

REFLECTIVE ELECTRICAL ENGINEERING LEARNING (REEL2026)

Building Skills and Professionalism through
Industrial Training

SKILLS



REEL2026
Reflective
Electrical Engineering Learning

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BUILDING SKILLS AND PROFESSIONALISM THROUGH INDUSTRIAL TRAINING



REEL 2026

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*"Building Skills and Professionalism
through Industrial Training"*

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*Reflection transforms
experience into meaningful learning*

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Empowering Connectivity: A Reflective Journey Through Fiber Optics and Field Operations

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My journey began with the fundamental building blocks of modern communication like the types of fiber optics cables. I quickly learned that in this field, millimetres matter. Whether I was working in the controlled environment of a data centre or out at a distribution point, the tools of the trade like the OTDR (Optical Time Domain Reflectometer) and the Optical Power Meter became extensions of my own hands.

There is a unique kind of satisfaction in troubleshooting a signal loss of -64.2 dBm and successfully tracing the fault through a maze of yellow patch cords. It taught me that engineering isn't just about knowing how things work but it's about the patience to find out why they don't.

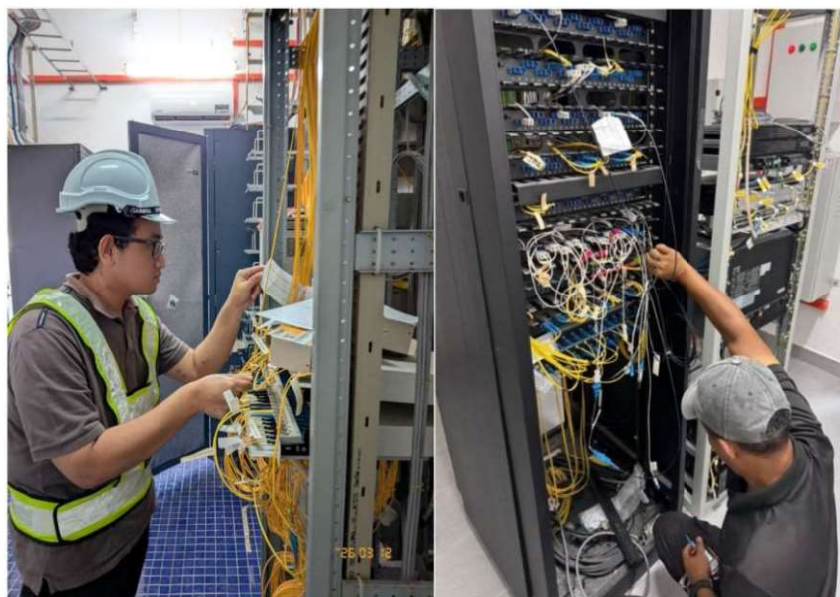


Figure 1: Troubleshoot the Connection Problem with the Technician in the Server Room

One of the most inspiring aspects of this internship has been the sheer variety of the "office." In the server room, I spent an hour to navigate the server racks. The reason is to ensure that every connection is seated perfectly, and every cable labelled with care. It's a place where you realize the weight of responsibility; if someone pulls the wrong lever, it could disconnect an entire neighbourhood.

At the working site under the blazing sun with the TM technicians, I saw the true grit behind the TM logo. From deploying new infrastructure near rural paddy fields to maintaining poles

that stand as sentinels of connectivity, I learned that technology is only as good as the people willing to maintain it in the heat and the rain.

If I could share one piece of inspiration with my fellow students. Don't be afraid to get your hands dirty. True engineering happens at the intersection of theory and reality. It's found in the sweat on your brow during a site visit and the focus in your eyes when splicing a fiber core. My time at the site has shown me that being a "field engineer" is a badge of honor. It means you are where the action is, solving real problems for real people.



Figure 2: Fiber Optic Preparation and The Fusion Splicing Process

Looking ahead as I stand at the edge of a field, I saw a team work together to stabilize a line and I realize that I am part of something much bigger than myself. We aren't just installing cables, but we are enabling learning, businesses to grow, and families to stay in touch.

My internship journey has reinforced my passion for electrical engineering and given me a clear vision for the future. Connectivity is the heartbeat of a modern nation, and I am proud to have played a small part in keeping that heart beating.

Authors' Biography



Muhammad Adam bin Ahmad Khairi is a dedicated student pursuing a Diploma in Electrical Engineering (Electronics) at Universiti Teknologi MARA (UiTM) Cawangan Pulau Pinang. As part of his academic journey, Muhammad Adam is currently undergoing an internship at Abina Global Sdn Bhd from 2nd March to 21st June 2026. This hands-on experience allows him to apply theoretical knowledge in a real-world setting, further developing his expertise in electrical and electronics engineering. With a keen interest in technological advancements, he aims to contribute meaningfully to the industry and to become a skilled and professional person in electrical and electronics engineering.



Azizah binti Ahmad is a Senior Lecturer since 2016 at Faculty of Electrical Engineering, Universiti Teknologi MARA Cawangan Pulau Pinang and she also was born in Penang, Malaysia in 1982. She obtained her Diploma and B.Eng. Hons in Electrical and Electronics Engineering from Universiti Teknologi MARA in 2003 (UiTM Pulau Pinang) and 2006 (UiTM Shah Alam) and also had a M.Sc. in Electronic System Design Engineering from Universiti Sains Malaysia in 2008. She joined the Faculty of Electrical Engineering Universiti Teknologi MARA Cawangan Pulau Pinang as a Lecturer in 2009. Her current research interests about Artificial Neural Network, Machine Learning, and microwave absorbers.

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