L@b Brief | October 2024

INSIDE *this* ISSUE

COMMENT

Inward investment to boost UK science

Hello again,

THIS MONTH we have had a very welcome sign that inward investment is being focussed on industries that bring real benefit to the UK. The announcement of a deal with Lilly, the world's largest pharmaceutical company, will see it invest £279 million in the UK as part of a collaborative partnership with the UK government.

A Memorandum of Understanding signed at the government's recent investment summit will see the pharmaceutical giant launch its first 'Lilly Gateway Labs' innovation accelerator in the UK. This facility will support early-stage life sciences businesses to develop transformative medicines by providing lab space, mentorship and potential financial backing to boost future growth in the sector.

Clearly, one of the inducements offered was the trialling by the NHS of Lilly's obesity drug, Mounjaro.

While it's hard not to feel some unease at the mass dispensing of such a drug to such large numbers of the population, the investment by such a major player is surely good news for the lab industry, for our scientific community, for employment and for our educational institutions.

This innovation will re-enforce the spectacular and ongoing lab building boom which is going on in the UK (see the huge number of lab construction projects which we have been featuring this month and for many months past). Now we just have to make sure we continue to fund our education sector to provide the necessary graduates and scientists to support the boom.

Toodle pip!

Jacqueline

UK News

Lab centrifuge ban averted

THE LATEST changes to the EU F-gas regulations which came into force on March 11, 2024 require a reduction so drastic that they will effectively cause a Ban on placing refrigerated laboratory centrifuges on the European market from January 1, 2025 says GAMBICA's German equivalent, SPECTARIS.

Designed to manage a gradual reduction of emissions of fluorinated greenhouse gases (F-Gases), the regulations have raised concerns because manufacturers of refrigerated laboratory centrifuges cannot fall back on alternative gases, as these are either flammable, toxic or potentially carcinogenic.

Spectaris submited a request for an exemption from the regulations for centrifuges and on 23 October it was announced that the EU Commission has indeed granted an exemption for refrigerated laboratory centrifuges that require fluorinated gases intended for operation, which fall under the EU's F-Gas Regulation.

The Implementing Regulation 2024/2729 was published in the Official Journal of the EU and entered into force on 24 October 2024. This will ensure the availability of this key technology for the next four years and provide the analytical, biological, and laboratory technology industries with much-needed planning security and development time.

"The exemption was a necessary step to ensure the smooth operation of the many laboratories," said Jörg Mayer, Managing Director of SPECTARIS. The devices play a crucial role in research, healthcare, water and soil analysis for environmental testing, food quality control, and many other fields. "Refrigerated laboratory centrifuges are indispensable when it comes to handling very temperature-sensitive samples. Safe, consistent and precise cooling of the devices is indispensable here."

The Commission has confirmed that if products can be placed on the EU market, they can be exported, even if they are placed on the market on the basis of a derogation.

£11 Million lab investment announced by speaker at GAMBICA conference

ALMAC GROUP, whose head of procurement will be speaking at the GAMBICA lab industry conference in March, has announced an £11 million investment to expand its global analytical services, creating over 100 new jobs. Over the past 18 months, Almac Sciences and Almac Pharma Services have collaborated on this initiative to enhance their existing analytical laboratories, technology, and resources.

With GMP approved laboratories across five locations—Craigavon and Charnwood in the UK, Souderton in Pennsylvania, and Athlone and Dundalk in Ireland—Almac is growing its services to support drug substance and product analytics throughout all phases of development. Recent investments are set to significantly enhance their capabilities,

including the construction of new laboratory space at the global headquarters in Craigavon, which will greatly increase overall capacity. Additionally, upgrades to existing labs will facilitate the development of over 1,000 analytical methods annually.
Advancements include the introduction of the Raman TRS100 system for faster assays and substantial improvements to their laboratory information management system (LIMS).
As part of its outreach program, Almac is dedicated to continuous training and development for its analytical experts and collaborates closely with local academia to foster a pipeline of talent through apprenticeship placements.
Darren Thomas, Vice President of Analytical Operations at Almac Sciences, said, "We have experienced a significant increase in demand for our dedicated analytical solutions and recognise the importance of continually investing, not just in our systems and facilities, but also in our people. We are committed to offering a best-in-class service to our global client base and are delighted to continue at pace with significant investment across our UK, EU and US facilities in order to strengthen our competitive position in the marketplace."

Chris Neasham, Associate Director of Procurement at Almac Sciences, will be one of the keynote speakers at the GAMBICA Laboratory Industry conference in March. Other keynote speakers at the conference will include Lisa Blackburn from the Northwestern Universities Procurement Consortium and Dr Han Wu from UCL.
Lisa will be providing information about upcoming opportunities in university tenders and sharing tips on successfully navigating the tender process and Han, who has been a key player in national fora on instrument use, modification and application for research will be explaining how UCL's special laboratory helps those engaged in advanced research across the country to learn essential techniques and develop new ones.
Unfortunately, our usual venue for the conference is not now available. Information will be available shortly on the new venue, but attendees will still have the opportunity to engage with all three speakers during the conference dinner on the evening of March 10.
Places at the dinner are limited. Book your place at the conference or the dinner, here.

Government seeks views on procurement guidelines

THE CABINET Office is consulting about changes to the National Procurement Policy Statement [NPPS] with input required by 4th November.

The NPPS stems from the Procurement Act 2023 – which aims to create a simpler and more transparent regime for public sector procurement. The NPPS is a statutory statement setting out the strategic priorities for procurement across the public sector, including NHS trusts.

