



**Review team's report on FINHEEC's Engineering Programme Review of
*Mechanical Engineering, Savonia University of Applied Sciences, Kuopio, Finland***

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1. Description of the review process and of the programme

1.1. Aim of the review

The aim of FINHEEC's Engineering Programme Reviews is to support enhancement of quality in engineering programmes and to provide higher education institutions with the means to decide if an engineering study programme provides its graduates with the academic qualifications necessary for a career in the engineering profession.

The target of the review is the way an engineering degree programme is planned, delivered and developed to ensure that the students reach the programme outcomes, and that the programme outcomes cover the programme outcomes set for engineering programmes in the Standards and Procedures for FINHEEC's Engineering Programme Review document¹ (the review manual). The programme outcomes describe the knowledge, skills and competencies that engineering students should have acquired by the time they have completed a degree programme in engineering.

The review evaluates the extent to which the set standards for programme's organisation, implementation and development are met.

1.2 The review process

The review was conducted in accordance with the principles set in the review manual. The schedule of the review process was the following:

- The review team was appointed by the FINHEEC Committee for Engineering Education on 5 November 2013.
- Savonia University of Applied Sciences (Savonia) submitted the self-evaluation report on 9 December 2013.

¹ http://www.finheec.fi/files/1961/FINHEEC_engineering_programme_review_manual.pdf



- A review visit to Savonia was conducted on 23-24 January 2014. The programme of the visit is illustrated in figure 1.
- Decision making meeting of FINHEEC Committee for Engineering Education on 5 March 2014.
- Decision of FINHEEC Committee for Engineering Education confirmed by the FINHEEC Council on 25 March 2014.

	1 st day	2 nd day
9.00–10.20	Interview of the management of the HEI and of the programme	Interview of external stakeholders (former students, employers / industry / representatives of professional engineering organisations, maximum of 8 persons)
10.30-11.50	Interview of the academic staff of the programme (maximum of 8 members of the academic staff, representing both junior and senior staff)	Interview of students (8 students, representing students at different stages in their studies)
12–13	<i>Lunch</i>	<i>Lunch</i>
13.00–13.50	Interview of support staff members of the programme (maximum of 8 support staff members, representing the key support functions of the programme)	Study of evidence provided by the programme
14.00–14.50	Evaluation visit to the relevant facilities (The team visits the most relevant facilities, such as laboratories, libraries, etc.)	Private meeting of the review team
15.00–15.50	Study of evidence provided by the programme (Relevant material provided by the programme such as: Thesis works that represent the whole scale of grade evaluation, Project works, Assessed project reports, Examination papers, Continuous assessment, Other assessed coursework, Entrance examinations, Recent research publications relevant to the programme)	
16.00–17.00		Final interview with preliminary feedback to the management



1.3 Degree programme in Mechanical Engineering at Savonia University of Applied Sciences

The engineering programme under review is the Mechanical Engineering at Savonia, located in the city of Kuopio in eastern Finland.

The degree awarded from the programme is Bachelor of Engineering and the extent of the programme is 240 ECTS credits and the programme is conducted in Finnish. The standard period of study is four years of full-time studies. The annual intake for the programme is 50 students. In addition to the standard intake, every second year there is an intake of 20 adult students to the programme. The adult education is implemented as part-time and to some extent as distance learning. The students in the programme specialise in either product development or production engineering.

2. Evaluation of the programme's organisation

1. Needs, objectives and outcomes

requirement 1: Needs of the interested parties (students, industry, trade unions, etc.) should be identified.

The review team evaluates the fulfilment of the requirement to be **acceptable**.

The strengths of the programme regarding the requirement are:

The objectives of the programme and the principles of the curriculum are based on the specific education needs which are formed taking into account feedback information from the students and stakeholders and agreements with the Ministry of Education and Culture. The structure planned for the mechanical engineering students' curriculum has a sound foundation in continuously conducted surveys of commercial enterprises' needs.

