TWI Innovation Network

TWIIN 2020 ANNUAL CONVENTION

DRIVING INNOVATION THROUGH COLLABORATION

TWI-INNOVATION-NETWORK.COM

WELCOME TO THE TWIIN ANNUAL CONVENTION 2020

Dear All,

Welcome to the TWI Innovation Network (TWIIN) Annual Convention 2020.

This year we are bringing it to you in a new online format, enabling us to continue providing you with access to our open innovation ecosystem, during these globally dynamic and challenging times.

TWIIN is internationally recognised in the field of structural integrity, with our programmes and networks facilitating collaboration between researchers, TWI staff and Industrial Members, partners and academia. We work with the full supply chain – from start-ups, micro SMEs and SMEs to large enterprises, universities and end users – on research and technologies covering the full range of Technology Readiness Levels (TRLs) 1-9 and industry sectors.

The network is unique in its ability to take ideas, and in turn technologies, from basic principles to operational deployment, with teams of specialists nurturing the research and development at every stage.

Since its inception, TWIIN has:

- Launched 14 innovation centres, bridging the gap between industry and academia with evidenced impact
- Seen its first centre, Brunel Innovation Centre (BIC), enter its eleventh year
- Built up a Technology Acceleration Programmes (TAPs) Membership base of nearly 200 companies from the UK and wider Europe
- Created a portfolio of Private Technology Innovation Partnerships (PTIPs), fostering home-grown innovation for commercialisation of technology
- Established an Innovation Consultancy Service for SMEs in 2020 as a response to market demand.

Thank you for your continued support. We hope you enjoy this year's TWIIN Annual Convention, and looking ahead, we wish you all the best for a fruitful 2021.

AGENDA

TWIIN Annual Convention 2020

Webnesday 9 December
Zoom Webinar

09:30	An Introduction to the TWI Innovation Network	Dr Cem Selcuk, Head of Business Development, TWIIN *(Chair)*
09:40	Innovating Together Across Borders – The Power of TWI Innovation Network	Prof Tat-Hean Gan, Director of Innovation and Skills, TWI Ltd
10:00	Fullagar's Vision for Technology Innovation in a Changing Landscape	Dr Mark Barnett, Commercial Director, Fullagar Technologies Ltd
10:20	The Dos and Don'ts of Financing Early Stage Business Innovation	Benjamin Reid, Co-Founding Partner, Aspremont
10:40	*Break*	
11:00	Innovation Centre and SME Pitches	Innovation Centres and Guest Speakers
12:00	Match:	
	Collaborating to Unlock the Development Potential in New Technologies and Services	Angela Angulo, Innovation Consultancy Manager, TWI Ltd
	Why Collaboration is Key to Winning Public Funding for Technology Projects	Laurence Robinson, TIM Team Manager, TWI Ltd
12:30	*Lunch*	
13:30	Catch:	
	Room A: Investor and TWIIN	Benjamin Reid and Cem Selcuk
	Room B: Innovation Consultancy	Angela Angulo
	Room C: 1-2-1 Clinics with TIM - For companies interested in obtaining public funding to support technology developments **By appointment only** – Maximum of 12 slots available	Laurence Robinson and TIM Project Leaders
15:00	Close	Dr Cem Selcuk, Head of Business Development, TWIIN *(Chair)*

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- Antiviral & antibacterial coatings
- Fibre & powder treatment

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- Dr. Dirk Vangeneugden – Flemish Institute for Technological Research (VITO)

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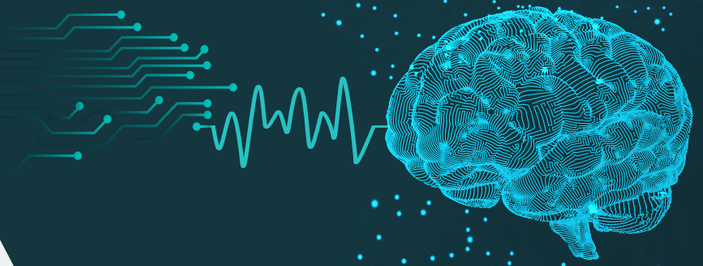

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Our Vision is to carry out R&D activities aiming at creating new solutions and preventing external dependence while offering modern technologies to our partners/ customers by prioritizing science, innovation and human resource.

