UNLEASHING SCIENTIFIC DISCOVERY WITH THE POWER OF COMPUTING



Breakthroughs, from the team behind Scientific **Computing World,** is now in its second year and we are delighted to announce an expansion to the project that showcases the biggest challenges faced by users of computing systems in science research and how others have solved them.

We anticipate that our market survey, being conducted across this summer, and supported by our unparalleled, ongoing dialogue with the scientists conducting research and using computing solutions, will likely demonstrate a series of common content themes (detailed, right).

#### Emerging technologies: Artificial Intelligence (AI) and machine learning

Exploring the impact this technology has had on the market and the emerging specific research goals across the next five years.

### Emerging technologies: photonic computing

This technology is opening up new avenues for connectivity to accelerate the development of hyperscale and AI models, with impacts on HPC and cloud computing driving greater networking speeds and better energy efficiency in data centres. Who will benefit from photonic computing systems in the near future?

### Emerging technologies: quantum computing

The push towards the development of larger scale fault-tolerant computers offers potential. How long until we see large-scale commercial systems, and what impact will the first generation have on scientific research and which markets will be most affected?

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Unleashing scientific discovery with the power of computing

Advancing scientific understanding with technical scientific understanding with technical computing

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# Exploring the integration of AI, robotics and other technologies leading towards Lab of the Future (Industry 4.0)

What needs to be done to meet new regulatory requirements and how should lab-based industries adapt to the technological changes offered by AI?

## Energy efficiency for advanced computing architectures

Energy efficiency drives many corporate objectives and, as the impact of AI and HPC grows, this will become more and more important.

#### Chip development

As the evidence of Moore's Law evaporates, with speed and scale likely slowing, what is the next set of critical efficiency opportunities?

Review the following pages for an exclusive look at how you can get involved

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### Breakthroughs 2025

Our commercial opportunities enable you to target scientists - the 'rockstars of research' - plus the principal decision-makers in the buying processes that support their work, and communicate the value of your products to scientific discovery. Building on the unique market survey conducted by the Scientific **Computing World** team this summer into the biggest industry challenges, we will create a compelling package of content that explores those issues with the people facing - and solving - them. We're showcasing real-world solutions that transcend industries and markets, offering your brand unparalleled exposure.

#### Why?

- Branding and positioning alongside features and interviews with scientists, research leaders, and their procurement teams, about the challenges they face and how they reach a consensus on how to solve them
- Shows alignment with

   and support of the
   challenges faced by
   the sector
- Positions vendors as 'suppliers of choice'.
- Year-round multiplatform benefit and awareness

#### What?

- Logo on all Breakthroughs emails
- Company listing (on Breakthroughs online channel and print magazine)
- Mentions in social media sponsor thank-you posts
- Full-page advert in the magazine – distributed in print, digitally via email, and available to download from the website
- Upgrade your impact by including your Case Studies (in the magazine and online) written by us or supplied by you that showcase your solution (price on application)

£5,000



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#### **Breakthroughs Digital Roundtables**

We will hold a series of digital roundtables that will draw the 'Rockstars of research' and their buying teams to the heart of the debate, focusing on the topics such as data management, integration and workflow and management buy-in. These unique events, generated under 'Chatham House Rules' to drive more honest insight, will create a series of content for use across our platforms.

#### Roundtable discussion topics

#### **Access and allocation**

Resources in areas such as simulation are often in high demand, leading to competition for access and allocation of computing time. Researchers may need to submit proposals or wait in queues for their simulations to run. How can you do that effectively and efficiently? Are there any groupings of work or shortcuts in process to share?

#### Software expertise

Effectively using HPC often requires expertise in parallel programming languages like MPI and OpenMP to leverage the system's parallel processing capabilities. Scientists may need to adapt their code or learn new skills to take full advantage of the system. How can this best be accomplished?

#### Data management

Scientific research often generates massive datasets. Moving and storing this data efficiently on HPC systems can be challenging, requiring understanding of data management tools and techniques. How do you understand the options and make the right choices?

#### **System complexity**

HPC systems are intricate, with complex architectures and configurations. Researchers may need to navigate complex job schedulers, resource managers, and specialised software environments to utilise the system effectively. Can you simplify the view and what are the risks in doing that?

#### Integration and workflow

Research often involves running multiple software tools and analyses in sequence. Integrating these steps into a cohesive workflow within the environment can be challenging. How can you best achieve that?

#### **Management buy-in**

How do scientists convince budget holders to make the investment in computing solutions? What language works most effectively? How do you set the scene and present a compelling case?

#### Why?

- Learn, first-hand, about the issues that concern these scientists the most
- Feed the insight into your own product development and sales strategy
- Positioning as a thought leader through the creation of a White Paper
- Lead generation from subsequent White Paper

#### What?

- Roundtable partnership

   a seat at the invitation only digital round-table,
   with six to eight R&D
   leaders and the senior
   buyers supporting them,
   plus other innovators in
   the field
- Work with the moderator beforehand to seed questions that will help your strategy
- A White Paper, created by us with your input, allowing you to explore how your company addresses the issues raised by the roundtable discussion
- Organic leads generated from the distribution of that White Paper
- 50 targeted leads, based on a profile of your choosing, guaranteed

£10,000

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#### Breakthroughs Webcast Series

Our webcast series, drawing on a similar mix of topics to the Roundtables, will offer both awareness and demand-generation opportunities, as we invite you to join presentations on the most significant topics identified by our survey and the views of the R&D leaders and their buying teams.

#### Why?

- High-value strategic opportunity to participate in a panel discussion on a topic
- Positioning as a thought leader by participating alongside experts
- · Lead generation from attendees
- Guaranteed targeted lead-generation from on-demand attendees

#### **What? (Lead Sponsor)**

- A seat on an online webcast panel discussion
- Work with the moderator beforehand to seed questions that will help your strategy
- Organic leads generated from the webcast attendees (one-time contact, plus first-party voluntary opt-ins)
- 50 targeted leads, based on a profile of your choosing, guaranteed
- Associated branding in webcast promotion

#### £6,000



### What? (Associate Sponsor)

- Organic leads generated from the webcast attendees (one-time contact, plus first-party voluntary opt-ins)
- Associated branding in webcast promotion

£2,000