The NPPS was supposed to come into force this October, but will be delayed until February 2025, as the Cabinet Office believed that the initial NPPS draft was not meeting the challenge of applying the full potential of public procurement to deliver value for money, economic growth, and social value.

The consultation asks four questions:

1. **Maximising value for money:** How can procurement achieve greater value for money for the taxpayer in the delivery of public services?
2. **Delivering social value**: How can public procurement achieve greater social value to support delivery of the missions?
3. **Enabling collaboration**: How can collaboration be encouraged? and

4. **Fostering innovation**: How can policy-makers/commissioners identify challenges that can be put to the market to support mission outcomes through innovation, and improve commercial capability to deliver mission-driven procurement?

To put your views into the consultation, click here.

'Ransomware as a service' costs US hospitals more than $500,000 each

MORE THAN three-quarters of healthcare organisations who had been victims of cyber-attacks have paid more than $500,000 in ransoms, according to a report by Claroty Research. Such attacks are becoming increasingly common thanks to the advent of a new business model for ransomware perpetrators; ransomware-as-a-service (RaaS).

Ransomware operators write malicious software and affiliates pay to launch ransomware attacks. This creates many repeat uses of rather similar malicious ransomware code.

Methods for infiltrating a target organisation's electronic infrastructure are constantly evolving, but typically rely on phishing email campaigns (i.e., emails appearing to come from trusted sources, but actually infecting a user's computer with malware if they click on a link) or intentional exploitation of known security vulnerabilities in widely used software. Both strategies have worked effectively on hospital targets, where a large number of employees frequently exchange email and other electronic communication without a focus on identifying phishing attempts – and legacy software applications may not be updated or patched with appropriate frequency.

The healthcare industry remains especially vulnerable to cyber-crimes which have surged in recent years says Ty Greenhalgh, Principal at Claroty's healthcare division who comments: "The complexity of hospital networks has grown, incorporating not only traditional IT devices but also a wide range of medical devices, IoT systems, and building management systems. Securing medical devices is particularly challenging, as it requires deep knowledge of clinical data flows essential for patient care to ensure safe network segmentation".

He also points out that the rise of ransomware has drastically increased the number of attackers — and that cybercriminals' social engineering techniques are getting more sophisticated, allowing them to exploit more vulnerabilities.

The report surveyed 1,100 professionals working in infosecurity, operational technology engineering, clinical and biomedical engineering, and facilities management. They were questioned about the business impacts caused by cyberattacks on their organisations in the past year.

Another recent study has shown that ransomware attacks increase patients' in-hospital mortality by as much as 55%. Such attacks immediately affect hospital operations - causing large reductions in ER, inpatient, and outpatient hospital volume. While large, these effects are temporary, with a return to pre-attack levels occurring within a few weeks of the

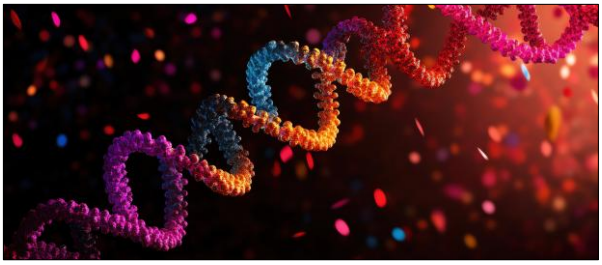
ransomware attack. Rough estimates suggest that the average US hospital lost 0.5% to 1% of its annual operating revenue during a ransomware attack; most hospitals in the US work on profit margins in the low single digits.

Ransomware attacks also increase the likelihood of in-hospital mortality for patients. The magnitude of this mortality effect was large, but comparable to effects observed in other examples of capacity strain, such as nursing strikes.

"The report highlights that many institutions lack a full understanding of third-party connections to their systems, which is critical for preventing supply chain-based attacks. Healthcare providers also need to invest more in vulnerability management, comprehensive risk assessments, and patching known exploits," Greenhalgh remarked.

For more information click here.

Guidance issued for providers of synthetic nucleic acids



THE DEPARTMENT for Science, Innovation and Technology (DSIT) has issued guidance for all individuals and organisations involved in the provision, use, and transfer of synthetic nucleic acids and benchtop equipment that synthesises nucleic acids in the UK.

The 2023 UK Biological Security Strategy addresses biosecurity concerns associated with the deliberate or accidental misuse of synthetic nucleic acids. Advances in engineering biology mean that companies can now 'print' nucleic acids with virtually any sequence and construct longer genomic sequences from short nucleic acids with greater accuracy. These advances help academics and businesses study or engineer existing or novel biological systems but could also make it easier for hostile actors to obtain the components of dangerous biological systems that could cause harm.

Existing legislation, including the Anti-terrorism, Crime and Security Act 2001 (ATCSA 2001), regulates the ability of sites including universities and science research laboratories to obtain, store and work with certain pathogens and toxins and sets severe penalties for those misusing biological material.

The new gene synthesis guidance makes recommendations including:

- Customer screening
- Sequence screening
- and if the transaction is deemed as suspicious, Screening legitimacy of use

CUSTOMER SCREENING

Providers and third-party vendors:

- Providers and third-party vendors should know and document who they are distributing to.

- Upon receiving an order for synthetic nucleic acids, providers and third-party vendors should verify the identity of the customer see customer screening methodology.
- Providers and third-party vendors should implement adequate security and cybersecurity measures to protect the intellectual property and identity of customers.
- Providers should retain customer screening information and refer to it for repeat orders. At least every 18 months the provider should ask the customer to update their information.