The good practices regarding the requirement are:

This programme exceptionally accomplishes needs of outside stakeholders. The graduates are fully able to enter the labour market immediately after graduation.

The recommendations for further development regarding the requirement are:

In order to identify accurately the significant needs of the industry and students, the analysis of the needs should be done periodically. Constant results could assist in long-term perspective.

The evaluation is based on the following evidence:

The strategy of Savonia 2013-2016 highlights the intensifying of the regional effectiveness as well as networking with key partners what was the basis for the tailoring of the needs to the local companies. In the self-assessment report Savonia states that DPME conducted a survey in January 2013 targeted at commercial enterprises and the results of the survey were used in the reform of the curriculum.



The survey was available in Finnish during the review and it was referred to in the interviews.

requirement 2: Educational objectives of the programme, which describe the educational task and purpose of the programme, should be consistent with the mission of the higher education institution and with the needs of the interested parties.

The review team evaluates the fulfilment of the requirement to be *acceptable*.

The strengths of the programme regarding the requirement are:

The academic community is aware and dedicated to the development of the graduates' competences which is based on the mission, that defines development of welfare, social cohesion and competence-based cooperation in the region.

The good practices regarding the requirement are:

Majority of the graduates are employed into regional companies. Also RDI is set for regional development of Eastern part of Finland. This fully meets mission of Savonia.

The recommendations for further development regarding the requirement are:

Management of Savonia is advised to consider broadening of perspective of development in order to produce graduates more employable into other regions and abroad.

The evaluation is based on the following evidence:

The objectives of the programme and the mission of Savonia as available publicly on the Savonia website. Interviews of management and external stakeholders.

requirement 3: Programme outcomes should cover the programme outcomes for review

The review team evaluates the fulfilment of the requirement to be *acceptable*.

The strengths of the programme regarding the requirement are:

Evaluated learning outcomes and outcomes of the review are consistent with one another.

The evaluation is based on the following evidence:

Curriculum analysis, where the outcomes and syllabi of courses were linked to the programme outcomes for review.

requirement 4: Programme outcomes should be consistent with the programme's educational objectives.

The review team evaluates the fulfilment of the requirement to be *acceptable*.

The strengths of the programme regarding the requirement are:



The programme outcomes and the programme's educational objectives are publically accessible and reviewed constantly.

The recommendations for further development regarding the requirement are:

Educational objectives should be revised in order to implement more transferable skills into study process, regarding foreign language, communication and economic basic skills also basic understanding of the sustainable development.

The evaluation is based on the following evidence:

The programme outcomes and the programme's educational objective as presented on the Savonia website. Interviews of management and external stakeholders.

II. *Educational process*

requirement 1: The curriculum should ensure the achievement of the programme outcomes.

The review team evaluates the fulfilment of the requirement to be *acceptable*.

The strengths of the programme regarding the requirement are:

The curriculum is prepared annually according to curriculum process by the heads of education and development. The planning process proceeds according to ECTS-recommendations. The curriculum is normally updated every two years to ensure the achievement of the programme outcomes according to the needs of the labour market.

The good practices regarding the requirement are:

Programme outcomes are based on the units of learning outcomes which are continuously adopting to the needs.

The recommendations for further development regarding the requirement are:

The programme should develop more own teaching material and teaching material in English. Recorded lectures could be useful especially for adult education.

At the moment the learning outcomes of individual courses focus very much on the knowledge obtained from the courses. The descriptions should be developed so that they describe better also the skills and competences gained from the courses; how students are able to use the obtained knowledge.

All stakeholders should be invited to give clear reasons and evidence on why something should be changed in the curriculum; it is not enough to get just the companies involved. The ways how the industry representatives influence the teaching process should be more systematic.

The evaluation is based on the following evidence:

Self-evaluation report, interviews of the management of the HEI and of the programme, interview of the academic staff of the programme, students, and alumni. Curriculum analysis and curriculum as presented publicly on the Savonia website.



requirement 2: Teaching should be delivered according to planning.