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SPEAKER BIOGRAPHIES

Professor Tat-Hean Gan
Director of Innovation and Skills
TWI Ltd

Alongside being Director of Innovation and Skills at TWI, Tat-Hean is also Director of Brunel Innovation Centre (BIC) and Technology Director for the National Structural Integrity Research Centre (NSIRC), the UK's first industry-led, postgraduate education and research centre in structural integrity, which is based at TWI.

He has a first-class honours degree in electrical and electronics engineering, University of Nottingham and an MSc in Advanced Mechanical Engineering, University of Warwick where he also continued his PhD studies in Engineering, and has an Executive MBA, University of Birmingham.

Tat-Hean's research areas are signal and image processing, sensor development, artificial intelligence (AI), digital twin, asset integrity management and structural assessment.

Dr Mark Barnett
Commercial Director
Fullagar Technologies Ltd

Mark is an academic-taught materials scientist, a self-taught engineer and a life-taught leader with a passion for innovation, positive change, and the power of new materials to transform the world.

Mark has worked in UK government (STFC and QinetiQ), academia (Business Development Manager, and founder and Head of Warwick Scientific Services, University of Warwick), big corporates (X-Ray Product Manager, Bruker and Senior Manager, Innovation and New Product Development, Magna Automotive), and start-ups (Innovation and Commercial Manager, Lontra).

Now Mark is responsible for growing Fullagar Technologies, the innovation technology joint venture between TWI and Lloyd's Register, in his role as Commercial Director.

Dr Cem Selcuk
Head of Business Development
TWIIN

Cem's role focuses on expanding the TWI Innovation Network (TWIIN) with new Innovation Centres (academic partnerships), and Technology Accelerator Programme (industrial partnerships) Members who are mainly SMEs.

He was Head of Brunel Innovation Centre (BIC), the first Innovation Centre at TWI, and is now the Programme Director for the new Integrated Manufacturing Technologies Research and Application Centre, in partnership with Sabanci University, Istanbul. Cem (CEng, CEnv) is a member of EPMA, APMI, IOM3 (FIMMM), at which he sits on several boards, and The Welding Institute (FWeldI).

He has published in over 75 peer-reviewed journals with more than 550 citations for his work.

Benjamin Reid
Co-Founder
Aspremont

Ben has a background as a banker and serial entrepreneur. He has co-founded, with his business partner Timothy Lyons, run and ultimately exited, two Fintech businesses.

He is an exceptional business strategist with a track record in creating and executing successful go-to-market strategies for early stage, disruptive businesses.

In 2017, Ben co-founded Aspremont, a venture builder, helping early stage businesses turn great visions into great companies.

In this capacity he is currently CEO of safesolvents.co.uk and a NED at freehandsurgeon.com.

He holds an MBA from INSEAD.

SPEAKER BIOGRAPHIES

Angela Angulo
Innovation Consultancy Manager
TWI Ltd

Angela supports TWIIN's partners, including Innovation Centres, SMEs and other organisations, by helping them define research themes and technical strategies that reflect high-impact areas for development.

This includes market research, analysis of new industry trends and future technologies, assessment of commercial viability, and formulation of business cases to align and assist growth ambitions. She has collaborated with numerous organisations and industrial research partners across Europe and overseas, securing funding for technology projects and progressing innovative ideas from concept through to market readiness.

Angela specialises in integrity management with a particular emphasis on digitalisation of industrial assets and processes using smart sensing technologies, and their integration with data management strategies.

Laurence Robinson
Technology Innovation Management Team Manager
TWI Ltd

Laurence oversees access to research and technology funding for TWIIN.

He is a charted Chemical Engineer with over ten years' experience in engineering and innovation, and brings his passion for technology and background in technical project management to delivering new projects for TWI, network partners and TWI Industrial Members.

He spent six years working in the power sector, developing and optimising CO2 capture technologies for industrial, natural gas and coal power generation.