Benchtop manufacturers should:

- Only distribute equipment capable of synthesising nucleic acids containing SOCs to users whose:
    - legitimacy has been verified, and
    - implement mechanisms to ensure that the devices are only operated by legitimate users.
- Manufacturers whose benchtop nucleic acid synthesisers require the use of proprietary and sole-use reagents (i.e., reagents that can only be obtained from the manufacturer of their devices and do not have common applications other than the operation of their devices) should screen users purchasing those reagents to verify their legitimacy. This should take place even when they were not screened when obtaining their nucleic acid synthesiser (i.e., when they acquired their device prior to the issuance of this gene synthesis guidance).
- Manufacturers should implement mechanisms to track legitimate use of their equipment, including when it is potentially transferred to a new user during the lifecycle of the equipment.
- Manufacturers are encouraged to have a closed loop system in which operation of their devices relies upon obtaining reagents only available from the manufacturers (who establish the legitimacy of users whenever they obtain these reagents).

Users:

- Users should be forthcoming in providing data on their identity and legitimacy.
- Users should notify the transfer of their benchtop synthesisers to new users.

SEQUENCE SCREENING

Providers:

- Providers should know if the product they are synthesising or distributing contains sequences of concern (SOCs).
- Upon receiving an order for synthetic nucleic acids, providers should perform sequence screening. At a minimum, DNA or RNA molecules (single or double-stranded) 50 nucleotides or longer should be screened see sequence screening methodology.
- Providers should notify users when their order contains SOCs and maintain records.
- If a SOC is identified, providers should follow up with users to verify the legitimacy of the order.

- If a user raises an order for synthetic nucleic acids containing a SOC listed in Schedule 5 of the ATCSA, the provider must ask the user to provide proof that they have notified the Home Office through Part 7 of the ATCSA.
- If a user raises an order for synthetic nucleic acids containing a SOC that is: (a) derived from a pathogen listed in Group 3 or 4 under Schedule 1 of SAPO, and (b), could produce that pathogen when introduced into a biological system in which the nucleic acid is capable of replicating. The provider must ask the user to provide proof that they have obtained a license from HSE.
- Providers who undertake screening measures aligned to the gene synthesis guidance should note this on their website.

Benchtop manufacturers:

- Manufacturers should integrate into benchtop nucleic acid synthesisers the capability to screen sequences for SOCs and to authenticate legitimate users, using the sequence screening methodology listed in this gene synthesis guidance. This level of screening should include screening against SOC databases, when available, that are updated regularly as new SOCs are identified
- Manufacturers should implement this recommendation using measures that ensure cybersecurity considerations are addressed to protect the identity of the users and ensure adherence to UK GDPR.
- Manufacturers should not store databases of SOCs that include sequences from unregulated pathogens or toxins on the device itself in an unencrypted manner or a manner that could allow users to extract the database. Manufacturers should consider using methods of screening that protect the contents of the order from disclosure.
- Manufacturers are encouraged to include mechanisms to ensure the integrity of the synthesis process to prevent circumvention of the SOC screening methodology through manipulation of the devices or reagents.

Users:

- It is a legal requirement to notify the Home Office before keeping or using any harmful nucleic acids in the dangerous substance listed in Schedule 5 of the Anti-Terrorism, Crime and Security Act.
- If users use benchtop devices to synthesise pathogenic sequences derived from microorganisms listed in Schedule 5 of ATCSA they must first notify the Home Office.
- It is a legal requirement to obtain a license from HSE if possessing any specified animal pathogen listed in Part 1 of Schedule 1 of SAPO. This includes any nucleic acid derived from an animal pathogen listed in Schedule 1 that could produce that pathogen when introduced into a biological system in which the nucleic acid is capable of replicating.

If a user raises an order for synthetic nucleic acids that could be considered, by COSHH definitions, as a 'harmful substance', the user must assess the risk from the substance hazardous to health and apply measures to prevent or control exposure to that substance.

Sequence screening - methodology:

Providers should screen orders to determine whether they contain SOCs.

Providers should use the best match screening approach with a local sequence alignment technique. By using the best match approach, the sequence with the greatest percent identity over each 16 amino acid or 50 nucleotides window, in all six reading frames, should be considered the Best Match, regardless of the statistical significance or percent identity. Providers are encouraged to determine whether synthetic nucleic acid orders contain sequences that are best matches over the appropriate windows to any SOC. The best match approach is intended to reduce the number of hits on sequences that are shared among SOC's and non-SOC's. Providers can use other screening methods if they assess it to be superior to the best match approach.

Some synthetic nucleic acid orders may be appropriate for screening even if all components of the order are nucleic acids shorter than the screening window length. In some cases, orders of short nucleic acids may be intended to construct longer nucleic acids that themselves may constitute SOCs. To minimise the risk of this scenario, this gene synthesis guidance encourages screening all sequences ordered by an individual User, using a short sequence alignment software package. If there is alignment between any constitutes of a User's order with a SOC, or if the sequences could be constructed to form a SOC, providers should undertake follow-up screening to establish legitimacy.

The government understands that there are challenges to existing screening methods and encourages academics, industry, think tanks and consortia to consider developing methods to:

- Develop a database for screening SOCs – provided that substantial measures are taken to prevent such a database from being misused. These measures should aim to ensure database confidentiality and integrity and compliance with applicable laws.
- Detect SOCs that may be broken up among multiple providers or among multiple orders to a single provider over a period of time to evade screening. These measures should comply with UK GDPR and Intellectual Property rights.
- Determine which sequences from pathogens should not cause concern and therefore do not need to be screened against.
- Continue to explore new, more accurate, screening methodologies.

A standard for DNA synthesis; ISO 20688- 2:2024 has been developed and the government wishes to encourage metrology institutes to support the development of standards for screening and synthesis, including guidelines, protocols, and reference materials.

