



Technical Visit to Cell Agritech Sdn. Bhd.

By

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On 18 July 2025, the Institution of Engineers, Malaysia (IEM) through its Electronic Engineering Technical Division (eETD) organised a technical visit to Cell Agritech Sdn. Bhd., Malaysia's first cultivated meat biotechnology company, with IEEE Malaysia as a co-organiser. Located in Perai, Pulau Pinang, Cell Agritech is pioneering innovation at the intersection of cellular agriculture, engineering, and sustainability.

Using advanced tissue engineering and stem cell technologies, the company cultivates real meat from animal cells in a controlled environment without slaughter, offering a healthier, ethical, and eco-friendly alternative to conventional meat production. These cultivated cells are grown in bioreactors powered by solar energy, ensuring a clean process free from antibiotics, hormones, and zoonotic disease risks.

The company is currently constructing Malaysia's first large-scale cultivated meat production facility in Penang, featuring highly engineered bioprocess systems and quality-controlled automation for scalable output. This modern, state-of-the-art facility integrates precision engineering with sustainable energy solutions, making it a model for future food production systems. Beyond infrastructure, Cell Agritech actively contributes to national R&D efforts by collaborating with government agencies and religious bodies to support the development of halal-certified cultivated meat, further positioning Malaysia as a leader in food technology innovation.

The visit was particularly significant as it marked the first time Cell Agritech had welcomed a non-biotechnology delegation, bringing together multidisciplinary professionals from engineering and scientific backgrounds. The programme began with a technical presentation by Cell Agritech representatives, who highlighted the company's operations and innovations in bioreactor design, scalable tissue culture systems, and process optimisation for sustainable protein production. Participants then toured the plant and laboratory facilities, gaining valuable insights into the integration of engineering principles with biotechnology to address challenges in commercialisation, scalability, and market readiness for cultivated meat.

The session concluded with a souvenir presentation by representatives from IEM eETD and IEEE Malaysia, followed by discussions on potential future collaborations. More importantly, the visit illustrated how cultivated meat has evolved beyond scientific research into an engineering-driven field, now focusing on manufacturing, commercialisation, and market entry.

Overall, the visit provided rare exposure to cutting-edge biotechnology infrastructure, fostered meaningful cross-disciplinary dialogue, and inspired engineers, technologists, and researchers to appreciate how biotechnology and smart manufacturing are reshaping the future of food production.



Figure 1: Technical presentation by Cell Agritech representatives, introducing cultivated meat technology and its engineering applications.



Figure 2: Guided plant and laboratory tour where participants observed bioreactor systems, tissue culture processes, and scalable production facilities.



Figure 3: Souvenir presentation by representatives from IEM eETD to Cell Agritech Sdn. Bhd.



Figure 4: Souvenir presentation by representatives from IEEE Malaysia to Cell Agritech Sdn. Bhd.



Figure 5: Group photo with the Organising Committee of the IEM eETD and IEEE technical visit to Cell Agritech Sdn. Bhd.