Over the last four years, Laurence has developed expertise on the UK and European funding landscapes, including the key drivers for winning public funding for technology innovation development, and managed over 20 winning proposals; total value: £31m+.

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INNOVATION CENTRES

Additive Manufacturing Centre (AMIC)

- Rob Scudamore, Director | rob.scudamore@twi.co.uk

AMIC is the second Innovation Centre established by long-term strategic partners TWI Ltd and Lancaster University.

The centre undertakes research in additive manufacturing (AM), including the complete value chain of design and build optimisation, prototyping, performance validation and product industrialisation.

AMIC's mission is to become a world class centre specialising in AM technologies and grow a portfolio of activities, including innovation projects and PhD studies, with testing and inspection methodologies applied in industries ranging from aerospace, automotive and consumer goods through to spare parts, small series production, tooling and medical implants.

- **Objective:** to develop new technologies that combine AM with artificial intelligence (AI) and machine learning, as well look into new material approaches and processing.
- **Core areas:** AM with AI and machine learning, new materials and approaches for AM.

Artificial Intelligence Innovation Centre (essex.ai)

- Panagiotis Chatzakos, Director | panagiotis.chatzakos@twi.gr

Essex.ai operates as a strategic partnership between the University of Essex and TWI, with the aim of developing a financially sustainable research facility for one of the hottest research topics globally, drawing on Essex's existing strengths to complement and underpin the applied research and development activities of TWI.

- **Objectives:** to create a shared research and technology facility, undertake joint research programmes, secure a portfolio of research funding from external sponsors, build a mutual understanding of future research challenges and opportunities, and develop the next generation of technologies and scientists.
- **Core areas:** artificial Intelligence (AI) for risk-based maintenance scheduling, motor current signature analysis, automated weld inspection, vibration analysis, automated guided waves defect detection, phased array ultrasonic testing (PAUT) data interpretation and automated shearography defect detection.

Brunel Composites Innovation Centre (BCC)

- Mihalis Kazilas, Director | mihalis.kazilas@twi.co.uk

BCC was set up in September 2016 and is the second Innovation Centre to be established by Brunel University London. BCC creates shared research and technology capabilities, specialising in novel composites processing and joining technologies applied to industrial environments. The Centre develops innovative methods for composites processing/joining across Technology Readiness Levels (TRLs) 1-6, underpinning TWI's work across TRLs 4-6. Partnership with TWI gives the Centre the opportunity to work with TWI's Industrial Members.

- **Objectives:** to create solutions for better processing and joining of composites, and de-risk innovation in composites, for quick industrial adoption, and establish a world-leading reputation in composites and joining.
- **Core areas:** microwave heating in composites production, joining of composites without mechanical fastening, adhesive bonding, coatings for composites, composites-metal joints, novel processing of composites and interface phenomena at composite surfaces.

Brunel Innovation Centre (BIC)

- Jamil Kanfoud, Head of BIC | jamil.kanfoud@brunel.ac.uk

BIC, a partnership between Brunel University London and TWI, was established in 2009. It is a world-class centre that sits between knowledge base and industry, offering high quality research in an innovative environment, focused on non-destructive testing (NDT), condition and structural health monitoring, power ultrasonics and allied technologies including materials, sensors, electronics and software systems. BIC supports partners in industry to transfer academic research into industrial applications, in line with its multinational, interdisciplinary vision.

- **Objectives:** to encourage the Centre's growth, undertake joint research programmes and secure funding from external sponsors.
- **Core areas:** ultrasonic systems for inspection and cleaning, smart non-destructive testing, condition and structural health monitoring, advanced signal and image processing algorithms including machine learning and numerical modelling, novel sensing for harsh environments, digital twin technology, internet of things (IoT) and data analytics.

Circular Economy and Recycling Innovation Centre (CERIC)

- Angela Angulo, Programme Manager | angela.angulo@twi.co.uk
- David Hughes, Teesside University Centre Lead | d.j.hughes@tees.ac.uk

CERIC was created in May 2020, as a joint venture between Teesside University and TWI, to advance new disruptive technologies designed to help reduce industry's reliance on finite resources and eliminate waste. R&D will examine areas such as recycling, re-use and re-manufacturing, with the aim of conceiving break-through systems and/or processes which will inform the closed-loop approach of the circular economy.