SUSPICIOUS TRANSACTIONS:

Providers and benchtop manufacturers should take all practicable measures to identify a suspicious order, follow-up with the user and if concerns are not alleviated they should be reported to biological.reporting@met.police.uk. A transaction is suspicious if there are reasonable grounds for suspecting that the material in question is intended for illicit use – this includes any indication that the material may be intended for an inappropriate end-use, user or destination.

The following is a list of indicators that can help in identifying suspicious transactions involving synthetic nucleic acids containing SOCs or benchtop nucleic acid synthesisers.

A transaction should be classified as suspicious if the sequence/s are best match to a SOC, and the user:

- appears unfamiliar with the intended use of the sequence or cannot explain it plausibly;
- Intends to buy sequences in quantities or combinations uncommon for research or business without a plausible reason;
- is unwilling to provide proof of identity or place of residence
- insists on using unusual methods of payments;
- cannot provide information that can be confirmed or verified (e.g address does not match, cannot find information about the company);
- requests unusual labelling or shipping procedures (e.g., requests to misidentify the goods on the packaging, or requests to change the recipient's name after the order is placed, but before it is shipped);
- requests unusual confidentiality conditions regarding the order, particularly with respect to the final destination or the destruction of transaction records; or
- requests the order be sent to an address without a legitimate business or research justification for the location.

If a review of information reveals one or more suspicious traits, providers are encouraged to authenticate the order by conducting follow up screening. Providers should ask the user to outline the proposed end-use of the order, in addition to providing further clarification on any of the concerns listed above.

Screening order legitimacy:

If a provider deems the transaction as 'suspicious', they should conduct follow-up screening, focusing on the legitimacy of use. Providers should contact users to understand the purpose and end-use of the order.

Providers:

- If the order contains a SOC listed in Schedule 5 of the ATCSA, the Provider must ask the user to provide proof that the user has notified the Home Office under Part 7 of the ATCSA and undertake follow-up screening to determine the legitimacy and purpose of the order.
- If the order contains SOCs that are derived from an animal pathogen listed in in Group 3 or 4 in Schedule 1 of SAPO, that could produce that pathogen when introduced into a biological system in which the nucleic acid is capable of replicating, providers must ask the user to provide proof that they have obtained a licence through HSE.
- If the order contains sequences they deem to be SOCs, but are not listed in existing legislation, the provider should undertake follow-up screening to determine the legitimacy and purpose of the order.

Users:

- Users who know that their synthetic nucleic acid order contains SOCs should pre-emptively provide information that will assist the provider or third-party vendor in verifying the legitimacy of their use.
- When requested by providers, users should be forthcoming in providing information on the purpose of the end-use of their order.

If providers' concerns are not alleviated through follow-up conversations, they should not fulfil the order, and should contact biological.reporting@met.police.uk.

Record keeping:

For all orders, providers, third-party vendors and benchtop manufacturers should retain user information for at least 3 years.

Benchtop manufacturers:

- Manufacturers are encouraged to include a data logging function to maintain a record of the nucleic acids synthesised on their equipment.
- Manufacturers should ensure the secure architecture, operation, trust, validation, and cyber incident response processes for their operations.
- Manufacturers should aim to ensure that their cybersecurity practices protect the intellectual property and identity of users and the SOC-screening process and database. In implementing these recommendations, manufacturers should refer to cybersecurity regulation and standards, such as UK GDPR, Data Protection Act 2018 and PAS 555.

Compliance with export controls:

It is the responsibility of the exporter to apply for a licence from the Export Control Joint Unit (ECJU) if any of the following apply:

- your items are on the consolidated control list;
- you have concerns, or you have been informed of concerns about the intended end-use or the end-user; or
- your items are covered by trade sanctions;

Apply for a licence using the online system, Licensing for International Trade (LITE), also known as the apply for a Standard Individual Export Licence (SIEL) Service.

Following up with the UK government in cases where malintent is suspected:

Universities, research institutions and industry bodies are encouraged to help users understand that only individuals with legitimate and peaceful purpose should obtain synthetic nucleic acids containing SOCs. Benchtop manufacturers should also help to facilitate this where possible.

For any questions about this gene synthesis guidance contact responsibleinnovation@dsit.gov.uk

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NHS to speed up adoption of new technologies and launch major crackdown on waste

A NEW Regulatory Innovation Office [RIO] has been launched to speed up public access to new technologies by cutting 'out-dated' regulations.

The new RIO will support regulators to update regulation, speeding up approvals, and ensuring different regulatory bodies work together smoothly. It will inform the government of regulatory barriers to innovation and set priorities for regulators.

As well as engineering biology and AI in the health sector, the RIO will also focus initially on the UK's rapidly-growing space sector, and on connected and autonomous technology such as drones delivering for the emergency services, getting emergency supplies to remote areas quickly and efficiently.

Major crackdown on NHS waste

Another new strategy has been published to radically cut the number of single-use medical devices which are disposed of every year in the health service and substantially contribute to the 156,000 tonnes of clinical waste that the NHS produces every year in England alone. MedTech companies are to be incentivised to produce sustainable products by the new strategy - the Design for Life roadmap.

Currently, millions of devices, such as walking aids and surgical instruments, are thrown away after just one use.

Harmonic shears - surgical devices which seal patients' wounds using ultrasound waves - each cost more than £500 and around 90% of them are binned after a single use. Innovative companies are already purchasing these used devices and safely remanufacturing them at a lower price.

The government will encourage innovation to safely remanufacture a wider range of products and drive costs down, including by changing procurement rules to incentivise reusable products and rolling out examples where hospitals are already leading the way on cutting wasteful spending and practices.

