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Accreditation Report

for the Postgraduate Study Programme of:

Internet of Things: Intelligent Environments in Next-Generation Networks

Information and Communication Systems Engineering

University of the Aegean

08/12/2024

Report of the Panel appointed by the HAHE to undertake the review of the Postgraduate Study Programme the **Internet of Things: Intelligent Environments in Next-Generation** of the **University of the Aegean** for the purposes of granting accreditation

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PART A: BACKGROUND AND CONTEXT OF THE REVIEW

I. The External Evaluation & Accreditation Panel

The Panel responsible for the Accreditation Review of the postgraduate study programme of **the Internet of Things: Intelligent Environments in Next-Generation Networks** of the **University of the Aegean** comprised the following five (5) members, drawn from the HAHE Register, in accordance with Laws 4009/2011 & 4653/2020:

1. **Prof. Tassos G. Karayiannis (Chair)**
   Brunel University of London, UK

2. **Ms Maria Papatsimouli**
   PhD Candidate, Department of Electrical and Computer Engineering, University of Western Macedonia, Greece

3. **Prof. Nicolas Tsapatsoulis**
   University of Technology of Cyprus, Cyprus

4. **Prof. Konstantinos Salonitis**
   Cranfield University, UK

5. **Prof. Nicolas Spyratos**
   University Paris-Saclay, France

II. Review Procedure and Documentation

Introduction

The External Evaluation and Accreditation Panel (EEAP) carried out a review of two postgraduate programmes offered by the Department of Information and Communication Systems Engineering of the University of the Aegean, namely the MSc in Information and Communication Systems Security (ICSS) and the MSc in the Internet of Things: Intelligent Environments in Next-Generation Networks (IT:IENGN). The review was at the request of the Hellenic Authority of Higher Education (HAHE) and tool place on-line between the 2nd and the 6th of December 2024.

The Review Process

The EEAP had a chance to review the paperwork submitted by the Department through the on-line platform of HAHE and discussed their preliminary findings during their first meeting on the 2nd of December. The EEAP noted strengths, areas of concern and points that required clarification from the Department. Following that, the EEAP agreed their approach for the subsequent meetings and allocated particular tasks to each member.

Later in the afternoon, the EEAP met with the Vice-Rector for Administrative and Academic Affairs and President of the University Quality Assurance Unit (MODIP) Professor Stylianos Xanthopoulos, Professor Helen Thanopolou of the Department of Shipping, Trade and Transport, Member of MODIP and Ms Maria Leventeli, MODIP staff. The Department was represented by the Head of the Department Professor Maria Karyda, Professors Spyros Kokolakis and George Kambourakis, Director and member of the Steering Committee of the MSc in Information and Communication Systems Security respectively and Professors Christos Goumopoulos and Emmanouil Kalligeros Director and member of the Steering Committee of the MSc in Internet of Things: Intelligent Environments in Next-generation Networks respectively. Following an introduction by the Head of Department, Professor Kokolakis presented the MSc ICSS programme starting with a brief introduction of the department. The presentation included aims and objectives of the programme, the academic and support staff members, facilities, a summary of the courses delivered, student entry criteria and numbers, relation to research and industry and evaluation of the quality of delivery. This was followed by a presentation of the MSc in IT:IENGN by Professor Goumopouls. It covered the same material as above but for the MSc in IT:IENGN. The meeting was very informative and helped set the background for the subsequent meetings for the two days that followed.

Documents Provided

As expected, the Hellenic Authority for Higher Education provided detailed documents including an introduction to the accreditation process, timetable and expectation of the visit plus a format for the final EEAP report. The university and the department provided documents

relevant to the specific accreditation process. The documentation provided, as well as all relevant presentations and videos, were very informative and of good quality. These fully followed HAHE standards and requirements. The documents received by the EEAP included targeted information on the University of the Aegean, with a brief history of the institution, quality assurance plans plus its strategic development plan. The Department of Information and Communication Systems Engineering provided documents that covered the rational for the development of the MSc programme in the Internet of Things: Intelligent Environments in Next-Generation Networks dating back to 2018 and their proposal for accreditation. Detailed documents described the individual courses offered, laboratory provision, staff profiles and performance and departmental operational processes including student questionnaires and evaluation. The EEAP members had a chance to review a video of the facilities offered by the department and the university. These included classroom, lecture halls libraries, laboratories and other facilities that relate to the two MSc programmes. Link to access the video: Sec_CCSL_AI_labs.mp4 - Google Drive. The EEAP panel was also able to review the information available on the university and departmental websites and found that to be well organised and fully informative. In summary, the specific material reviewed by the EEAP covered all aspects of the accreditation visit. However, one point that needs to be made relates to a future possible selection of more targeted paperwork, as some of the material provided were not strictly necessarily or could have been presented as a summary document.