- **Objectives:** to create opportunities for industrial symbiosis to help close the materials loop, new concepts and projects for recycling and reuse, new processes and methods for materials breakdown and waste utilisation, and engagement with UK and European supply and value chains.
- **Core areas:** industrial recycling methods and processes, bio processing techniques and technologies, re-manufacturing and lean production, and asset life cycle management approaches to enable greater recovery, repair and repurpose.

Fatigue and Structural Integrity Innovation Centre

- Cem Selcuk, Programme Manager | cem.selcuk@twi.co.uk
- Michael Fitzpatrick, Coventry University Centre Lead | ab6856@coventry.ac.uk

This new Innovation Centre also had its inception in June 2020 and was formed by existing strategic partners Coventry University and TWI Ltd who have a long history of working together. The Fatigue and Structural Integrity Innovation Centre will undertake collaborative R&D to develop new technologies at Technology Readiness Levels (TRLs) 1-6, aimed at deepening the use of fatigue and structural integrity applications across industry.

- **Objectives:** to ensure the safe, reliable operation of critical plant, equipment and infrastructure, research issues in safety-critical applications which deploy new materials, designs and processes, and exploit cutting-edge technologies for condition monitoring.
- **Core areas: r**esidual stress analysis for improved structural integrity, novel condition monitoring techniques, digital twin for real-time monitoring, novel designs for improved fatigue life and mitigation of fatigue damage, and advanced non-destructive testing (NDT) and inspection techniques.

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Healthcare Innovation Centre (HIC)

- Angela Angulo, Programme Manager | angela.angulo@twi.co.uk
- Zulfiqur Ali, Teesside University Centre Lead | z.ali@tees.ac.uk

HIC was established in February 2017. The Centre is a collaboration between TWI and Teesside University and carries out world-leading research that makes a significant impact on people's lives and wellbeing. HIC's mission is to undertake interdisciplinary research in developing new interventions, tools and therapies for health and social care. It works collaboratively with end-users, industrial and practice partners to support the adoption of healthcare technologies, improve quality of life and create economic growth.

- **Objectives:** to create advanced research and capability in healthcare technologies, undertake research with industrial focus and impact, develop the next generation of researchers in healthcare innovation and translate technologies for industry adoption.
- **Core areas:** physical interventions including prostheses and assistive technologies, optimisation of treatment such as diagnostics and predictive models, future therapies such as bioprocessing and digital health including VR.

Industrial Decarbonisation and Hydrogen Innovation Centre (IDHIC)

- Angela Angulo, Programme Manager | angela.angulo@twi.co.uk
- Ruben Pinedo-Cuenca, Teesside University Centre Lead | idhic@tees.ac.uk

IDHIC is the second Innovation Centre formed by Teesside University and TWI. Its focus is on developing cost effective, low-carbon technologies to support industry's drive for clean energy growth, helping companies to reduce the impact their operations have on the environment and look at solutions to harness hydrogen for wider use.

- **Objectives:** to generate viable projects at Technology Readiness Levels (TRLs) 1-6, life extension of plant, machinery and equipment, and jointly leverage new technologies and industrial solutions through grant funding, bringing UK companies and European SMEs together in consortiums for collaborative projects.
- **Core areas:** fuel cell development, converting energy into usable electric power, materials technologies to enable future transportation, resource efficient manufacturing and refining systems, new technologies for hydrogen fuelling and energy storage, and energy management processes for monitoring, control and conservation of energy.

Industrial Net Zero Innovation Centre (INZIC)

- Angela Angulo, Programme Manager | angela.angulo@twi.co.uk
- David Pugh, Digital Catapult Centre Lead | david.pugh@digicatapult.org.uk

Digital Catapult and TWI launched INZIC in March 2020 with the ambition of helping organisations tackle industrial net zero challenges by exploiting advanced digital technologies and deep industrial domain expertise, to create new market opportunities for UK tech start-ups and industrial businesses.