A Circular Economy Taskforce has already been created to foster more highly skilled green jobs and smarter use of our resources. An economy-wide shift to a circular economy could add £75 billion to the economy and create 500,000 jobs by 2030.

Three case studies have been given to illustrate the potential savings:

- **Mid Yorkshire Trust** uses 330,000 single-use tourniquets in a year, but a single reusable tourniquet can be used 10,000 times. In a one-year trial, reusable alternatives saved £20,000 in procurement costs and 0.75 metric tonnes of plastic waste.
- **In Northampton Hospitals NHS Trust,** a single ophthalmology department saved 1,000 pairs of disposable scissors and £12,000 in a year by switching to reusable pairs. Single-use scissors are often used in surgical settings. NHS procurement data shows that several million pairs of single-use scissors were purchased by the NHS in a single year (2022 to 2023). That is the equivalent of hundreds of pairs of scissors thrown away every hour.
- **Leeds Teaching Hospitals Trust** saved £76,610 in costs purchasing 604 remanufactured electrophysiology (EP) catheters, and generated a further £22,923 for selling used devices for collection. If the same approach were to be scaled up across the UK, the NHS could save millions of pounds per year on EP catheters alone, just a few product lines among hundreds of thousands.

Many of these products include precious metals such as platinum and titanium which are in high demand but go to landfill when they could be recovered and sold. A reduction in the amount of disposed single-use devices will also reduce the country's carbon footprint and plastic pollution.

A new roadmap sets out 30 actions to achieve this shift - including how the government will work with companies to encourage the production of more sustainable products, along with training for NHS staff on how to use them.

The government will make sure benefits of reusable MedTech are part of how the NHS chooses the products it buys.

For more information, click here.

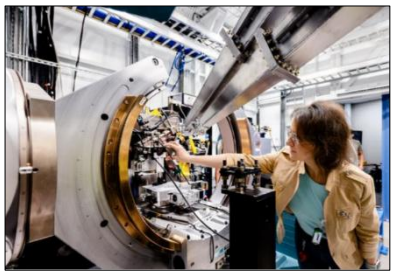
LAB construction updates

Milestone reached at Bristol Myers Squibb pharmaceutical lab in Wirral

THE CONSTRUCTION of Bristol Myers Squibb's new multimillion-pound drug development facility in Moreton, Wirral, has hit a major milestone. The 37,000-square-foot centre, has reached its highest point, with roof works underway and energy-efficient ground source heat pumps installed to provide sustainable heating and cooling.

The facility will house up to 200 employees with state-of-the-art laboratories and open-plan office spaces. The building targets BREEAM 'outstanding' accreditation, aiming for low energy and low carbon use, while maximising natural light with extensive glazing and flexible collaboration zones.

A new era of research comes into focus at US Department of Energy



AN $815 million upgrade to the Advanced Photon Source (APS) at Argonne National Laboratory in the USA will boost the brightness of X-ray beams by up to 500 times, enabling more detailed and faster investigations in areas ranging from advanced materials to disease research.

The APS, a U.S. Department of Energy facility, uses high-speed electron beams to generate X-rays that help scientists explore the properties of materials. The upgrade includes new beamlines and enhanced capabilities to support over 5,500 researchers annually.

Among the most anticipated features are new beamlines like the High-Energy X-ray Microscope (HEXM) and the In-Situ Nanoprobe (ISN), which will allow scientists to study materials in unprecedented detail.

Construction begins on Europe's tallest commercial lab in Canary Wharf

CONSTRUCTION HAS officially begun on Europe's tallest purpose-built commercial laboratory at Canary Wharf, marking a significant milestone for London's life sciences sector. The 23-storey 'vertical science campus' at One North Quay is now the largest commercial construction project underway in London this year. This ambitious development is a joint venture between Canary Wharf Group (CWG) and Kadans Science Partner, designed to create cutting-edge lab space for a diverse range of companies, from startups to global enterprises. The new facility aims to support advancements in life sciences and technology, with a flexible, future-proofed infrastructure. Shobi Khan, CEO of CWG,

highlighted the building's importance in establishing Canary Wharf as a growing hub for life sciences, health, and tech industries, emphasising its scale, technology, and sustainability as setting new standards for the sector.

Cambridge science park extension approved

CAMBRIDGE CITY Council and South Cambridgeshire District Council have approved plans to develop an 11,000 sq m workspace at Cambridge Science Park (CSP). Named Unit 440, the facility is designed to support tenants in research, development, technology, innovation, and life sciences.
Owned by Trinity College, the CSP follows stringent sustainability guidelines. The new building will feature a hybrid timber-concrete composite structure, aimed at reducing embodied carbon while offering flexible space for labs and offices.

$30 million fire resistance testing lab to extend Warrington facility

WARRINGTONFIRE HAS completed construction of its new $30 million fire resistance testing laboratory at Birchwood Park, Warrington. The 101,000 square foot facility is set to open on 2 January 2025. This state-of-the-art laboratory will triple the fire testing capacity of the existing Holmesfield Road site, meeting the increasing demand in the industry.

As part of the expansion, Warringtonfire has hired 50 new employees, including a new team of maintenance engineers with expertise in various disciplines to support the lab's smooth operations. The facility will also feature advanced smoke abatement technologies and energy-efficient systems, contributing to a Bronze Award from the Considerate Constructors Scheme for its sustainable design.

The new lab has been designed with client confidentiality in mind, offering temperature-controlled test areas, custom-built spray booths, and private viewing areas to safeguard intellectual property. The lab is designed to transition to clean hydrogen use when infrastructure permits.

RESEARCH updates

Food fraud: How genuine is your honey?

