination as an award finalist. For a full breakdown of the award winners within each category, visit [www.walesstartupawards.com](http://www.walesstartupawards.com)



### North Wales Business Expo 2021

CPE recently attended the North Wales Business Expo 2021 which was hosted and organised by Coleg Cambria and Deeside Business Forum. The event was very successful and exhibitors in attendance included Airbus, Cleardata, Apple Sound, and Toyota.

Another particular highlight was the face-to-face Mersey Dee Alliance (MDA) breakfast networking, where we engaged with some interesting new business contacts.

If you are interested in joining the MDA, find out more here: <https://www.merseydealliance.org.uk/>



## 5 Minutes With... Tyra Oseng-Rees

**Name & Job Role:**  
**Company:**  
**Location:**

Tyra Oseng-Rees, Founder and Director  
Oseng-Rees Reflection  
Swansea

### How and where does the story of Oseng-Rees Reflection begin?

It all began with an idea. Could old glass bottles become something beautiful? Oseng-Rees reflection is making artisan sustainable panels from waste glass that can be used for interior and architectural installations. Having completed a PhD in the development of this recycled glass material, it took eight years before the PhD materialised into a large-scale commission and the creation of the business. Oseng-Rees Reflection was established in 2017 and is today offering bespoke kitchen splashbacks or interior tiles for your home, product development and design consultancy for large scale project, along with public engagement, workshop, and inspirational talks.

### What has the journey been like from the beginning of Oseng-Rees Reflection to where you are now?

Starting your own business has offered a lot of challenges and awarded some of my greatest achievements. One of the biggest challenges as a sole trader is that you do all the company's activities yourself, such as marketing, production, costing and the importantly R&D and innovation. You work on your own and have to trust your own instincts, making sure to network with the right people and getting work published and noticed. Some of the greatest achievements are after installations and you have happy customers and excellent feedback about the work.



### Tell us about the exciting projects you are working on now.

I have recently started a collaboration with a luxury interior designer and architect based in London who is showcasing my material to their clients.

### Do you have any advice for micro or SMEs looking to invest time in research, development, and innovation?

Never give up, trust your instinct, and learn about innovation management.

### What are you most proud of?

It is difficult to say just one thing, but some of the highlights of my career as an entrepreneur must be the recognition I had as the winner of Sustainable Academy Award as Sustainable Business 2019 and becoming a finalist in the category Creative Industries Entrepreneur of the Year at Great British Entrepreneur Award 2019.

### Tell us something others would be surprised to know about you or Oseng-Rees Reflection.

The business ethos is underpinned by the Wellbeing of Future Generation Act, and I am using the five ways of working as a tool in my design and innovation development.



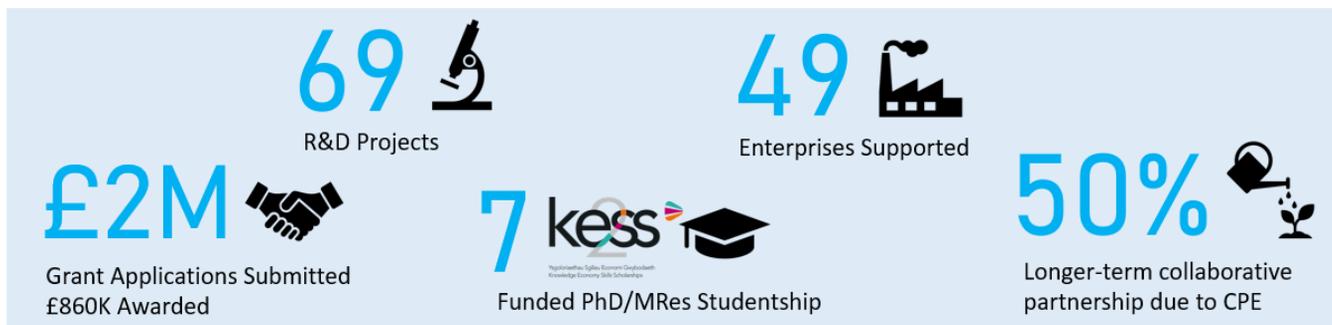
*A big thank you to Tyra for taking the time to speak to us. For more information about Oseng-Rees Reflection, visit:*

