# IChemE Partner Networking Lunch – November 2025

**Date:** 20th November 2025

**Time:** 10:00 – 12:00pm (GMT)

**Venue:** Mercure Manchester Piccadilly Hotel

## Executive Summary

IChemE convened its Employer Partners and Education Partners in Manchester in November 2025 to strengthen collaboration between industry and academia against the backdrop of the UK's Post-16 Education and Skills reforms. The session brought together employers, universities, UTCs and vocational providers to explore how pathways into chemical engineering can be improved, how research can be better aligned with industrial needs, and what the profession will require over the next decade.

Discussions highlighted several consistent themes: the growing need for practical experience and applied learning; the importance of employer involvement in shaping education at all levels; the need for more coordinated research partnerships; and the increasing urgency of preparing engineers for a digital, sustainable, AI-enabled future. Participants also emphasised the value of clearer, more coherent routes into engineering careers, supported by stronger collaboration across the education–industry interface.

## Background

This Partner Networking Lunch formed part of IChemE's ongoing commitment to bring together employers, universities and training providers to address shared challenges. The event was the first to formally bring the Employer Partner, Academic Partner and Education Partner communities together, recognising that the Post-16 Skills White Paper places employer voice at the centre of technical education, and that collaboration is essential for shaping the future workforce.

The session included inputs from Baker Dearing Education Trust, who outlined how University Technical Colleges (UTCs) bridge the gap between schools, academia and industry through employer-informed curricula, applied technical learning and high-quality student destinations. Their contribution emphasised the importance of earlier exposure to engineering, stronger employer involvement in post-16 education and training, and clearer pathways that help learners move confidently into apprenticeships, university or early-career roles.

## Strengthening skills through collaboration

Partners agreed that while the sector has multiple routes into engineering, including apprenticeships, degrees, technical qualifications, UTCs and mid-career pathways, learners often struggle to understand how these routes differ and where they lead and that greater clarity could be provided to help guide career decisions. A recurring theme was that practical experience remains the most powerful way to develop confidence, competence and professional identity, yet capacity remains a limiting factor for employers offering placements, particularly year-long opportunities.

Several employers highlighted the difference in readiness between students who have undertaken industrial placements and those who have not, noting that students with real-world experience demonstrate stronger problem-solving skills, more confidence in design projects, and a better understanding of how to apply theoretical knowledge. Shorter summer placements were viewed as helpful for exposure but less effective for developing capability, as the first several weeks are often spent acclimatising.

Recruiting talent with strong soft skills, communication, collaboration, confidence, and the ability to engage with diverse teams, were consistently identified as a challenge, and partners emphasised that these are developed most effectively through authentic workplace experiences rather than classroom activity. There was strong support for expanding employer-led projects within university programmes and creating more structured opportunities for students to work alongside professionals, including within FE and UTC provision.

Apprenticeships and degree apprenticeships were seen as critical but underutilised. Education partners indicated that demand from learners is strong, especially among those seeking to avoid debt, yet employers noted that offering placements requires significant investment of time and resource from managers and senior staff. Participants agreed that clearer data on the long-term benefits, such as retention, loyalty and practical competence, would help employers justify expanding provision.

Across all tables, partners emphasised that stronger collaboration across the education landscape is essential. Earlier engagement, more consistent communication between universities and employers, and clearer role-definition for IChemE in supporting employability and professional skills were identified as important next steps.

## Research relevance and collaboration

The second discussion focused on alignment between academic research and industrial needs. Many partners observed that research priorities are often shaped by funding streams or existing relationships rather than shared cross-sector challenges, creating gaps in areas such as scale-up, energy transition technologies, circular economy, materials, and digital process systems.

Employers expressed a desire for more applied research that translates quickly into industrial impact, with several organisations noting difficulties in navigating university structures, identifying the right contacts or establishing collaborations at pace. Participants suggested that IChemE's Special Interest Groups (SIGs) could play a stronger coordinating role by mapping sector-specific research themes, facilitating introductions and helping to articulate priority areas to funders such as Engineering and Physical Sciences Research Council (EPSRC).

There was also a clear call to use industrial placements, Knowledge Transfer Partnerships (KTPs) and employer-funded PhDs more strategically. While traditional PhDs can take several years and may not always align closely with company needs, partners highlighted the value of KTPs, which provide more focused, time-bound problem-solving with direct industrial benefit. Similarly, placement students were seen as a powerful bridge between research and industry, often continuing projects upon returning to university.

Partners also recognised the difficulty of scaling new technologies, from lab-based innovation to large-scale deployment, which remains a significant barrier for companies without deep capital resources. Better collaboration between academia, Catapults, Innovate UK and industry was seen as essential to reducing risk and accelerating adoption.

## The future of chemical engineering

Looking ahead, partners emphasised that the profession is entering a period of transformation, shaped by digitalisation, AI, sustainability, decentralised infrastructure and emerging energy technologies. While new tools will change how engineers work, fundamental engineering principles will remain essential, particularly the ability to validate and challenge AI-generated outputs, apply critical thinking, and understand the environmental implications of design decisions.

Participants identified the need for chemical engineers who are versatile, comfortable with data analytics, familiar with digital twins, modelling and smart systems, and capable of working across disciplines and supply chains. Sustainability, circular economy, and net-zero principles were repeatedly cited as core future competencies. Areas such as hydrogen, carbon capture, biofuels and advanced materials were highlighted as ongoing areas of growth that will shape early-career learning and research focus.

There was also significant discussion of professional identity and the role of chartership. In an era of rapid technological change and widespread misinformation, partners noted that professional registration offers a visible marker of trustworthiness, rigour and ethical standards. Strengthening IChemE's public voice, improving recognition for achievements, and building early awareness of professional identity among students and apprentices were identified as important actions.

Overall, partners agreed that preparing for the future will require a coordinated, long-term approach, embedding digital and sustainability-focused skills at every level of education, and ensuring that learners can move confidently through increasingly diverse routes into the profession.

## Next steps

IChemE will use the insights from this session to strengthen its approach to employer and education engagement and to support a more coherent and long-lasting partnership model across the sector.

In the coming months, this will include improving the visibility and coordination of placement opportunities, deepening collaboration with UTCs and FE providers, and helping the sector to bring greater clarity to the different entry routes into chemical and process industries.

IChemE will also broaden its role in promoting professional identity and early-career development, while expanding opportunities that bring industry, academia and vocational institutions together.

This work will be underpinned by IChemE's growing role as a connector across the education–industry interface, particularly as the Post-16 reforms begin to take effect. The next joint Partner meeting will take place in autumn 2026, with separate Employer Partner and Education Partner sessions planned earlier in the year, as IChemE continues to build on this collaborative momentum with the community.

IChemE, November 2025.