III. Postgraduate Study Programme Profile

The meetings on Wednesday the 4th of December were dedicated to the MSc in the Internet of Things: Intelligent Environments in Next-Generation Networks. This is a 3-semester programme that started in 2018. The programme is delivered in distance learning mode. However, students are expected to attend the lectures, with the academic staff requiring responses to questions during the course of the lecture. The presentations are also recorded and students can also follow at a later time.

The day started with a meeting of the EEAP with six staff teaching on this MSc. As with the MSc in ISCC, it focused, among others, on the academic development opportunities, possible mobility of staff in Greece or overseas and workload allocation in relation to teaching, research and administrative staff duties. Further discussion covered the match of available staff expertise with the subject matter of the MSC in IT:IENGN, opportunities for funding available for research and possible applied research in collaboration with industry. Particular emphasis was again placed on research-inform teaching, which is also specifically important due the subject matter delivered. The inclusion of industry-facing subject matters in the curriculum, assignments and final dissertation were discussed.

The MSc had its first cohort of students for the academic year 2018-19. Since then, the entry numbers remained low and fluctuated between 5-13. The 2024-25 entry student number was 7. The EEAP sought the views of the staff on the sustainability of this MSc based on the currently low numbers.

Following the meeting with staff, the EEAP met with eight current students. The student representatives were in their 1st and 3rd semester of their studies, with three students working on their final year dissertation project. The search for a suitable MSc and the specific reasons that encouraged them to follow this particular programme were discussed. The admission process, which requires an interview and an evaluation based on research papers provided by the staff was also discussed and although demanding was seen as a positive experience. Academic staff approach and learning facilities were well perceived as well. Particular discussion focused on their involvement on quality assurance processes, the nature of the course delivery (distance learning: advantages-disadvantages). In general, and similar to the MSc in ISCC, a positive meeting with the students considering the MSc an excellent base and springboard for further education (PhD level research) and successful career in industry.

Wednesday afternoon progressed with a meeting with graduates of the MSc in the Internet of Things: Intelligent Environments in Next-Generation Networks. This included ten graduates: a software engineer with Eight Bells, a quality control inspector with the Hellenic air force, a verification and automation engineer with Noikia, a manager/software engineer with Pfizer Ellas, an IT manager for a general hospital, a data engineer with IQVIA, a researcher with CERTH, and three PhD students of the Department of Information and Communication Systems Engineering. All graduates, unanimously, stated the academic-research and industrially related benefits of this MSc programme in their chosen career paths. They all

started their career path feeling confident based on the in-depth knowledge of the subject matter through this programme. They also stated that this gave confidence as they progress to PhD and senior level roles in their organisations.

A meeting with the external stakeholders followed. This included senior staff in the private and public sector and in particular: a principal in a secondary school, the CEO of INSIGHIO, a general manager from Depia Automations, the co-founder of EightBells, the CTO HellasSat, the co-founder of Frontida Zois, a senior design engineer from u-blox, the CTO of GNT & SchoolbusNet, the CEO of CloudSignals and a project manager from Cognitera. Some of these organisation employ graduates of the MSc IN:IENGN. The subject matter of the MSc and the quality of the graduates were highly regarded by all industrial colleagues present at the meeting. Most of the stakeholders present stated that more graduates in this area are needed and can be absorbed by the industrial base of Greece. Most of the industrial colleagues have a continuing interaction with staff teaching this MSc. Furthermore, they were very positive with the idea of working with the department on a more structured/formal way in offering support and opinions on the industrial relevance of the curriculum. They were also positive in suggesting topics for dissertations that relate to the workplace and collaborate on PhD programmes.