The review team evaluates the fulfilment of the requirement to be *acceptable*.

The strengths of the programme regarding the requirement are:

Traditional planning of teaching and providing the teaching itself has been changed in a way that teachers' work become more versatile. At Savonia it includes planning and guiding development projects, resolving the practical problems of industry and undertaking marketing tasks jointly with the external cooperation partners of UAS.

The good practices regarding the requirement are:

The central aspect in the learning process at UAS is to learn by doing and to learn together. The team work is not only joint planning but doing tasks, experiencing and assessing the outcomes together. Learning together has meant also that the teacher of the degree programme have had to change from the traditional independent working in a classroom towards more open collaboration. The work on the projects for industry has brought many partners, teachers, students and representatives of industry closer to each other. This increases students' responsibility for implementing and managing projects what make them more competent than before when they move to the working life. Good example of learning by doing and team working is the motorcycle project together with business and industrial design. They use also tools for online teaching because great part of the teaching material can be found in the internal network available through remote access also from outside the UAS. The web-based Moodle learning environment is the primary platform used in Savonia online-teaching.

The recommendations for further development regarding the requirement are:

The programme should develop the measures to promote students' international mobility as the current mobility rates are very low.

The evaluation is based on the following evidence:

Self-evaluation report, interviews of the management of the HEI and of the programme, interview of the academic staff of the programme, students, and alumni.

requirement 3: Counselling and support workload that is offered to the students should be adequate to support the students in achieving the specific learning outcomes of the courses.

The review team evaluates the fulfilment of the requirement to be *acceptable*.

The strengths of the programme regarding the requirement are:

The number of teaching staff at DPME is 10, but there is also a strong RDI Unit with 26 researchers. Teachers have mainly pedagogical competences. Support workload is very professional and helpful to the students.



The good practices regarding the requirement are:

Results of research, development and innovation work are implemented in the education process through strong collaboration with local industry. Teaching staff has industrial background and experience ensuring the students to be involved into concrete projects for enterprises.

The recommendations for further development regarding the requirement are:

To increase the number of experienced experts who are motivated to attend PhD studies and publish their work in journals and conferences. The number of teacher mobility should be raised.

The evaluation is based on the following evidence:

Self-evaluation report, RDI in Savonia UAS, Priorities for 2013-2016 in research, development, and innovation: the leading edges in RDI at Savonia UAS, interviews of the academic and support staff of the programme.

requirement 4: Examinations, projects and other assessment methods should be designed to evaluate the extent to which students can demonstrate that they have mastered the learning outcomes for individual courses and the programme outcomes, respectively, throughout the programme and at its conclusion.

The review team evaluates the fulfilment of the requirement to be *acceptable*.

The strengths of the programme regarding the requirement are:

The focus of assessments of courses is not only on classical exams but also on exercises or projects performance. Usually the total grade is formed as a combination of those grades. The teachers try to motivate students to learn, giving them challenging tasks that they have to start to solve by themselves. They give them examples of working with the companies, their requirements and what kind of competences they actually need.

The good practices regarding the requirement are:

In project studies, evaluation is based solely on the performances of the project group. The individual performances within groups are evaluated by weighting both the group's joint performance and the individual performance, that latter is gathered from self- and peer assessments. The teachers take care how the students have participated in the course, and particularly what competencies have been gained.

The recommendations for further development regarding the requirement are:

More projects and diploma theses should be conducted in English.

The evaluation is based on the following evidence:

Self- and peer-assessment forms, interview of the academic staff of the programme and interview of the students.



III. *Resources and partnerships*

requirement 1: The academic staff should be sufficient in number and qualification to accomplish the programme outcomes.

The review team evaluates the fulfilment of the requirement to be *acceptable*.

The strengths of the programme regarding the requirement are:

According to the disclosed review material and interviews the majority of the staff has a formal pedagogical qualification. Review Team's interpretation is that all interviewed representatives of the personnel were highly competent and committed.

