INDUSTRY SUMMER STUDY TRACK DESCRIPTIONS

TRACK 2: Technology, Innovation, and Deployment

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Industrial competitiveness depends on designing and deploying better technologies and processes.

Manufacturers considering new facilities, major expansions, or equipment upgrades must simultaneously balance energy costs, productivity, reliability, and regulations while making investments that may remain in service for decades. Which innovations are ready to deliver value today, and how can investment decisions preserve flexibility for tomorrow?

The goal of this track is to identify what works, what needs further development, and what will help industry deploy effective solutions more broadly. Specifically, this track explores emerging and commercially available technologies that improve industrial energy productivity, along with the practical lessons learned for successful deployment. We welcome research, demonstrations, and facility experiences that connect technical advances with operating realities.

Contributions should examine how technologies perform, integrate into industrial processes, and what enables, or prevents, their adoption.

Topics of interest include:

- **Future-ready industrial investments:** Electrification readiness, hybrid systems, dual-fuel burners, and other approaches that accommodate changing energy supplies, costs, and production needs.
- **High-performing new facilities and major expansions:** Integrating energy and resource efficiency into facility and process design.
- **Energy productivity technologies:** Industrial heat pumps, thermal storage, electrified process heat, thermal efficiency, motor-driven systems, and industrial cooling.
- **Software and controls:** Automation, advanced analytics, artificial intelligence, and interoperable controls that translate operating data into measurable energy and production improvements.

- **Waste heat recovery and thermal energy networks:** Capturing, upgrading, storing, and sharing heat within facilities and with neighboring industrial or community users.
- **Workforce engagement and buy-in:** Securing leadership and cross-functional support for technology selection and implementation, workforce readiness and training.
- **Deployment successes and challenges:** Technology validation, project economics, infrastructure requirements, integration with existing equipment, and scaling from demonstration to routine operation.

We encourage submissions grounded in real-world industrial applications, including joint contributions with researchers, technology providers, and facility teams. Research contributions should describe the pathway to industrial use; deployment case studies should identify operating conditions, costs, measured benefits, and implementation lessons where available. Experience with stalled projects, unexpected tradeoffs, and performance shortfalls are particularly welcome.