The Evaluation and Accreditation Panel had the change to have a debriefing session following the meetings above. It was an opportunity to prepare their summary notes for the on-line closure meeting at the end of the second day. This included the Head of the Department, the director of the MSc and member of the programme steering committee and members OMEA and MODIP. It provided an opportunity for the EEAP to give the staff of the University of the Aegean identified above a *first* summary of their main findings. One of the issues that required extended discussion at this meeting was the sustainability of the MSc programme. With only 7 students at entry level this year, the EEAP panel expressed concern and offered advice as to different way to progress based on their experience and the feedback from graduates and stakeholders. It was noted that the low student numbers affected not only the sustainability of the programme but also the learning experience of the students.

The Accreditation Report

The evaluation and accreditation process consisted of an initial and subsequent review of the original paperwork and later additions, plus detailed meetings as outlined in the schedule by HAHE. Both were extensive and thorough. The final EEAP report reflects clearly the current status of the Department of Information and Communication Systems Engineering and in particular the MSc in the Internet of Things: Intelligent Environments in Next-Generation Networks. The evaluation and accreditation process relate to the strategic planning, feasibility and sustainability of the MSc based on key current and possibly projected parameters, the quality assurance policy including monitoring and student-centred education as reported by staff and students, entry requirements-admission process and possible career paths in research and industry followed by the graduates.

The work carried out by the EEAP with the support of HAHE aimed to ensure the adequacy of high-quality teaching staff (Full time and Part time), research-informed and research-led teaching, adequate facilities and learning resources, analysis and use of relevant information enhancing quality and engagement with industrial stakeholders and the community. This will enable the department to continue to offer a high-quality sustainable MSc programme in this area.

Conclusions

The department has the full support of the university. It operates generally in an appropriate manner and the delivery of the MSc in the Internet of Things: Intelligent Environments in Next-Generation Networks meets broadly high-quality standards. The documentation provided was of high standard and very informative. Current students, graduates and industrial stakeholders were very complimentary of the high technical level of the programme and the delivery including the support and continued useful interaction, in the case of the stakeholders, with staff and the management of the department. The low number of students on the course was an area of concern highlighted by the EEAP and well appreciated by staff of the department. Specific recommendations for changes and improvements will be provided in Part B and in the final section of Part C.

The EEAP would like to take the opportunity to express our opinion the HAHE and the Ministry of Education should consider the possibility that the accreditation processes, especially the first accreditation processes, could be performed in-person. This could contribute towards a more complete evaluation of the facilities, the people and the conditions under which they operate.

PART B: COMPLIANCE WITH THE PRINCIPLES

PRINCIPLE 1: QUALITY ASSURANCE POLICY AND QUALITY GOAL SETTING FOR THE POSTGRADUATE STUDY PROGRAMMES OF THE INSTITUTION AND THE ACADEMIC UNIT

INSTITUTIONS SHOULD APPLY A QUALITY ASSURANCE POLICY AS PART OF THEIR STRATEGIC MANAGEMENT. THIS POLICY SHOULD EXPAND AND BE AIMED (WITH THE COLLABORATION OF EXTERNAL STAKEHOLDERS) AT THE POSTGRADUATE STUDY PROGRAMMES OF THE INSTITUTION AND THE ACADEMIC UNIT. THIS POLICY SHOULD BE PUBLISHED AND IMPLEMENTED BY ALL STAKEHOLDERS.

The quality assurance policy of the academic unit should be in line with the quality assurance policy of the Institution and must be formulated in the form of a public statement, which is implemented by all stakeholders. It focuses on the achievement of special goals related to the quality assurance of the study programmes offered by the academic unit.

Indicatively, the quality policy statement of the academic unit includes its commitment to implement a quality policy that will promote the academic profile and orientation of the postgraduate study programme (PSP), its purpose and field of study; it will realise the programme's goals and it will determine the means and ways for attaining them; it will implement appropriate quality procedures, aiming at the programme's improvement.