- **Objectives:** advanced digital technologies to improve sustainability and efficiency, new applications targeting asset and energy intensive industries, drive new regional research and technology capability for the acceleration of digitally enabled industrial net zero, produce new business service models in maintenance, repair and overhaul, and undertake joint research programmes funded by external sponsors.
- **Core areas:** advanced digital technologies in asset maintenance, service and repair, digital twin for real-time monitoring, digital transformation of traditional manufacturing processes and move to smart factories, and development of artificial intelligence (AI), internet of things (IoT) and block chain technologies.

INNOVATION CENTRES

Joining 4.0 Innovation Centre (J4IC)

- Darren Williams, Director | darren.williams@twi.co.uk

A strategic collaboration between Lancaster University and TWI, J4IC was established in April 2017 to grow a comprehensive research capability for the digitalisation of joining and associated manufacturing technologies. The centre concentrates on joining technologies in the context of industry 4.0 (the fourth industrial revolution) and on creating, developing and embedding transformative manufacturing capabilities for the benefit of industry.

- **Objectives:** to collaborate on world-leading, industrially relevant R&D of digital manufacturing capabilities, based on advanced joining and associated technologies leading to technology impact and adoption, undertake research underpinned by MSc / PhD researchers and academic staff embedded by industry, and secure a portfolio of research funding from public bodies.
- **Core areas:** digitalised manufacturing capabilities based on advanced joining technologies, underpinned with expert joining knowhow, data-centric engineering, software platforms, cloud computing, advanced systems connectivity, robotics and communications solutions.

Materials Innovation Centre (MatIC)

- Shiladitya Paul, Director | shiladitya.paul@twi.co.uk

MatIC was set up in 2016 by The University of Leicester as a long term strategic partnership with TWI to focus on materials characterisation and novel materials development, concentrating on metallic and alloy, and is a shared research and technology facility for materials testing in harsh environments. MatIC specialises in new experimental techniques and models to understand the fundamental mechanisms underlying cracking and defect formation during welding, casting and metal 3D printing.

- **Objectives:** to create a specialised research and technology capability, undertake joint research programmes and secure funding, develop technology maps of the University's future needs in consideration of TWI's Industrial Members, and access new markets and networks via TWI's membership base.
- **Core areas:** analysis, behaviour and performance of materials, physical metallurgy of welding, failure mechanism of weldments, computational mechanics and material process modelling.

Renewable Energy Innovation Centre (RENEW)

- Angela Angulo, Director | angela.angulo@twi.co.uk

RENEW was conceived in October 2019 by strategic collaborators the University of Bedfordshire and TWI. The Centre carries out R&D programmes designed to identify, test and qualify new sustainable energy technologies that will form the basis of tomorrow's novel systems, applications and solutions for the renewable energy industry.

- **Objectives:** to develop novel renewable energy systems and innovative technologies, collaboratively transfer technology from academia to industry, and vice versa, contribute to the growth in asset management for renewables that is facilitating the use of cleaner and more reliable energy alternatives, and undertake joint research programmes enabled by funding from sponsors.
- **Core areas:** maintenance, inspection and monitoring services, grid, power generation, networks and distribution, failure modes and effects analysis (FMEA), risk assessment and remaining useful life, installation, commissioning and decommissioning, and digitalisation of legacy systems.

5G, Computer Science and Engineering Innovation Centre

- Panagiotis Chatzakos, Programme Manager | panagiotis.chatzakos@twi.gr
- Pandelis Kourtessis, Hertfordshire University Centre Lead | p.kourtessis@herts.ac.uk

The University of Hertfordshire and TWI through its wholly owned subsidiary in Athens, TWI Hellas, are the partners behind the Network's newest Innovation Centre which will focus on 5G, computer science and engineering.

The mission of the new venture is to become an internationally leading centre of excellence in the fields of communication networks, computer modelling and artificial intelligence (AI), data science and robotics, advanced materials and energy systems. At its core will be joint research programmes to develop new disruptive and enabling technologies in the Technology Readiness Levels (TRLs) 1-6, for the exploitation of 5G with big data and robotics, with the aim of also deepening the application of advanced materials technology and sustainable energy systems across industry.

