

Centre for Photonics Expertise

Seeding growth through innovation

The Centre for Photonics Expertise (CPE) is an industry collaborative programme led by four Welsh Universities that works together with companies in Wales to improve or develop new products and processes to benefit their business.

CPE is designed to provide easy access to academic resource and facilities at no cash cost to the company.

Our pan-Wales team is comprised of academic experts from Wrexham Glyndŵr University, Aberystwyth University, Bangor University and the University of South Wales.



Photonics is the technology of light. It is integral to our daily lives through technology like smartphones, screens, telecommunications and LED lighting.

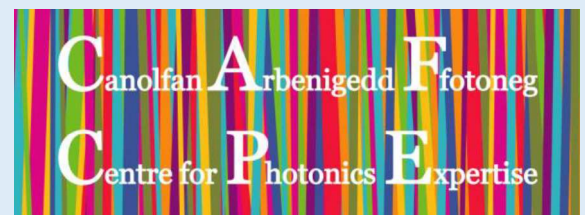
Photonics technology is found in a wide range of industry sectors such as: manufacturing, automotive, food, life sciences and energy.

How it works

- To be eligible companies should have a business address within the West Wales and the Valleys region.
- We will have an introductory meeting to discuss your business and how we could work together.
- Our technical team will then work with you to discuss potential collaborations and put together a project plan.
- As soon as both parties agree a project plan, work can begin.

What is the cost to you?

- There is no cash cost to the company.
- The academic expertise is funded by the project to be matched in kind by the industrial partnership.
- We work with you in matched effort and resource.



Our Capabilities

- **Lasers**
 - Industrial lasers for cutting and welding
 - Surface texturing, engraving, cleaning
- **Metrology**
 - Distance measurement
 - Optical surface profiling
- **Imaging**
 - Image processing for vision systems
 - High resolution microscopy
- **Specialist Vacuum Coating**
 - Anti-Reflective optical applications
 - Food, process and chemical environments
- **Optics**
 - Fibre optic telecommunications
 - Optical design
- **Sensing**
 - Monitoring, control and automation
 - Spectroscopy

Example Case Study: Automated product counting system



Welsh Slate and Bangor University collaborated on a CPE project to develop an automated slate counted system to replace manual counting.

“Bangor University CPE team have invested significant time and resources into solving this problem by successfully implementing photonics and bespoke programming. Welsh Slate are looking forward to advancing the project further with Bangor University.”

Dylan Evans (Project Engineer), Welsh Slate

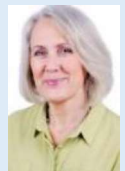
We have worked with companies on CPE projects in the following areas:

- Quality Control Monitoring
- Waste Reduction
- Production Line Improvements
- Prototype Development
- Product/Process Testing
- Modelling and Analysis

Contact our Business Development Team to find out more.

North Wales:

Carole Eccles
carole.eccles@glyndwr.ac.uk
01745 535232



South Wales:

Hazel Hung
hazel.hung@southwales.ac.uk
07552 249972



Canolfan Arbenigedd Ffotoneg

Arloesi er meithrin cynnydd

Mae'r **Ganolfan Arbenigedd Ffotoneg (CAFF)** yn rhaglen gydweithredol ar gyfer y diwydiant sy'n cael ei harwain gan bedair Prifysgol yng Nghymru sy'n cydweithio â chwmnïau yng Nghymru i wella neu ddatblygu cynhyrchion a phrosesau newydd er budd eu busnes.

Cynlluniwyd CAFF fel ei bod yn rhoi rhwydd fynediad at adnoddau a mwynderau academiaidd yn ddi-draul ar y cwmni.

Daw ein tîm o arbenigwyr academiaidd traws-Gymru o Brifysgolion Glyndŵr Wrecsam, Aberystwyth, Bangor a De Cymru.



PRIFYSGOL
BANGOR
UNIVERSITY

University of
South Wales
Prifysgol
De Cymru

Ffotoneg yw technoleg golau. Mae'n hanfodol i'n bywyd bob dydd drwy dechnoleg megis ffonau clyfar, sgriniau, telathrebu a golau LED.

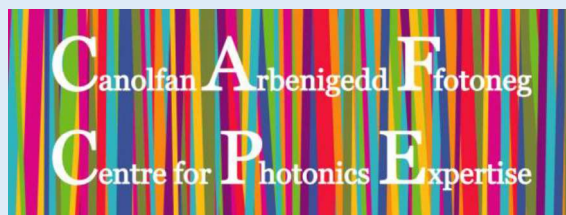
Ceir technoleg ffotoneg mewn ystod eang o sectorau diwydiannol, megis: gweithgynhyrchu, modurol, bwyd, gwyddorau bywyd ac ynni.