In particular, in order to implement this policy, the academic unit commits itself to put into practice quality procedures that will demonstrate:

a) the suitability of the structure and organisation of postgraduate study programmes
b) the pursuit of learning outcomes and qualifications in accordance with the European and National Qualifications Framework for Higher Education - level 7
c) the promotion of the quality and effectiveness of teaching at the PSP
d) the appropriateness of the qualifications of the teaching staff for the PSP
e) the drafting, implementation, and review of specific annual quality goals for the improvement of the PSP
f) the level of demand for the graduates' qualifications in the labour market
g) the quality of support services, such as the administrative services, the libraries and the student welfare office for the PSP
h) the efficient utilisation of the financial resources of the PSP that may be drawn from tuition fees
i) the conduct of an annual review and audit of the quality assurance system of the PSP through the cooperation of the Internal Evaluation Group (IEG) with the Institution's Quality Assurance Unit (QAU)

Documentation

- *Quality Assurance Policy of the PSP*
- *Quality goal setting of the PSP*

Study Programme Compliance

I. Findings

The Quality Assurance Policy of the *PSP on Internet of Things: Intelligent Environments in Next-Generation Networks*, defines a set of Quality Principles dealing with: (1) the structure and organization of the PSP, (2) the learning outcomes of the programme, (3) the provision that

the knowledge and skills acquired during the studies meet the demands of society and the economy, while at the same time provide a basis for studies at doctoral level, (4) conducting research high quality and impact, (5) strengthening the internationalization, extroversion and research collaborations of the Department, (6) the continuous improvement of the educational services of the Department, (7) the continuous upgrading of infrastructure (equipment, software) the PSP uses, and (8) the continuous monitoring and improvement of the quality of PSPs training activities.

The Policy also describes the main bodies that are responsible for its implementation, namely: (a) The PSP Coordinating Committee, (b) the Internal (departmental) Evaluation Committee (OMEA), and (c) the General Assembly of the Department. Finally, it briefly lists the main Quality Assurance Processes, that is: (i) The internal review of the PSP, (ii) the annual assessment of the quality and effectiveness of the offered training, (iii) the study of similar PSPs offered in Greece and abroad, and (iv) the regular assessment and accreditation by external evaluation / accreditation committees in the context of HAHE services.

As far as the Quality Assurance Policy of the PSP the EEAP notes the following: (i) The policy is too generic and there is no Quality Manual guiding the implementation of this policy; (ii) Although the specific PSP is delivered online (in a synchronous mode) there is no provision in addressing this issue (for instance dealing with teachers' training, teachers' qualifications for online course delivery, availability of appropriate delivery platforms, simulation tools and virtual laboratories); (iii) There is no provision for the participation of external stakeholders and graduates in the quality assurance procedures (for instance for the internal evaluation and/or the amendment of the programme); (iv) There is no clear provision which ensures that the acquired qualifications by the PSP graduates meet the needs and demands of the Greek and international job market. Involvement of graduates and external stakeholders, such as employers, in an annual curriculum evaluation could help towards this direction; (v) There is no clear provision for a formal evaluation, by the students, of the quality of support services such as the administrative services, the Library, and the student welfare office. The same also applies *for the evaluation* of the quality of infrastructure, services, processes, and tools that support learning and academic activities, so that students are offered a top level of study.

The *Quality goal setting of the PSP on Internet of Things: Intelligent Environments in Next-Generation Networks*, contains three strategic goals (SG), namely: (1) **SG1**: Upgrading the educational experience and strengthening the performance of PSP students by delivering study programmes with alternative forms of learning, (2) **SG2**: Promoting research activities and supporting academic and research staff, (3) **SG3**: Internationalization of the educational and research work of the PSP. Each one of those strategic goals is further analysed into Quality Goals (QGs) which in turn are associated with specific KPIs.

The EAAP considers that the Quality Goals under SG1 are not relevant and the KPIs associated with them do not provide an effective assessment of those QGs.