<https://www.osengreesreflection.com/>



# How are we doing?

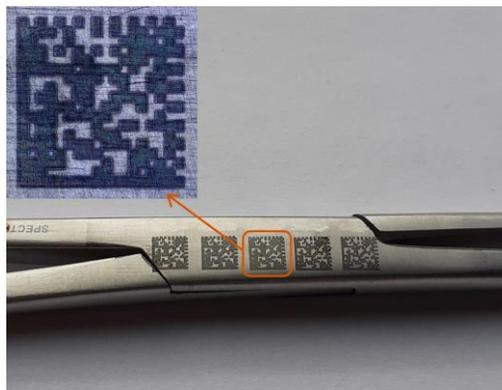
During the past 3 years, CPE has collaborated with numerous Welsh enterprises. The infographic below highlights some of CPE's main successes and key outcomes achieved so far.



## CPE and Spectrum Technologies: Laser Marking of Medical Instruments

**Spectrum Technologies is the world leader in the design and manufacture of laser-based wire processing equipment. Its products can be found in the aerospace, defence, rail, medical device, electronics and other demanding industries.**

Bridgend-based global firm Spectrum Technologies is a manufacturer of industrial laser systems for the aerospace and electronics industries, exporting over 95% of sales. The company is looking to expand their business in other markets, including the medical sector. Medical devices such as stainless steel surgical instruments like scissors, scalpels, and forceps all require markings for product traceability.



Since 2020, all class I, II, and III medical devices that require direct part marking must also include a Unique Device Identification (UDI) code. The UDI mark has to meet certain specifications, including being corrosion resistant to withstand a harsh sterilisation process. Initial attempts by the company in 2016 failed to meet the corrosion criteria.

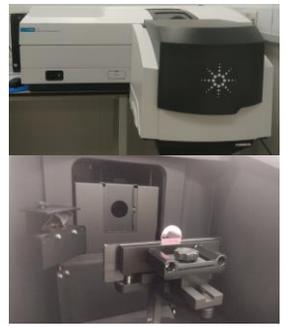
Bangor University worked with Spectrum Technologies to investigate further. A detailed analysis of the parameters and results of previous laser marking attempts by the company was carried out. The CPE team used their expertise in metallurgy and laser processing to implement alternative successful laser solutions.

The collaboration was successful in identifying two viable solutions with different laser systems which produced high-contrast and corrosion-free UDI marks. As a result of this CPE collaboration with Bangor University, Spectrum Technologies are now looking to develop a competitive low-cost laser marking system for UDI marking of medical devices.



## CPE Equipment Spotlight

Our CPE lab at The OpTIC Centre, St Asaph has a Cary 7000 spectrophotometer from Agilent which is used to analyse material performance such as the transmission, reflection and absorption of light over a wide range of wavelengths from different angles. CPE's spectrophotometer allows us to perform these tests as part of collaborative research and development projects, leading to the development of the next generation of products and components by Welsh businesses.



## Aerospace Wales Expo 2021

CPE are excited to announce that we will be exhibiting at the Aerospace Wales Expo 2021. This capability showcase and supply chain opportunities event will be held on Thursday 9<sup>th</sup> December at Coleg Cambria, Connah's Quay. CPE will be joined by companies such as Photonics Connected, Global Laser, and Glyndwr Innovations in the "Photonics Zone". Why not join us at the event by registering here: [Aerospace Wales Expo 2021](#)

## 'Byte-Sized Photonics' Podcasts

### \* EDITOR'S NOTE \*

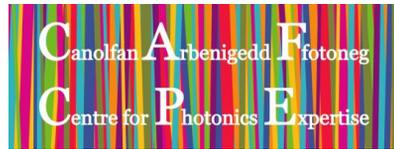
If like me, you often find yourself having to explain about photonics and its capabilities, then look no further! Our specifically tailored series of mini-podcasts hosted by Carole Eccles and Hazel Hung will help to 'shine some light' on what photonics technology can offer.

Visit the CPE YouTube channel to find out more:

[CPE Byte-Sized Photonics Podcasts](#)



Byte-sized Photonics  
tech for non-techs



## CPE Twitter Page

CPE has recently launched its own individual Twitter page. Alongside our other social media outlets, we will be posting regular project news and updates, as well as showcasing CPE promotional videos, webinars, upcoming events and other fascinating photonics-related content via the Twitter platform.

Follow the CPE page on Twitter: [@CPE\\_Wales](#)



## Contact Us



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