AN EU initiative called 'From the Hives' has highlighted alarming levels of honey adulteration. Testing conducted across 16 EU Member States, Switzerland, and Norway found that 46% of 320 honey samples tested from 20 countries were suspicious for containing added sugar syrups. Current analytical methods are insufficient for detecting newer types of syrups, as traditional maize syrups are increasingly replaced by those made from rice, wheat, or sugar beet. The Joint Research Centre (JRC) is developing advanced

testing methods to enhance detection capabilities, which are essential for effective follow-up investigations at import, processing, and packing stages.

Dr. Maria Anastasiadi and her team at Cranfield University have developed two innovative techniques to identify honey adulteration. The first method employs spatial offset Raman spectroscopy (SORS), which analyses the chemical fingerprint of honey without opening the jar. This portable technique can distinguish between pure honey and various adulterants, making it a practical tool for the commercial supply chain. The second method utilises DNA barcoding to detect plant DNA from syrups. This sensitive approach can identify adulteration at concentrations as low as 1%. Both methods aim to enhance food authenticity verification and could be adapted for other products, such as spices and olive oil. With honey being one of the most counterfeited foods globally, these advancements offer promising solutions to protect consumers and ensure product integrity.

The financial incentive for honey fraud is significant, with authentic honey averaging €2.32/kg, compared to sugar syrups at €0.40-€0.60/kg. This price disparity, combined with the challenges in detecting adulteration, makes honey a lucrative target for fraudsters. While adulteration may not pose direct health risks, it undermines fair competition for honest producers and deceives consumers. The EU Honey Directive is currently under revision to improve labelling requirements and better protect consumer interests and the integrity of the honey market. For more information click here.

MIT team takes a major step toward fully 3D-printed active electronics

A TEAM from MIT has made significant strides towards fully 3D-printed active electronics by fabricating semiconductor-free logic gates. This breakthrough aims to simplify the manufacturing of electronic devices, which traditionally rely on complex semiconductor fabrication processes.

During their research, the team developed resettable fuses using a biodegradable, copper-doped polymer. These 3D-printed devices can perform basic switching functions similar to semiconductor-based transistors, enabling potential applications in motor control and basic electronic functions. Notably, even after 4,000 switching cycles, the devices showed no signs of deterioration. The researchers leveraged a unique phenomenon observed in their material, which allows for regulation of resistance by controlling voltage. While these devices do not yet match the performance of silicon transistors, they represent a step towards democratising electronics manufacturing, making it accessible to businesses and labs without specialised equipment.

This pioneering research holds promise for reducing reliance on traditional semiconductor facilities and could pave the way for on-demand electronics production in diverse settings, including space applications. Future goals include the creation of more complex circuits and fully functional electronic devices.

For more information click here.

TENDERS and opportunities

CERN HAS recently released a price enquiry (reference DO-34488) for the supply, installation and commissioning of two gloveboxes for a chemical lab extension on the Meyrin site in Switzerland. The gloveboxes are intended for the development and production of new target materials under an inert atmosphere in the redesigned chemical laboratory. These gloveboxes will facilitate the safe handling of non-actinide nanomaterials in the Nano 3 and Nano 2 laboratories

This tender is a price enquiry and is valued between 50-200K CHF. Price enquiries are not publicly available and in the first instance, CERN selects firms to respond and the industrial liaison officers (ILOs) are given the opportunity to suggest additional companies. However, only a limited number of companies can be put forward. The final decision on which companies to include is CERN's and they cannot always include all companies suggested by the ILOs. Only UK can be recommended. The definition of the country of origin for supplies is the country in which the supplies are manufactured or undergo the last major transformation (including their components and sub-assemblies). The country of origin for services and civil-engineering work is defined as the country in which the bidder is established.
If you have any interest in this price enquiry and would like more information please contact Julie: tenderopportunities@stfc.ukri.org

The deadline to submit a bid to CERN is the 14/11/2024. For more information on Doing Business with CERN and to register on their supplier portal, please visit their webpage: Supplier Portal | Procurement and Industrial Services Group (cern.ch)

GAMBICA events

Maintenance requirements for ISO certified labs | online | 10 December, 10.30 am

THIS WEBINAR has been designed to help you improve the contribution of your service and other after-sales activities. Certification body AUVA will explain the maintenance requirements for laboratories with an ISO quality management certification. They will also provide detailed guidance on the requirements and suggest how laboratory equipment suppliers' service contracts can be designed to specifically match the ISO requirements.

The webinar will be presented by Graham O'Geran. To book your place, click here.

The Service Team as company ambassadors – shared cost training | GAMBICA offices, London | 28 January 2025 | 09.00- 17.00

THE LATEST in the shared cost training being provided for members by GAMBICA will be a one-day workshop on *The service team as company ambassadors*.

This training has proved very popular with members offering servicing in the past. It is designed to inspire those in Service Teams – both Service Engineers and those who provide team support – to realise the importance of their contribution.

It will develop their sense of purpose and encourage them to see themselves, directly or indirectly, as a key player in your company's business success.

The day will build on their experience of customer service and will develop their ability to handle a wide range of client situations with confidence. It will help develop further their organisations' reputation for excellent service.

What delegates will learn

- Their vital role as service engineers and service team members in the business growth of their company.
- How to contribute to their role in providing their organisations with a 'competitive edge'.
- How to listen and understand to client needs more effectively and to respond to these successfully.
- How a little extra effort during a service call can develop opportunities that contribute to ongoing sales.
- How to develop stronger and more positive client relationships.
- Techniques for handling difficult situations.
- That they are valued professionals with a key role in their organisation's ongoing success.

