# 5 Benchlearning

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## Master's Thesis in Engineering programmes at PoliMi (Polytechnic University of Milan) and LUT

### Benchlearning partner and target

The benchlearning partner was chosen by the LUT management committee in February 2020 based on the strategic aim to strengthen co-operation with prioritised university partners in research and education. PoliMi is a partner with several possibilities to increase the impact of both institutions. The common goal is to design double degree MSc programmes in several fields of engineering to provide possibilities for students to extend their expertise. LUT's benchlearning target was to support co-operation and building double degree education.

### Objectives and implementation

The objective for benchlearning was to exchange information on the practices of the MSc thesis process from the perspective of students, supervisors and programme management. The benchlearning project and the topic were agreed on in the double degree programme agreement negotiations between the two institutions.

The original plan was to arrange on-site visits where representatives of both institutions could meet in person, visit the campuses and laboratories and talk about cooperation in general and regarding the double degree programmes to be delivered together. Due to the pandemic, the start of the benchlearning was delayed, the original plan revised and the scope of topics

restricted to cover the most important process that need to be shared when building double degree programmes.

The benchlearning included two online meetings in autumn 2020. In the first meeting, the thesis process was discussed in general. Based on the discussion and information available on websites, the procedures of both institutions were documented in a comparable format at LUT and complemented by PoliMi representatives. In the second meeting, the documented observations were verified and discussed in more detail. The benchlearning report for the FINEEC audit was drafted based on the meetings and jointly made documentation on MSc thesis processes. The report was approved by people contributing to the benchlearning process at PoliMI and LUT.

## Assessment of the process

Due to the pandemic, the people responsible for partnership between the two institutions could not travel to meet, get acquainted in person or discuss wider cooperation potential. Covering multiple degree education themes was not a realistic goal. However, the benchlearning project succeeded in defining a topic that provides real added value to the double degree programme delivery and in designing a benchlearning process that could be implemented in a restricted time. This was based on good cooperation between representatives of PoliMi and LUT stemming from the degree programme specific negotiations during the autumn semester. Seven degree programme representatives from PoliMi and six from LUT contributed to the process facilitated by LUT's director of international and study affairs.

## MSc thesis practices

The MSc thesis focuses on developing the same scientific research competence in both institutions: retrieving information, using research methodology and scientific reasoning, providing new knowledge, reporting and presenting the research process and results. The differences of the procedures are briefly described below.

- The student **workload** of an MSc thesis at PoliMi varies between 15 and 20 ECTS credits depending on the degree programme, while at LUT, the workload is always 30 ECTS credits.
- LUT assigns two **supervisors** for each thesis while PoliMi usually one supervisor. In both institutions, the (primary) supervisor needs to be a professor/docent in the field of science in question, and at LUT, the secondary supervisor must have at least an MSc degree. At PoliMi, co-supervisors are assigned e.g. if the thesis is completed in a partner institution.
- At PoliMi, students are typically quite closely **supervised** and steered in the thesis work, while students at LUT are expected to finish the thesis more independently. There are no binding rules on the supervision procedures at either institution.
- The majority of LUT's theses are typically executed in **cooperation with industry** or other external commissioners. In these cases, the secondary supervisor can come from the commissioning organisation. At PoliMi, a minority of theses are executed in cooperation with industry or other companies. The empirical part of the thesis is typically carried out in a relevant research laboratory at PoliMi.
- At PoliMi, all MSc theses are **presented** and defended orally in front of a jury of four

professors. In the defence, students face the challenge of presenting their work in front of an audience. The defence is a part of the thesis protocol and celebration. At LUT, in some degree programmes the thesis is presented in a seminar to supervisors and student peers.

- In both institutions, the theses are **assessed** according to predefined criteria and grading schemes. At PoliMi, the supervisor and opponent of a thesis provide a written evaluation report for the jury. At LUT, the supervisors prepare a written statement and suggest a grade for the thesis. At PoliMi, theses are approved by the supervisor, while at LUT the dean of a school approves theses and their grades.
- In both institutions, MSc theses are **published** in a publication repository. If necessary, a thesis can be classified as confidential for two years at LUT and for an unlimited time at PoliMi.

| **Good practices of LUT** | **Good practices of PoliMi** |
| --- | --- |
| Active industry cooperation | Intensive supervision culture |
| Digital plagiarism checker verifies originality of thesis | Oral defence of thesis |
| | Grading scale describing the scientific level of the thesis |

**Applying the benchlearning observations**

The information received in the benchlearning process has been/will be utilised in designing the double degree structures and informing students about the double degree programmes and the practices of the partner university. In the long run, the benchlearning process can contribute to MSc thesis development at LUT.

# Audit team's feedback

With its benchlearning task, LUT addresses the cooperative development of future double degree programmes with international partners in a systematic manner. The project complies with the strategy of the university to achieve internationalisation, especially through the introduction of double degree programmes. The particular attention to the master thesis in this process shows foresight and sensibility for different educational systems, the latter being an essential prerequisite for successful international cooperation. The audit team particularly highlights this approach, as it lifts the university's internationalisation activities to a level that goes beyond mere student mobility.