TECHNOLOGY INNOVATION MANAGEMENT

The Technology Innovation Management team (TIM) oversees access to research and Innovation funding for TWI and the Innovation Network.

They work closely with TWI's technical experts, Industrial Members, Innovation Centres and network partners to secure funding to take forward the next generation of advanced engineering technologies.

Over a 12 year period, TIM has developed extensive experience and expertise in developing novel project concepts, building reputable consortiums and preparing winning proposals. TIM engages with a number of national and international funding agencies including Horizon 2020, Innovate UK, EUREKA, Clean Sky, Shift2Rail, and the Engineering and Physical Sciences Research Council (EPSRC).

The team has worked with a broad range of potential partners including SMEs, larger companies and multi-nationals, universities and research organisations from over 50 countries around the world.

Since 2008, TWI has secured:

- **415** funded projects and counting
- **121** projects coordinated by TWI
- **£513m** funding for all partners.

INNOVATION CONSULTANCY

The Innovation Consultancy Services (ICS) team helps to create opportunities, promote products and services, and identify new markets through research and networking activities.

ICS offers one-to-one support, helping organisations to first evaluate their technologies and services, clarify goals and outline realistic outcomes, and then create a company plan to accelerate their innovation process. ICS also focuses on new product and service development to help maximise potential for exploiting new market routes.

Public and privately organised events enable the sharing of knowledge and expertise through panel and information sessions. Enhancing communication and networking options sparks connections, creativity and ideas which, sponsored through appropriate funding, lead ultimately to technological innovations.

Unlocking opportunities

- Dissemination and marketing
- Events management
- Innovation consultancy
- Key partner matching
- Proposal review, evaluation and feedback
- Select, business-specific funding opportunities
- Workshops and webinars

Technology focus

- CPD courses
- Foresight review
- Industrial targets
- Marketplace strategies
- Product innovation
- Technology development
- Trending subjects
- Value chain analysis

Road mapping

- Concept development
- Future development focus
- Ideas generation
- Key Performance Indicators
- Roadmap canvas
- SWOT analysis
- Technology mapping
- Trends analysis

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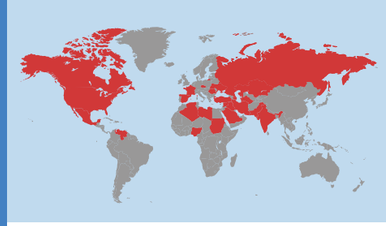
- Information Systems
- M2M/IoT
- Big Data
- Artificial Intelligence
- Digital Twin
- Computer Vision
- Robotics
- Automation and Control Systems
- NDT and Test Systems

Selected projects:

- COGNITWIN- (H2020) Cognitive Plants Through Proactive Self-Learning Hybrid Digital Twins
- MACHINAIDE- (ITEA3) Knowledge-Based Services for And Optimisation Of Machines
- FACTORY4.0- (TUBITAK) Development of Industry 4.0 Based Digital Twin Platform for Production Data Processing and Analysis
- FLOW-CAM- (MARTERA) Floating Offshore Wind Turbine Cable Monitoring
- CONSTRUMATIC 4.0- (EUREKA) Industry 4.0 Based Advanced Robot Technology
- TX-VISION- (TUBITAK) Automatic Defect Detection for X-Ray Test Systems



INDUSTRY 4.0 END TO END SOLUTIONS

INDUSTRIAL FACILITIES	ENERGY	MOBILITY
Industrial Applications	Energy Sector Applications	On Vehicle Applications