The good practices regarding the requirement are:

Savonia's operating policy outlines common principles on employment. Human resource management helps to steer the operations in accordance with the strategic priorities by taking care of staff's competence and occupational well-being.

Published guideline 'Taking into consideration dyslexia' is not only representing good co-operation between the teaching and support staff, but also deep understanding of the learning process. Another example reflecting the good level of professional skills of the staff is the development of dedicated material and welding laboratories for experimental work and practical training.

The recommendations for further development regarding the requirement are:

Based on the collected information Review Team concludes that system covers some aspects of staff development. However, challenges could be found in the areas of creating methods for continuous competence development of the staff on the level of DPME.

Apart from this, Review Team could not find practices for developing continuous pedagogical support of teaching staff.

Tasks were generally found adequately resourced. However, according to Review Team's evaluation, the group sizes in some language courses do not support good learning, and thus should be a matter of further concern.

Review Team's overall impression was that strategically important issues, such as pedagogical expertise and internationalization as well as publishing research reports were not supported to sufficient extent by large-scale development activities.

The evaluation is based on the following evidence:

Self-evaluation report, interviews of management and teaching staff.

requirement 2: The technical and administrative support staff should be sufficient in number and qualification to accomplish the programme outcomes.



The review team evaluates the fulfilment of the requirement to be *acceptable*

The strengths of the programme regarding the requirement are:

The number of technical and administrative staff is appropriate. They are well qualified, skilled and motivated to ensure effective support system.

The good practices regarding the requirement are:

Technical and administrative staff is mainly common for the conducted studies programmes at the level of the Savonia, which reduces costs.

The recommendations for further development regarding the requirement are:

The evaluation is based on the following evidence:

Self-evaluation report, interviews of management, students, teaching staff and support staff.

requirement 3: The classrooms, computing facilities, laboratories, workshops, libraries and associated equipment and services should be sufficient to accomplish the programme outcomes.

The review team evaluates the fulfilment of the requirement to be *acceptable*.

The strengths of the programme regarding the requirement are:

Facilities are fit for purpose, some of them representing excellent quality in the terms of equipment (material laboratory). Software used in teaching of professional skills (e.g. Ansys for finite element method) corresponds to the latest industrial standards and is extensive enough to support the learning process in key areas of curriculum.

The good practices regarding the requirement are:

The welding laboratory consisting of integrated workshop and teaching class room represents in its field innovative space utilization for working life oriented learning. Supporting information systems form a flexible information distribution channel and to some extent also a learning environment.

The recommendations for further development regarding the requirement are:

In accordance with its long-term facility planning Savonia is aiming at more efficient use of fixed assets by developing the joint use of facilities within own operations and other players in the region. Review Team recommends Savonia to continue planning from this starting point.

The new opportunities for teaching by replacing fixed work stations with laptops (moving office) are already identified. However the adoption of mobile technologies to support learning process is still in its infancy.

The evaluation is based on the following evidence:



Activities are conducted in three locations, Kuopio, Varkaus and Iisalmi. The Review Team met the staff and undertook a tour of DPME's facilities only in Opistotie Campus in Kuopio, where main part of DPME education is conducted.

requirement 4: The financial resources should be sufficient to accomplish the programme outcomes.

The review team evaluates the fulfilment of the requirement to be *acceptable*.

The financing position of the DPME of Savonia UAS is strong. The annual budget (around 55 million euros) provides funding for premises, staffing, and all education and as well as RDI Unit. The department is funded partly by the Ministry of Education, partly by external stakeholders.

In 2014 budget is still based on overall funding model determined on the outcome of the Ministry's indicators. Funding is divided internally to the outcome areas and again to the degree programmes partly on the basis of their outcomes. When it comes to internal division of funding it is based on 70% on the number in taken students and 30% on finished degrees. The importance of Ministry funding instruments will increase annually.