Regarding the implementation of the quality assurance policy, as far as the PSP is concerned, the EEAP found the following: (i) The structure and the organization of the curriculum is monitored by both the PSP Coordinating Committee and the General Assembly of the Department at least once a year. Participation of students in that process is not guaranteed; (ii) The PSP is fully consistent with the *European and National Qualifications Framework for Higher Education - level 7*. The course (module) syllabi follow a standardized template which is fully compatible with the ECTS. The syllabi are checked by the PSP Coordinator and the OMEA members; (iii) The appropriateness of qualifications of faculty and teaching staff is secured through open hiring procedures and merit-based recruitment, evaluation, and promotion according to the national laws; (iv) Interconnection of teaching, research, and innovation is promoted, (a) by promoting research-targeted master theses, which in some cases lead to publications in prestigious scientific journals, (b) the use of state of the art IoT platforms, and (c) study of recent scientific articles published in the field and finally (v) Achieving the SG3 seems to be quite difficult, mainly because most PSP students are working during their studies and are reluctant to commit in Erasmus / Erasmus+ mobility. On the other hand, staff mobility is always a challenge in every university in the world.

II. Analysis

The General Assembly of the Department, along with the PSP Coordinating Committee maintain overall responsibility for reviewing the PSP and ensuring its adherence to the institutional Quality Assurance standards and for meeting requirements of the European and National Qualifications Framework for Higher Education - level 7. While the strategic goals of the PSP are inline with its content, structure and delivery mode, the associated quality goals (QGs) and the KPIs for monitoring the performance on those QGs are not in all cases relevant, especially as far as the SG1 is concerned.

The PSP receives student scrutiny at the end of each semester in the form of student evaluation questionnaires for each course. However, during the meeting with the external stakeholders and the graduates it became apparent that there is neither formal nor informal role for them for the assessment and/or the amendment of the curriculum.

Finally, faculty are research active and seek to incorporate their research into their teaching, to the extent of publishing papers with students. This is seen as further evidence of supporting the students in their pursuit to acquire as many relevant skills as possible which would enable them to secure good employment positions or continue to PhD studies.

III. Conclusions

Several weak points of the quality assurance policy, as far as the evaluation of the PSP, were identified and need to be attended by the PSP Coordinating Committee, the OMEA and the General Assembly of the Department. However, most of them refer to the modification and

practical application of the quality assurance processes rather than actual deviations that could negatively affect the PSP per se.

Panel Judgement

Principle 1: Quality assurance policy and quality goal setting for the postgraduate study programmes of the institution and the academic unit	
Fully compliant	
Substantially compliant	**X**
Partially compliant	
Non-compliant	

Panel Recommendations

- A Quality Manual describing in detail the Quality Assurance Policy processes that are followed to meet the provisions of the Quality Assurance Policy is required.
- The Quality Goals attached to SG1 should be revised and associated to relevant KPIs.
- Meeting the Quality Goals of the SG3 of the PSP seems to be a challenge. Setting alternative Quality Goals that better reflect the current audience of the PSP and its delivery mode, may be required. For instance, pursuing internationalization through invited lecturers from abroad, establishing blended intensive practices, and promoting short term mobility might be good alternative Quality Goals
- Participation of students in the annual assessment of the curriculum must be ensured.
- A provision for formal involvement of external stakeholders and/or graduates in the annual assessment of the curriculum should be added in the Quality Assurance Policy of the PSP.
- Provision for teachers training, as far as the online course delivery is concerned, should be added to the Quality Assurance Policy of the PSP, while specific remedy measures accounting for quality deviations, regarding teaching, must be also added in that policy.
- The evaluation by the students of the quality of infrastructure, services, processes, and tools that support learning and academic activities must be included as a distinct point in the Quality Assurance Policy. The same also applies for the quality of support services such as the administrative services, the Library, and the student welfare office.

PRINCIPLE 2: DESIGN AND APPROVAL OF POSTGRADUATE STUDY PROGRAMMES

INSTITUTIONS SHOULD DEVELOP THEIR POSTGRADUATE STUDY PROGRAMMES FOLLOWING A DEFINED WRITTEN PROCESS WHICH WILL INVOLVE THE PARTICIPANTS, INFORMATION SOURCES AND THE APPROVAL COMMITTEES FOR THE POSTGRADUATE STUDY PROGRAMMES. THE OBJECTIVES, THE EXPECTED LEARNING OUTCOMES AND THE EMPLOYMENT PROSPECTS ARE SET OUT IN THE PRORAMME DESIGN. DURING THE IMPLEMENTATION OF THE POSTGRADUATE STUDY PROGRAMMES, THE DEGREE OF ACHIEVEMENT OF THE LEARNING OUTCOMES SHOULD BE ASSESSED. THE ABOVE DETAILS, AS WELL AS INFORMATION ON THE PROGRAMME'S STRUCTURE ARE PUBLISHED IN THE STUDENT GUIDE.

