IEEE IECON 2025 Conference Participation Report

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In October 2025 I had the pleasure of presenting my research at the 51st Annual Conference of the IEEE Industrial Electronics Society (IECON 2025). The event took place in Madrid, Spain, with the Melia Castilla hotel serving as conference venue. I was able to attend the conference thanks to funding received from the Israeli Smart Transportation Research Center (ISTRC) to whom I am grateful for this opportunity.

The IECON conference is dedicated to research focused on a wide range of topics within industrial electronics such as power electronics, renewable energy, smart grids, artificial intelligence and transportation electrification. It is the flagship conference of the IEEE industrial electronics society and provides researchers, professionals and engineering students with a fitting stage to present their work, publish their results, exchange ideas and network for future scientific and industrial collaborations.

During the event, I had the honor of presenting my research in front of leading experts in my field from a variety of different universities such as TU Delft (Netherlands), TU Wien (Austria) and University of Bologna (Italy). Their feedback, and the discussion that followed, was detrimental to improving and driving my future works. I also had the

chance to visit numerous presentations and would like to mention three examples which were of great interest to me as they are relevant to both my research and the goals of ISTRC.

- E. Jardin, "Advanced static and dynamic wireless charging: Empowering modern EVs and AGVs".
- Q. Huang, *et al.*, "Electric vehicle onboard charger EMI analysis".
- Z. Yang, *et al.*, "A complementary dual-coil receiver design for misalignment-robust wireless power transfer in electric vehicles".

The first mention was a tutorial session, giving an overview of static and dynamic wireless power transfer and their ability to make smart electric vehicles more convenient and easier to charge. The second presentation tackled the extremely important topic of charger compliance with EMI standards, which must be implemented in order to take the solution from research to industry. Finally, the last presentation introduced a new coil geometry, allowing for more robust operation of wireless charging systems under misalignment.

In summary I would highly recommend the IECON conference to anyone who has interests in the field of industrial electronics, power electronics, and their use in smart electrical vehicle applications. Finally, I would like to once again thank the ISTRC for funding my participation in these important proceedings and hope for many more collaborations in the future.