Training methods

The day will build on and share experience of those attending. It will focus on developing an Action Plan to deliver excellent client service in everyday business. Practical exercises, discussions and group work form a key part of the workshop – which will be practical, relevant and fun.

The range of costs will be between £250 and £550pp depending on numbers. If you would like to reserve a place on this training, please do so here. We will contact you when we know how many people want to book to tell you what the cost will be. You will be invoiced direct if you wish to go ahead.

Benefits of sustainability standards & mapping a path to Net Zero| online | 21 January 2025 | 10.30- 11.30

IF YOU are thinking of starting on a journey to net zero, the choice of path and priorities can be very confusing. There are now a whole range of sustainability standards each with the potential to play a part in your green transition. In this webinar, experts from leading ISO consultancy, Blackmores, will describe the purpose of each standard along with its benefits and disadvantages. They will then

provide a deep dive into how or how far, each might meet your particular needs. Finally, the session will provide a run through of how you can use ISO 14068 to plan your path to net zero.

The webinar will cover:

- ISO 14001 Environmental Management – Benefits and disadvantages
- ISO 50001 Energy Management - Benefits and disadvantages
- ISO 20400 Sustainable Procurement - Benefits and disadvantages
- How can sustainability standards support you?
- What is ISO 14064 and ISO 14068?
- Calculating GHG (GreenHouse Gas) Emissions across scopes 1,2 & 3
- Reducing your current environmental impact
- Re-quantifying your emissions
- Offsetting remaining emissions – What options are available?

To reserve your place, click here.

INDUSTRY events

Industrie 4.0 | Tirol, Austria | 26 November 2024

THE FOREIGN Office is partnering with the Austrian Business Chamber in an event called Industrie 4.0 which will showcase UK capabilities and excellence in the industrial sector, and also promote opportunities for Austrian companies to set up in the UK.

UK Speakers will include the Institute for Manufacturing, High Value Manufacturing Catapult and the HM Trade Commissioner for Europe. Around 300 participants are expected from industry, science and research & institutions

For more information email: carina.gastelsberger@fcdo.gov.uk

Global innovation and new technology health event | London | 9-10 December 2024

THIS EVENT is described as the NHS innovation festival and comprises the UK National ICS congress, the mental health technology show, the future hospital show, the women's health technology show and the net zero technology show. For more information click here.

Biopharma and life sciences connected | Cork, Ireland | 23 January 2025

THE THIRD annual Biopharma & Life Sciences Connected event will be held at the Radisson Blu Hotel, Little Island, Cork bringing together 1,000 senior managers from industry, academia and government support agencies responsible for nurturing growth and investment in the biopharma sector.

The agenda includes three separate stages, cover digital transformation, sustainability, skills and training, capital investment, regulations and much more. Click HERE to watch a short video from the 2024 event. There are a limited number of table-top exhibition slots available @ €2,195. For more information click here.

CIM2025 International Metrology Congress | Lyon | 11-14 March 2025

CO-LOCATED WITH France's largest industrial trade show this event aims to be a hub where science, industry and metrology players come together. For more information, click here.

London Lab Live | ExCel London | 14-15 May 2025

THE SUCCESSFUL Future Labs Live Basel event is to be replicated in London from 2025, with the organisers, UK firm Terrapin, expecting over 100 speakers 150 exhibitors and 3000 atendees. The focus of the conference will be on lab informatics, digitalisation, IOT and cloud services. To exhibit or attend, click here.

Solutions in Science | Cardiff | 8-10 July 2025

FEEDBACK FROM visitors to the last SinS conference in June 2023 was positive and the next event has now been scheduled to take place in Brighton. The aim of SinS is to showcase complementary and diverse ranges of analytical instruments, technologies, applications and present solutions to scientists from a range of industries and academic disciplines. To book your exhibition stand contact Chris Jarvis chris@intlabmate.com 01727 855574.

EXPORT news

Analytica expands its international network to the USA

ANALYTICA, THE successful laboratory technology trade fair which started in Munich and is run by the Messe there, is set to expand its network to the United States with the launch of Analytica USA. This expansion comes on top of the recent additions of Analytica events in South Africa and India.

The US event will take place in Columbus, Ohio, from September 10-12, 2025. The event aims to cover the entire laboratory value chain for the North American market, and hopes to capitalise on the on-going poor performance of Pittcon to provide an event covering the full range of lab equipment for this growing market.

The event will follow analytica's successful format of exhibition, scientific conference, and hands-on demonstrations, including the popular Live Lab. Focus topics for 2025 will include digitalization, artificial intelligence, and sustainability in lab environments.

If you would like more information on this event, click here.

Other events available to GAMBICA members:

MEDICA, DUSSELDORF, 11/14 NOVEMBER 2024 – VISITING MEMBERS

AS MANY regular visiting members know the GAMBICA stand (1G03-3) has a hospitality area & bar and we love to see you there. For GAMBICA members visiting the event, we can offer considerable savings on the published rates for tickets bought via the MEDICA online ticket shop plus access to pavilion member rates for refreshments & wifi. If you would like more details, please contact Kirsty as soon as possible (at kirsty.roberts@gambica.org.uk). It would be helpful to let us know how many tickets you require and for how many days, as this enables us to recommend the most cost-effective option.

MEDLAB, DUBAI, 3/6 FEBRUARY 2025

A VERY limited number of stands are available within the UK Pavilion however we will be closing for applications shortly after MEDICA. If you wish to book a stand with us please contact Kirsty as soon as possible.