AUTOMATION & CONTROL | ROBOTICS | IoT & SENSOR NETWORKS | INFORMATION TECHNOLOGIES

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ULTRASONIC TEST | HYDROSTATIC TEST | X-RAY TEST

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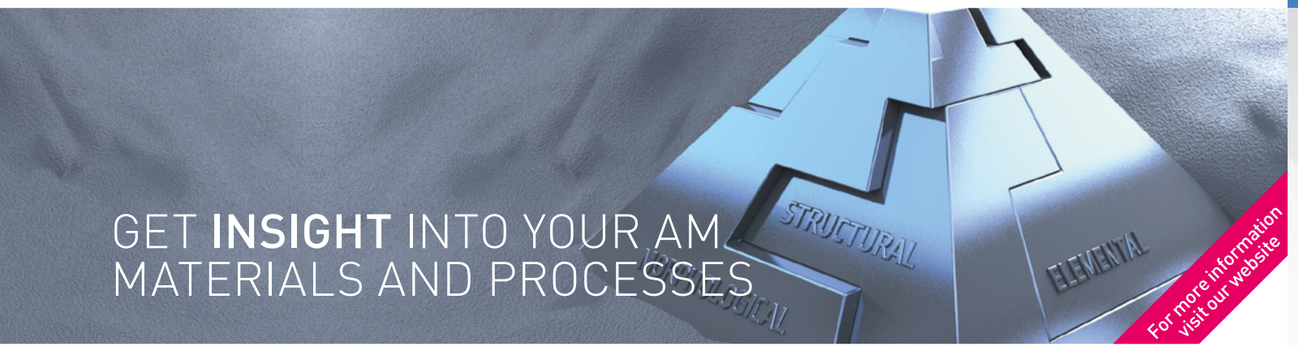

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- Ensure consistent powder supply and prevent variations in end-component quality.
- Optimize atomization conditions to achieve the desired powder characteristics and yield.
- Develop novel alloys and manufacturing processes to meet industry needs.
- Predict and optimize powder-packing density, flow characteristics, and sintering behavior.

What's more, our solutions are continuously upgraded to meet ever-changing industry needs. Our experts are happy to elaborate on what our solutions can offer you and how we can help you strengthen your market position and meet your customer's demands.

www.malvernpanalytical.com/MetalPowders

Malvern Panalytical
a spectris company

kaplam

GENERAL COMPANY INFO & SERVICES

- 40 Million parts production per year
- 4,000 Ton plastic raw material usage per year
- 13 main plastic types & 25 plastic derivatives
- 100% automotive sector
- Established in 2005 @ DOSAB, Bursa
- Since 2009 @ Karacabey
- Total area 17,000 m²
- Closed area 14,000 m²
- 100% Turkish capital

50 - 2000 Ton Inj. Presses & Robots	35 pcs
Aluminium Coating Shop	300 m²
Measurement Lab	60 m²
Test Lab	80 m²
Tooling Shop – Prototype Area	250 m²
Design Office, Meeting, Training Area	600 m²
Assembly Lines	15 pcs
Total Employee	296 persons

Full Service Supplier

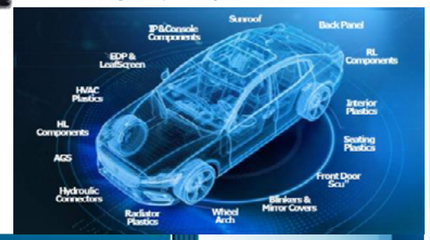
To be a solution partner to OEM customers from design to serial production and even throughout the vehicle life by combining strong production knowledge on plastic parts with design capabilities.

Process Equipment & Production Supplier

Design and development of all equipment required for the production of plastic parts designed by the customer and mass production of the product.

Production Supplier

Serial production of projects with parts and production equipment designed and produced by the customer.



TRUSTED PARTNER for EU PROJECTS and R&D ACTIVITES

Rising star Tier 1 supplier for major automotive OEM's at very rich geographic location between mountain, lake and sea. 10 km to Uluabat lake, 80 km to Uludağ Mountain, 45 km to sea of Marmara and Bandırma Port , 40 km to Longoz Forests.
Its unique location may create an excellent partnership for Horizon Green Call projects, especially its wind and solar-rich geography, renewable energy projects, and the presence of large organic production facilities around it, circular economy projects.