The academic units develop their postgraduate study programmes following a well-defined procedure. The academic profile and orientation of the programme, the research character, the scientific objectives, the specific subject areas, and specialisations are described at this stage.

The structure, content and organisation of courses and teaching methods should be oriented towards deepening knowledge and acquiring the corresponding skills to apply the said knowledge (e.g. course on research methodology, participation in research projects, thesis with a research component).

The expected learning outcomes must be determined based on the European and National Qualifications Framework (EQF, NQF), and the Dublin Descriptors for level 7. During the implementation of the programme, the degree of achievement of the expected learning outcomes and the feedback of the learning process must be assessed with the appropriate tools. For each learning outcome that is designed and made public, it is necessary that its evaluation criteria are also designed and made public.

In addition, the design of PSP must consider:

- *the Institutional strategy*
- *the active involvement of students*
- *the experience of external stakeholders from the labour market*
- *the anticipated student workload according to the European Credit Transfer and Accumulation System (ECTS) for level 7*
- *the option of providing work experience to students*
- *the linking of teaching and research*
- *the relevant regulatory framework and the official procedure for the approval of the PSP by the Institution*

The procedure of approval or revision of the programmes provides for the verification of compliance with the basic requirements of the Standards by the Institution's Quality Assurance Unit (QAU).

Documentation

- *Senate decision for the establishment of the PSP*
- *PSP curriculum structure: courses, course categories, ECTS awarded, expected learning outcomes according to the EQF, internship, mobility opportunities*
- *Labour market data regarding the employment of graduates, international experience in a relevant scientific field*
- *PSP Student Guide*
- *Course and thesis outlines*
- *Teaching staff (name list including of areas of specialisation, its relation to the courses taught, employment relationship, and teaching assignment in hours as well as other teaching commitments in hours)*

Study Programme Compliance

I. Findings

As mentioned in the previous Section the participation of students in the PSP design is not ensured. Similarly, there is no provision in the Quality Assurance Policy for the PSP for the official involvement of external stakeholders and graduates in the PSP design, assessment and amendment. The panel, during the review, did not find any evidence that this happens even informally. On the other hand, the design of the PSP takes into consideration the Institutional strategy, the anticipated student workload according to the European Credit Transfer and Accumulation System (ECTS) for level 7, the linking of teaching and research and the relevant regulatory framework and the official procedure for the approval of the PSP by the Institution. The option of providing work experience to students seems to be considered only within the context of Erasmus+ internships.

While the design of the PSP has taken into consideration similar programmes in Greece, and conducted a very detailed comparison with them -resulting on a quite complicate title for the PSP- this is not the case for similar PSP programmes abroad. The structure, content and organisation of courses are oriented towards deepening knowledge and conducting research rather than acquiring skills to apply this knowledge in practice. In terms of the PSP implementation, the panel considers that PSP has well defined objectives and follows well-established national and international practices. It is comprehensive and focused, with a sensible balance of fundamental and applied learning outcomes. A shortcoming of the PSP is that it does not include any elective courses which makes it difficult for the students to formulate their own specialization portfolio through proper choices of elective courses. The small number of students attending the programme every year does not allow for adding elective courses and this is a serious problem (i.e. the small number of students) that needs to addressed. The programme is delivered online in a synchronous mode. Thus, the primary teaching method is lecture-oriented and tries to emulate lectures in a physical place. The absence of physical laboratories is covered by providing the required hardware to the students to use them at home and via software tools and online workshops.

The programme is compliant with the ECTS system. However, the students do not take full advantage of the opportunities offered by the Erasmus programme for student mobility mainly because most of them still working during their studies. All course syllabi and the course catalog are rigorous; they are published on the PSP's website and provide clear information on course structure and learning outcomes. The teaching staff set clear expectations on the courses and clarify the course assessment methods at the beginning of each academic term.