The strengths of the programme regarding the requirement are:

DPME has succeeded well in identifying the needs of the local businesses. In fact, substantial share of the financing is comprised of revenues coming from various R&D services sold by RDI Unit to local enterprises. Based on the disclosed material and discussions with the representatives of UAS, Review Team concluded that these projects seem to have a focal role in financing of the activities of DPME.

The good practices regarding the requirement are:

Strong financial position which forms a firm basis for the successful development of operations.

The recommendations for further development regarding the requirement are:

The internal financial distribution will change in near future to completely outcome based. The new model is supposed to be based on larger set of performance indicators. What they are and how they are applied to remained still somewhat unclear. Nevertheless a rough structure of the financing was introduced the allocation principles as well the split of external incomes in the terms of stakeholders remained unclear.

Review Team's conclusion is that there is need for development of transparency in financing.

The evaluation is based on the following evidence:

Self-evaluation report, interviews of management, teaching staff, support staff and the tour of facilities.



requirement 5: The partnerships that the HEI and the programme have with external parties should contribute to accomplishing the programme outcomes and facilitate the mobility of the students.

The review team evaluates the fulfilment of the requirement to be *acceptable*.

In the mission statement and strategy there is an explicit statement that Savonia serves the society. When defining Savonia's strategic objectives, special emphasis has been put on the regional and national development programs. According to the disclosed self-assessment report and the information collected in the interviews DPME has for implementation of the strategy well established and strong relations with other regional institutions and local businesses.

The strengths of the programme regarding the requirement are:

Review Team evaluated that applied practices show the ability to reach well the strategic objectives set for higher education in the Northern Savo -region. The impact on the region and the interaction with it are clearly visible. All levels of staff are involved in the interaction with the regional players, which helps to be well informed.

The local stakeholder groups are involved in planning degree education. There are several parallel channels for communicating the needs of the industry, discussing requirements for degree program and for providing the feedback on the content and quality of education.

The good practices regarding the requirement are:

Newly developed (2011) practice is the Advisory Board of DPME (Konealan neuvottelukunta) which is not only strengthening the sharing of the information but providing also wider forum for local educational discussion by connecting the vocational schools to the loop.

The recommendations for further development regarding the requirement are:

Review Team could not find adequate evidence of developing international partnerships. Therefore it would be beneficial to consider in future planning to take into consideration the use of some practical means, such as e.g. the mobility of the academic staff and provision of material in English, to build preconditions for needed development. Even if strategic emphasis of Savonia has clearly been on fulfilling the needs of the provincial economy international partnerships have also strategic importance for Savonia by providing various opportunities for developing operations and for effective international research and development projects.

The evaluation is based on the following evidence:

Self-evaluation report, interviews of management, teaching staff and external stakeholders.

**IV. Assessment of the educational process**

requirement 1: The students admitted to the programme should have the right prerequisite knowledge and attitudes to achieve the programme outcomes in the expected amount of time.

The review team evaluates the fulfilment of the requirement to be ***acceptable***.

The strengths of the programme regarding the requirement are:

This study programme accomplishes objectives that are required from formal standards for programmes in universities of applied sciences.

The requirements are clear for administrative and teaching staff.

Students reach their learning outcomes according to the data of employment and carrier perspectives of the alumni.

The good practices regarding the requirement are:

The requirements are periodically updated.

The recommendations for further development regarding the requirement are:

Requirements should be publically available and clear for all stakeholders.

The evaluation is based on the following evidence:

Interviews with stakeholders, students, administrative and teaching staff.

General entry requirements for programmes of universities of applied sciences in Finland and the self-evaluation report.

requirement 2: Students' career choices should attest to the extent to which the students achieved the programme outcomes in the expected amount of time.

The review team evaluates the fulfilment of the requirement to be ***acceptable***

The strengths of the programme regarding the requirement are:

More than 90% of the graduates are employed.

The good practices regarding the requirement are:

The level of knowledge and skills of graduates supports employment in regional companies of technical field.

The recommendations for further development regarding the requirement are:

Improvement of the language skills would be beneficial for graduates when reaching for career opportunities.

