

NEWSLETTER

ULTRAWIRE
JANUARY 2023

Issue 1

UltraWire Community



We are pleased to launch the first issue of the UltraWire Community Newsletter. This publication aims to keep the UltraWire Community informed on new community related news, activities and events.

What is UltraWire Community?

The UltraWire is a technology development and commercialisation platform, supporting a community of technology development leaders and industrial end-users working on nano-carbon and metal based conductive materials and composite applications. Use of these materials offer additional functionality with potential to significantly enhance the properties of products, including improved electrical, thermal, and mechanical performance. There are several applications in industry such as energy, electronics, automotive and aerospace providing lightweight, cost effective and energy efficient solutions.

The aim of the Community is to bring together technology development and commercialisation leaders, and support them with up-to-date information on innovative solutions, market trends and partnership opportunities.

The UltraWire Community grew from the UltraWire (Ultra Conductive Copper-Carbon Nanotube Wire) project. The project was funded by European Commission 7th Framework Programme (EC FP7). The project started on the 1st October 2013 and finished on the 30th September 2016, it had the participation of 14 partners from leading industrial and research organisation across Europe. The aim of the project was to develop a novel copper nanocarbon composite material with improved electrical, thermal and mechanical performances. The UltraWire project also featured on the BBC News.

What is the UltraWire EXPO?

The UltraWire EXPO is an exclusive virtual exhibition platform that support the UltraWire community, with a virtual exhibition area for the community members and unique style industry dominated workshops, dedicated to assisting commercialisation of new technologies providing conductive materials solutions.

You could become part of our exclusive community and increase your visibility and business growth opportunities by joining the key market players and vibrant industrial decision-makers, technology developers and investors. We would custom built an area to showcase your organization, products and services for a year on your dedicated virtual EXPO booth. If you are interested in becoming a community member and exhibiting at the UltraWire EXPO, please send an email to: info@ultrawire.eu or info@cnt-ltd.co.uk - www.ultrawire.eu/expo

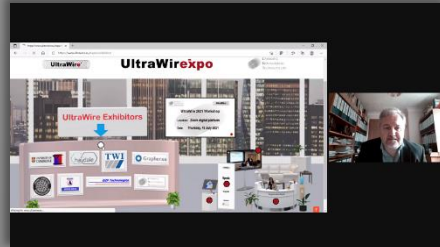


www.ultrawire.eu/expo

UltraWire Workshops

Cambridge Nanomaterials Technology (CNT Ltd), has been organizing yearly UltraWire workshops since 2015, in order to build a community supporting commercialisation, by bringing together technology development leaders and industrial end-users. The topics discussed at the UltraWire workshops include advances in development and commercialisation of applications of nano-carbon and metal based conductive materials and composites, such as batteries, lightweight, anti-icing, sensing and structural health monitoring. These yearly events, usually provide the opportunity to not only present at the workshop, but showcase products and services during the exhibitions held at these events, and network during the dinners, usually in a pleasant setting of a Cambridge College.

Please, take note that our next event will be held during the second part of 2023. More information will be available soon, from the UltraWire website (www.ultrawire.eu)



News from the UltraWire Community

TMBK Partners

A melt blown line to produce functional, filled thermoplastic nonwovens was commissioned recently. The line can process thermoplastics including hot-melt adhesives based on polyamide copolymers filled with carbon nanotubes. The line is equipped with a special head for processing "more difficult" raw materials not typically used in this method. The output of the line is 1 kg/h. The areal weight depends on the raw material formulation and is usually in the range of 10 - 200g/m². Produced nonwovens can be used as composite layers to introduce or enhance electrical, mechanical, and thermal properties. The nonwovens can be used in the aviation, automotive, construction, machine, defense, and electronics industries for electromagnetic shielding and electrical discharge. Strengthening the laminates with nonwovens improves their electrical and mechanical properties while minimizing weight and manufacturing costs.



Research is underway on hybrid materials created by combining functional nonwovens and additively produced structures as innovative layers in composite materials. As part of the research, a line for production our 3D printing filament for the FDM method is being built. The tests also include printing on unusual substrates and with the usage of filaments with a composition developed by the TMBK team.



To visit TMBK virtual EXPO booth, click the picture, or follow the link below.



www.tmbk.pl



www.ultrawire.eu/expo/exhibition/tmbk

Graphenea

Graphene eases access to biosensing research

Graphene is an excellent material for applications in biosensing. The maturity of graphene devices has steadily increased over the years, having now reached a stage in which off-the-shelf graphene components are available on the market, placing biosensing within reach of startup businesses and research groups.

To read more about this article, please visit [this link](#).

Graphene for Short-wave infrared (SWIR) cameras

Short-wave infrared (SWIR) light is a portion of the infrared spectrum between the near-infrared and mid-wave infrared. SWIR can be very useful in applications such as nighttime imaging, agriculture monitoring, or food inspection. For this reason, the projected market size for SWIR cameras is more than \$400 million for 2027.

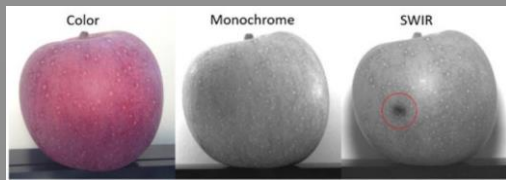


IMAGE: FOOD BRUISING DETECTION WITH SWIR. SOURCE: [RJ WILSON](#).

To read more about this article, please visit [this link](#)



www.graphenea.com

Graphenea mGFET for sensing applications - new video

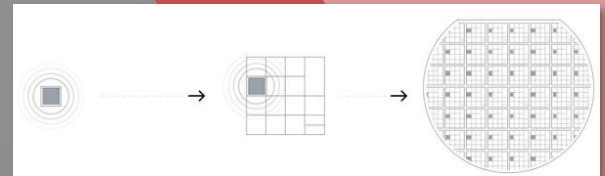
Watch a video showcasing our mGFET graphene products for biosensing:

To watch the video and visit their virtual EXPO, follow [this link](#).



Multiproject wafer run welcomes biosensing process flow requests

The Multiproject Wafer (MPW) run service of the Graphenea Foundry is open for biosensing process flow 2 requests during the month of October, for runs that will occur in November. Through the Foundry's mask-sharing scheme, custom devices in small batches can be made at an affordable cost.



To read more about this article, please visit [this link](#).

To visit GRAPHENEA virtual EXPO booth, click the picture, or follow the link below..



www.ultrawire.eu/expo/exhibition/graphenea

For more information, please visit our website or send us an email

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