Kaplam Plastik A.Ş. , an SME specialising in plastics, processing, and manufacturing as well as design and engineering of products associated with polymers, from plastic granulates to automotive parts and recycling including testing, inspection, quality control and life cycle management for several applications notably; automotive e.g exterior and interior trim parts , lighting and HVAC components, underbody &underhood parts and plastic packaging, have joined the TWI Innovation Network as industrial innovation accelerators.
Lightweightining as one of the main R&D strategy of Kaplam can provide strategic partnership to low carbon emmision especially electrical vehicle and shared economy projects.

Kaplam is keen to collaborate across the European innovation platforms, particularly building on capabilities with an international outlook, and hence are participants in the Accelerated Innovation Programme.

- New product development studies as a strategic co-design partner in automotive key industries.
- Design development and production collaboration with OEM and raw material manufacturers for vehicle lightening & sustainable solutions.
- Localization studies for the defense sector.
- Renewable energy - Wind Energy small scale turbine development studies.
- Product development studies on new mobility solutions.
- Verification studies using analysis methods and software.
- Material and product verification studies with competent and advanced laboratories.

Artificial Intelligence Innovation Centre

The Artificial Intelligence Innovation Centre (essex.ai) operates as a long-term strategic partnership between the University of Essex and TWI, with the aim of developing a financially sustainable research facility for one of the hottest research topics globally. Drawing on Essex's existing strengths to complement and underpin the applied research and development activities of TWI.

Core Areas

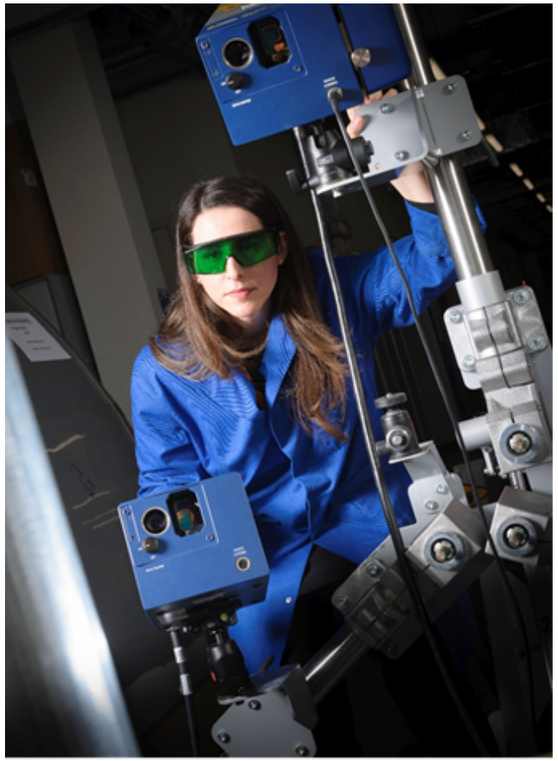
- Risk-based maintenence scheduling
- Motor current signature analysis
- Automated weld inspection
- Vibration analysis
- Automated guided waves defect detection

Objectives

- Shared research and technology facility
- Undertake joint research programmes
- Secure a portfolio of funding from external investors
- Develop the next gen of technologies & scientists

ESSEX.AI INNOVATION CENTRE | University of Essex

BIC
Brunel Innovation Centre



Areas of Expertise

- SMART NDT
- MONITORING
- AI
- DIGITAL HEALTHCARE
- AGRITECH
- DIGITAL TWIN
- POWER ELECTRONICS
- POWER ULTRASONICS

The Brunel Innovation Centre (BIC) is a world class research and technology centre that sits between the knowledge base and industry offering high quality research in an innovative environment focused on non-destructive testing, condition and structural health monitoring, power ultrasonics and allied technologies covering a range of materials, sensors, electronics and software systems and supporting partners in industry to transfer academic research into industrial application.

BIC pursues initiatives that span national and international platforms including Innovate UK, EPSRC and EC. The Centre has been building a strong portfolio of projects in line with its multinational interdisciplinary vision.

www.brunel.ac.uk/bic
bicqueries@brunel.ac.uk

Brunel University London

THANK YOU TO ALL OUR SPONSORS

TWI Innovation Network

We would like to sincerely thank all our sponsors of the Annual Convention 2020. Without their support, this event would not have been possible.

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DRIVING INNOVATION THROUGH COLLABORATION