Start the career tracking, and follow statistics afterwards, in order to check the development of the graduates.



The evaluation is based on the following evidence:

Interviews with stakeholders and students.

Given data about rate of mobility in the mechanical engineering programme.

requirement 3: The graduates should enter an occupation corresponding to their qualification.

The review team evaluates the fulfilment of the requirement to be *acceptable*

The strengths of the programme regarding the requirement are:

More than 90% of the graduates are employed. Most of them in area of their studying field.

The good practices regarding the requirement are:

The level of knowledge and skills regarding their qualification is more than appropriate.

Graduates which are employed have excellent career perspectives.

Graduates have good opportunities to study further in the field of engineering.

The recommendations for further development regarding the requirement are:

Staff responsible for curriculum development should consider implementing more soft skills (foreign language, communication, economics and sustainable development basics) into study process in order for graduates to reach out even for higher carrier opportunities.

Foster the entrepreneurship of the graduates and last year students.

The evaluation is based on the following evidence:

Interviews with stakeholders, graduates and students.

requirement 4: The stakeholders (graduates, employers, etc.) should confirm that the programme achieves its educational objectives.

The review team evaluates the fulfilment of the requirement to be *acceptable*.

The strengths of the programme regarding the requirement are:

Stakeholders are satisfied with graduates from Savonia University of Applied Sciences.

The good practices regarding the requirement are:

Stakeholders are involved in development of curriculum and evaluation of qualification level of graduates.



The recommendations for further development regarding the requirement are:

Consider a systematic approach of gathering feedback from all parts of stakeholders.

The evaluation is based on the following evidence:

Recommendations from stakeholders and graduates during interviews.

V. *Management system*

requirement 1: HEI's and the programme's organisation and decision-making processes should be fit to accomplish the programme outcomes.

The review team evaluates the fulfilment of the requirement to be *acceptable*.

The development of quality management at Savonia is based on the EFQM Excellence Model. The applied system aims to ensure that all activities are productive and efficient. The role of the system is to steer all processes to ensure they are complying with the principle of continuous improvement.

The strengths of the programme regarding the requirement are:

Steering of operations and QA have been linked together in a professional way.

The good practices regarding the requirement are:

Follow-up indicators have been linked to Savonia's strategic aims.

The recommendations for further development regarding the requirement are:

Systematic approach of all stakeholders periodical enrolment in decision making and feedback system. There is a formal system for data collection in place, but it remains somewhat unclear how this information is *systematically* used to improve the operations.

The evaluation is based on the following evidence:

Self-evaluation report, review of organisational structure and decision-making processes and discussions with the management and the staff.

requirement 2: The results for the delivery process, students and graduates should be analysed and used to promote the continuous improvement of the programme.

The review team evaluates the fulfilment of the requirement to be *acceptable*.

The learning outcomes at DPME are very diverse in nature, including skills in natural sciences and more generic skills. Students will learn critical and creative thinking as well as group working skills. Given projects enhance problem solving skills as well as communication and mastery of available technologies.



The strengths of the programme regarding the requirement are:

Curriculum development work and student counselling are at an advanced level. In addition to this, education is under systematic evaluation and development.

The good practices regarding the requirement are:

The progress of studies is monitored well and DPME has active role in securing obligatory practical training for students in cooperation with employers.

The recommendations for further development regarding the requirement are:

One of the challenges is to attract students with high motivation and the potential required by the high demands of the studies. Therefore, Review Team points out the essence of the development of systematic processing and utilisation of the collected student feedback data to reduce the number of unplanned drop-outs.

The evaluation is based on the following evidence:

Self-evaluation report, review of organisational structure and decision-making processes and discussions with the management and the staff.

requirement 3: Needs, objectives and outcomes, the educational process, resources and partnerships, and the management system should be periodically re-examined.

The review team evaluates the fulfilment of the requirement to be *acceptable*.

DPME' personnel is committed to develop educational processes understanding their focal role in DPME's future orientation.