For its continuous improvement the programme benefits from linking and integrating teaching staff research activities and from feedback received from several internal sources; namely student questionnaires. However, feedback from external sources such as the alumni and employers seems to be totally missing.

During its meeting with students, the panel felt that the students are highly satisfied by the programme and the support and guidance they receive from their instructors. They indicated that the teaching staff are helpful and always available when students need advice or assistance in their studies despite the online delivery mode of the programme. The teaching staff appears to care for and work closely with students to help them grow and succeed, especially in conducting research. The students also indicated that in many cases their work for the master thesis has led to publications in conferences and scientific journals.

II. Analysis

The low number of students attending the programme is a serious problem affecting its quality since it does not allow for adding elective courses which in turn makes it difficult for the students to formulate their own specialization portfolio through proper choices of elective courses. Furthermore, the low number of students limits the ability to define independent team-projects, thus, the instructors try to split real-world problems in smaller pieces which can be addressed through individual projects.

Two important sources of feedback for monitoring and improving quality of the programme come from external stakeholders and alumni. This feedback process is rather ad-hoc, based on personal contacts among teaching staff and external stakeholders. During its meeting with alumni, the panel was pleased to hear they were extremely satisfied by the quality of education they received and their overall experience with the programme. The alumni also pointed out the good work done for linking teaching with research which let them follow a research-oriented career path very easily.

During the meeting with industrial stakeholders the panel got the impression that the established collaboration with the department refers mostly R&D projects rather than feedback from their experience of employing PSP graduates. Thus, the feedback the external stakeholders can provide regarding the curriculum as whole is rather limited.

III. Conclusions

Some weak points impacting both the design and the implementation of the PSP were identified. The most important of those weak points is the limited number of students attending the programme which affects not only its sustainability but also the quality of the provided training. The GA of the Department and PSP Coordinating Committee should focus on those points and provide solutions to the resulting problems quite urgently.

Panel Judgement

Principle 2: Design and approval of postgraduate study programmes	
Fully compliant	
Substantially compliant	**X**
Partially compliant	
Non-compliant	

Panel Recommendations

- The problem of the low number of students attending the programme affects negatively the quality of the provided training and needs to be addressed urgently.
- Try to keep a productive balance between the focus on research and providing professional skills to the students.
- In future amendments of the PSP consider feedback from graduates and external stakeholders employing graduates of the programme.
- Having one or two similar programmes from abroad as reference points for the PSP structure could help the programme keeping alignment with the graduates training in the field internationally.

PRINCIPLE 3: STUDENT-CENTRED LEARNING, TEACHING, AND ASSESSMENT

INSTITUTIONS SHOULD ENSURE THAT POSTGRADUATE STUDY PROGRAMMES PROVIDE THE NECESSARY CONDITIONS TO ENCOURAGE STUDENTS TO TAKE AN ACTIVE ROLE IN THE LEARNING PROCESS. THE ASSESSMENT METHODS SHOULD REFLECT THIS APPROACH.

Student-centred learning and teaching plays an important role in enhancing students' motivation, their self-evaluation, and their active participation in the learning process. The above entail continuous consideration of the programme's delivery and the assessment of the related outcomes.

The student-centred learning and teaching process

- *respects and attends to the diversity of students and their needs by adopting flexible learning paths*
- *considers and uses different modes of delivery, where appropriate*
- *flexibly uses a variety of pedagogical methods*
- *regularly evaluates and adjusts the modes of delivery and pedagogical methods aiming at improvement*
- *regularly evaluates the quality and effectiveness of teaching, as documented especially through student surveys*
- *strengthens the student's sense of autonomy, while ensuring adequate guidance and support from the teaching staff*
- *promotes mutual respect in the student-teacher relationship*
- *applies appropriate procedures for dealing with the students' complaints*
- *provides counselling and guidance for the preparation of the thesis*

In addition

- *The academic staff are familiar with the existing examination system and methods and are supported in developing their own skills in this field.*
- *The assessment criteria and methods are published in advance. The assessment allows students to demonstrate the extent to which the intended learning outcomes have been achieved. Students are given feedback, which, if necessary is linked to advice on the learning process.*
- *Student assessment is conducted by more than one examiner, where possible.*
- *Assessment is consistent, fairly applied to all students and conducted in accordance with the stated procedures.*
- *A formal procedure for student appeals is in place.*
- *The function of the academic advisor runs smoothly.*

