Minutes from Advisory Board Meeting for the Electronic programs in Sønderborg

Thursday 30th November 2023
From: 12:10-15:30

The meeting was held at: LINAK, Runde 2, Spindelvej 7, 6430 Nordborg

Invited for the meeting: Hauke Holm (Damm Cellular), Niels Gade (Danfoss Drives), Michael Tønnes (Danfoss Silicon Power), Jacob Tinnesen (LINAK), Morten Fog (LINAK), Allan Mølbach (OJ Electronics), Henrik Schmidt (Bitzer Electronics), José Pedro Blasques (Wattenfall), Matej Simurda (Ørsted), Jakob Kjelstrup-Hansen (SDU), Lars Duggen (SDU), Kasper Paasch (SDU), Navid Bayati (SDU), Christina Skytte Møller (SDU)

With apologise: Hauke Holm (Damm Cellular), Michael Tønnes (Danfoss Silicon Power), Niels Gade (Danfoss Drives), Allan Mølbach (OJ Electronics), José Pedro Blasques (Wattenfall),

Minutes

We started the meeting with lunch and continued with following agenda:

1. Welcome /Jakob Kjelstrup-Hansen
   Jakob welcomed and introduced the framework and purpose of advisory boards at the technical faculty. It is important for us to get the companies' input on what our students should be able to do and whether they can do what they need to, that is the primary purpose of the meetings. It is the expectation that we hold an annual meeting, often in the company of one the advisory boards members. As new members have joined the panel, there was a short introduction round of all members of the panel.

2. Presentation from LINAK/ Jacob Tinnesen
   Jacob made a short company presentation. LINAK has 2.400 employees worldwide and 1.200 in Denmark and a turnover of 640 million DKK. LINAK produces electric linear actuator solutions to a variety of applications, within the segments Deskline, Techline, Medline & Careline and Homeline, solutions that we had been presented for in the showroom earlier.

3. Status for the programs/ Jakob Kjelstrup-Hansen
   The electronic programs now have full programs within Bachelor of Engineering, Bachelor of Science and Master of Science. The Master of Sciences program started in 2020, so the first graduates finished the program in June 2022.

   There has been a small increase in number of applicants and enrollment, but not high:

Enrollment TEK Sønderborg

Uddannelsestype	Uddannelse	2018	2019	2020	2021	2022	2023
B.Eng. (diplomingeniør)	*Electronics*	17	27	19	17	22	26
B.Sc.	*Electronics*	6	9	10	9	7	8
Diplom + B.Sc.	**Electronics**	**23**	**36**	**29**	**26**	**29**	**34**
M.Sc.	*Electronics*			21	17	23	24
		23	**36**	**50**	**43**	**52**	**58**

   On the bachelor programs there is now a bigger difference between the BSc and the BEng, where some of the courses on the BSc are more theoretical minded and, on the BEng, some of the courses have a more practical approach.

   On the MSc program the course Realtime Systems will not be part of the program anymore and we are considering what we should replace it with. Suggestions were made within Advanced Machine Learning, Reliability or within Control Engineering. We do have the next half a year to make the decision, so any other good ideas are more than welcome.

4. Themes to discuss:
   a) New profile within Electrical Energy Systems

   A new profile within Electrical Energy Systems will be offered from uptake 2024 as a profile on the BEng of Electronics programs. There will be 5 new courses (including 2 semester projects) on the profile on 3rd, 4th, and 5th semester. There will focus on following content in the profile courses:

   - Fundamentals of Power Systems
   - Modelling of Transformers, Transmission lines, Cables
   - Powerflow
   - Software: PowerFactory - DIgSILENT
   - Modeling of different standard systems (IEEE and CIGRE),
   - Symmetrical and Unsymmetrical Faults,
   - Design protection systems (Fuses, OC, distance, and differential relays),
   - Stability analysis of power systems
   - Control and harmonics in power systems
   - Integration of PV, wind turbines, and batteries to the grid

- Analyzing the impact of renewable energy resources on grid
- Converters and control issues on them

The first profile courses will be offered in Autumn 2025 for students who have started on the "ordinary" Electronic program and choose this profile.

The Advisory board was very positive towards the new profile.

b) The competences of our students

As last part of the meeting, the program wanted to know if the companies had any experience with hiring graduates from the program, to get some feedback on their competences. The companies presented at the meeting had not experience with graduates from the program yet.

5. AOB