The strengths of the programme regarding the requirement are:

In the interviews students themselves had no clear suggestions on how to improve the programme as such. In the questionnaires, the employers have expressed their satisfaction with the curriculum, student's practical training and theses.

The good practices regarding the requirement are:

Existing and well established data collection practices.

The recommendations for further development regarding the requirement are:

Even though evaluations are carried out regularly and analysed by both students and staff, there should be greater emphasis on tracking graduates in order to increase the number of graduates' responses in the surveys. DPME could develop procedures with which the management monitors and evaluates the overall development of the programme.

The evaluation is based on the following evidence:

Self-evaluation report, review of organisational structure and decision-making processes and discussions with the management and the staff.



requirement 4: Needs, objectives and outcomes, the educational process, resources and partnerships, and the management system should be periodically re-examined.

The review team evaluates the fulfilment of the requirement to be *acceptable*.

In general, the core substance of mechanical engineering at this educational level is quite well established and universal providing good opportunities for educational process development. In DPME, the development work is continuous and an integral part of the management system. In addition to the staff also external stakeholders are actively involved in the development work to secure the high quality of education and respond to the needs of the local industry and surrounding society.

The strengths of the programme regarding the requirement are:

DPME has a well working quality assurance system with good track record. DPME has a clear overall view of the development needs. Curriculum development is forward looking and concerns areas of education which are of relevance in future for the surrounding industry.

The good practices regarding the requirement are:

Quality assurance system, management and steering processes are clearly defined and strategies on the future development of the system are frequently discussed.

The recommendations for further development regarding the requirement are:

DPME should devise better ways to gather feedback from students and strengthen the motivation to put forward feedback in order to involve students better in quality assurance.

The evaluation is based on the following evidence:

Self-evaluation report, review of organisational structure and decision-making processes and discussions with the management and the staff.

3. Overall evaluation of the programme

According to the review team's view it is recommended that the programme pass the review without reservation as all individual requirements are evaluated as being acceptable.

Upon reviewing the programme, the team notes the following key strengths:

- Competences of the Savonia engineers are proven in the practice because their employment rate is very high whereby Savonia UAS gives the contribution to the regional development. Also RDI is set for regional development of Eastern part of Finland. This fully meets mission of Savonia.



- Teaching staff is experienced, competent and committed to transfer the knowledge to the students.
- The classrooms, computing facilities, laboratories, workshops and libraries are sufficient to accomplish the programme outcomes. Some of them representing excellent quality in the terms of available equipment (f.i. laboratory for materials or welding laboratory).
- The financing position of the DPME of Savonia is strong providing funding for premises, staffing, and all education and RDI needs.
- The institution pays attention to the quality in all fields as the added value to the system. Steering of operations and QA have been linked together in a professional way.

The team would like to highlight the following good practices of the programme:

- Continuously modified curriculums - Curriculum development is forward looking and concerns areas of education which are of relevance in future for the surrounding industry.
- Results of research, development and innovation work are implemented into the education proves through strong collaboration with regional industry.
- The usage of learning by doing and learning together concepts in the teaching process. The tools for online education are also well implemented.
- Establishing of the Advisory board of DPME what provides not only the strengthening the sharing of information but also wider forum for local educational discussion.
- Follow-up indicators have been linked with Savonia's strategic aims.

The team has the following recommendations for further development of the programme:

- Start the career tracking, and follow statistics afterwards, in order to check the development of graduates.
- Systematic approach of all stakeholders' periodical enrolment in decision making and feedback system.
- Systematic processing and utilisation of the collected student feedback data to reduce the number of unplanned drop-outs.
- International mobility of the teaching staff and students should be raised to a higher level. Teachers should provide more own teaching materials (especially in English). More diploma theses and projects should be available in English. Teaching staff should present more research reports at the conferences and/or publish them in impacted journals. There is a lack of adequate evidence of developing international partnerships.
- There is a general need to raise DPME's international profile, where Savonia's management should be aware of the importance of this institution opening in accordance to today's globalisation processes.