Sut mae'n gweithio

- Rhaid cael cyfeiriad busnes o fewn Rhanbarth Gorllewin Cymru a'r Cymoedd i fod yn gymwys.
- Bydd ein cyfarfod cychwynnol yn trafod eich anghenion busnes a sut y gall CAFF eich cynorthwyo.
- Wedyn, bydd ein tîm technegol yn gweithio gyda chi i ddatblygu'r syniadau i gynlluniau prosiect(au) penodol.
- Pan fo'r partion yn gytun ar y Cynllun Prosiect, bydd y gwaith yn dechrau ar ei union.

Beth fyddai'r gost i chi?

- 'Does dim cost ariannol i'ch cwmni chi.
- Arannir yr arbenigedd academiaidd gan CAFF, a disgwylir cyfraniad cyfatebol mewn adnoddau oddi wrth y cwmni.
- Byddwn yn gweithio'n gyfatebol gyda chi o safbwynt ymdrech ac adnoddau.



www.cpe-wales.org/cy



UNDEB EWROPEAIDD
EUROPEAN UNION



Llywodraeth Cymru
Welsh Government

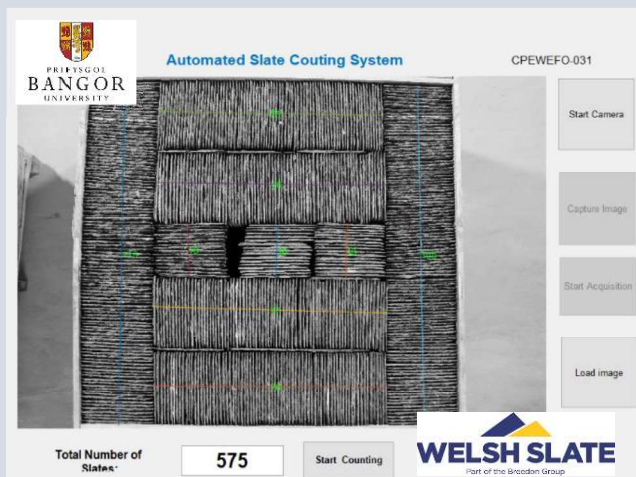
Cronfa Datblygu
Rhanbarthol Ewrop
European Regional
Development Fund

Ein Galluoedd

- **Laserau**
 - Laser diwydiannol ar gyfer torri a weldio
 - Graenu , ysgathru, a glanhau arwynebedd
- **Metroleg**
 - Mesur pellter
 - Proffeilio arwynebedd optegol
- **Delweddu**
 - Prosesu delweddau ar gyfer susdemau gweledig
 - Meicroscopi dadansoddi manwl
- **Araen Gwactod Arbenigol**
 - Cymhwysiadau optegol gwrth-adlewyrchol
 - Mesur bwyd, prosesau a chemegolion
- **Opteg**
 - Tele-gyfathrebu ffeibr-optig
 - Dylunio optegol
- **Synhwro**
 - Monitro, rheoli ac awtomatiaeth
 - Spectroscopi

Esiaml o Astudiaeth Achos:

Dull o gyfrif cynnyrch yn awtomatig



Cydweithiodd Welsh Slate â Phrifysgol Bangor ar brosiect CAFF i ddatblygu ffordd awtomatig o gyfrif llechi oedd yn gwella ar gyfri â llaw.

“Mae tîm CPE Prifysgol Bangor wedi buddsoddi llawer o amser ac adnoddau i ddatrys y broblem hon drwy weithredu ffotoneg a rhaglennu unigryw yn llwyddiannus. Mae Welsh Slate yn edrych ymlaen at ddatblygu'r prosiect ymhellach gyda Phrifysgol Bangor.”

Dylan Evans (Peiriannydd Prosiect), Welsh Slate

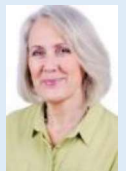
'Rydym wedi cyd-weithio ar brosiectau CAFF gyda cwmnïau yn y meysydd canlynol:

- Monitro Rheoli Ansawdd
- Lleihau Gwastraff
- Gwelliannau llinell Gynhyrchu
- Datblygu modelau arbrofol neu fersiynau cynnar
- Profi Cynnyrch/Proses
- Modelu a Dadansoddi

Cysylltwch gyda'n Tîm Datblygu Busnes am fwy o wybodaeth.

Gogledd Cymru:

Carole Eccles
carole.eccles@glyndwr.ac.uk
01745 535232



De Cymru:

Hazel Hung
hazel.hung@southwales.ac.uk
07552 249972