ANALYTICA LAB AFRICA, JOHANNESBURG, 8/10 JULY 2025

'LITTLE SISTER' to Analytica Munich, this is a fast-growing event in a vast market attracting visitors from the whole of southern Africa. As many are aware, GAMBICA will be co-ordinating a 'shared pod stand' group participation at this event. In addition to our at event support we also co-ordinate group hotel arrangements together with shared transport between the hotel and the Gallagher Estate, offering a cost-effective means of accessing this market. There have been some delays in our pulling together the details for this, however, we do anticipate them being available soon. If you have already registered your interest with Kirsty, we will send these directly to you as soon as they are available.

ARAB LAB, DUBAI, SEPTEMBER 2025

WE ARE absolutely delighted that GAMBICA will return to ARAB LAB with a UK pavilion in 2025, nearly 20 years since our last attendance. Several members have already pre-registered to join us in September next year. We expect to have booking details available during November 2024 and if you would like to pre-register your interest please do get in touch.

Both Kirsty and I will be at Lab Innovations if you would like to discuss any of the above or other upcoming GAMBICA overseas events there. Alternatively, please just email kirsty.roberts@gambica.org.uk

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Minister responds to GAMBICA lobbying on export licence delays & launches OTSI

THE NEW Minister of State for Trade Policy and Economic Security Department for Business and Trade, Douglas Alexander, has responded to the latest lobbying from GAMBICA on the unacceptable delays in the export licence application process.

Noting that in 2023, only 52% of SIELs were processed in 20 working days, against the ECJU's target of 70%, the Minister admits that the volume and complexity of applications has made it difficult to meet current targets. He reports however, that the ECJU has launched an initiative to make better use of data to address the challenges and has a team focussed on key performance indicators to identify blockers in the process and better inform management decisions which he claims is having a positive effect:

''ECJU is starting to see the benefits of this approach with many of the most challenging cases being cleared more efficiently. We have also made a concerted effort across the Joint Unit in recent months to clear some of the older cases in our system, which has enabled us to clear a significant part of our backlog.''

While the Minister hopes that the new export control licensing system - LITE - will streamline and improve the application process, he admits that operating the licensing service across two systems presents operational challenges during the transition period.

The Minister has opened the door for us to engage again with senior officials at the ECJU, and we will definitely be doing so.

Office of Trade Sanctions Implementation launched

THE UK government has established an Office of Trade Sanctions Implementation (OTSI). The launch of OTSI means that there are now three licensing bodies in the Department for Business and Trade (DBT) responsible for administering licences to carry out activity prohibited under UK trade sanctions: OTSI, the Import Controls and Sanctions team and the Export Control Joint Unit (ECJU). OTSI is the licensing body for the provision of services that are not ancillary to the movement of goods. New information gathering powers have been put in place to enable OTSI to monitor for compliance with, and investigate potential breaches of, UK trade sanctions.

OTSI has the ability to issue a civil fine but HMRC remains responsible for the enforcement of trade sanctions that fall within its remit as the UK's customs authority and for the enforcement of trade sanctions measures that relate to strategic goods and technology, including military and dual-use goods and technology. HMRC has the power to 'compound' offences and offer a financial penalty in lieu of referring the matter for criminal prosecution.

The enforcement powers of OTSI have a degree of extra-territorial effect. All UK persons including UK nationals and incorporated businesses wherever they are in the world, and any person, including non-UK nationals and incorporated businesses, carrying out activities in the UK or the UK territorial sea will be within scope of the new regime.

The new rules introduced by the 2024 Regulations also provide scope for OTSI to hold company directors personally liable for certain trade sanction breaches in addition to the businesses they work for, and to make public disclosure of breaches without any fine being imposed.

Financial services firms, money services businesses and legal service providers are now required to report suspected breaches of relevant trade sanctions to OTSI.

It is hard to see how the addition of yet another body can reduce delays and bureaucracy.

For more information click here.

Caribbean opportunities

THE FOREIGN, Commonwealth and Development Office (FCDO) has announced trade missions to Guyana and Barbados in November and has published handbooks on doing business in Guyana, Barbados and the Eastern Caribbean. If you would like to take part in the trade missions, click here.

If you would like any of the guides, click here.

Within the English-speaking Caribbean, the Department for Business & Trade currently has offices and strategically located resources in Barbados (covering the Eastern Caribbean), Guyana (covering Suriname), Jamaica, St Lucia, and Trinidad & Tobago. The team has

developed a wide trade ecosystem in the Caribbean, and work with the LATAC International Markets Team to support business interest in all markets across the Caribbean.

To sign up for quarterly updates from the FCDO Caribbean team, click here.

Information on centrifuges required for GCC trade deal

THE DEPARTMENT for Business and Trade has asked for help from suppliers of centrifuges with its work on the Gulf Cooperation Council (GCC) trade deal. Centrifuges have been identified as one of the types of equipment which form significant exports to the Gulf and they would like to talk to sector specialists about what rules-of-origin they should be pursuing. They are interested in HS4 code 8421: Centrifuges, incl. centrifugal dryers (excl. those for isotope separation); parts thereof (excl. artificial kidneys) and particularly want to know:

- Which specific product codes are most of interest to you in your exports to GCC countries (at the 6/8 digit level if possible)?
- If tariffs on these products were removed for your exports to GCC countries, what would that mean for your business?
- The DBT team is also involved in Rules of Origin negotiations, which determine the level of manufacturing that businesses need to carry out within the exporting country to access preferential tariffs under FTAs. They would like to understand if you aware of which rules you could/could not meet based on the manufacturing you undertake in the UK (e.g. change in tariff code rule at the 4 or 6-digit level, or 40% value-added rule)?
- Would you be willing to have a follow up call with DBT to discuss further?

If you can help, please let me know and I will put you in touch.

Jacqueline