Documentation

- *Sample of a fully completed questionnaire for the evaluation of the PSP by the students*
- *Regulations for dealing with students' complaints and appeals*
- *Regulation for the function of academic advisor*
- *Reference to the teaching modes and assessment methods*

Study Programme Compliance

I. Findings

The PSP follows, at some level, the basic principles of student-centred learning in the teaching / instruction process. In particular: (i) It respects and attends to the diversity of students and

their needs by adopting (at some extent) flexible learning paths at course level. This is mainly accommodated via projects tailored to students' interests and strengths, while the low number of students attending the programme allows for more interaction during the lectures, online workshops and seminars; (ii) It uses a variety of pedagogical methods, such as online lectures, team projects that allow collaborative and peer learning, individual projects facilitating project-based learning, and involvement to the R&D projects of the Department which allows for problem and inquiry-based learning; (iii) Regularly evaluates the quality and effectiveness of teaching through student questionnaires. Those questionnaires have three different sections, dealing with the (1) course design, planning and implementation, (2) course delivery and instructor assessment, and (3) student's engagement with the course. There is, also, a fourth section collecting students' feedback in a qualitative manner; (iv) fully promotes mutual respect in the student-teacher relationship and finally (v) provides counselling and guidance for the preparation of the master thesis. On the contrary, it seems that all courses are delivered in the same way, namely synchronous online mode, while there is no evidence about regular evaluation and adjustment neither the mode of delivery nor the pedagogical methods adopted in the courses. Furthermore, while adequate guidance and support from the teaching staff is ensured there is no evidence that the delivery mode and pedagogical methods adopted strengthen the student's sense of autonomy.

Student assessment is based on a variety of methods, including (1) Design and implementation of technical/research solutions to selected problems, (2) systematic literature reviews, (3) oral presentations of research articles, (4) active participation in discussions and commenting on assignments and presentations of research articles, (5) authoring review / survey articles, (6) final examination (conducted through the physical presence of students at the headquarters of the department), and (7) written assignments. The assessment criteria and methods are published in advance in the course syllabus which is posted in the LCMS (e-Class) while assessment is consistent, fairly applied to all students and conducted in accordance with the stated procedures. Learning outcomes are also stated clearly in the course description and the Programme Guide while a formal procedure for student appeals is in place.

II. Analysis

As mentioned in the previous section, the programme is delivered online in a synchronous mode. Thus, the primary teaching method is lecture-oriented and tries to emulate lectures in a physical place. During the meeting with the instructors the panel found that study of research articles dealing with real world problems are included in most courses facilitating in practice a variety of pedagogical approaches which are closely associated with the student-centered learning. Overall, the teaching staff is well acquainted with student centered learning and tries to apply it as much as possible.

On the other hand, to account for the absence of access to physical laboratories the course instructors apply software tools and online workshops. During the meeting with the students, the panel confirmed that the students are satisfied with hands-on activities they receive. The

students also verified that whenever hardware is required for their training the corresponding equipment is sent to them via regular mail (when possible) or through access to infrastructure available at their residence place. The instructors use the "e-Class" LCMS to share the learning material with students and to facilitate student collaboration and assignments submission. Learning material is also shared via external content delivery platforms (e.g. YouTube), using specific channels, and through social media (e.g. Facebook) on dedicated to the PSP accounts.

The provision of an academic advisor ensures compliance with University policies and smooth dissemination of information related to the PSP. However, during the meeting with the students the panel found that the students rarely consult their official academic advisor and they prefer to seek advice from their instructors in the framework of their courses and usually during their Master Thesis. Obviously, this a positive effect of the low number of students attending the programme.

III. Conclusions

The PSP was designed in a way that encourages students to take an active role in creating their own learning process and experience. The teaching staff use a variety of pedagogical approaches that are associated with student-centered learning such as project-based learning, problem and inquiry-based learning, collaborative and peer learning.

Panel Judgement

Principle 3: Student-centred learning, teaching, and assessment	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

- Regular evaluation and adjustment of course delivery modes and pedagogical methods applied, should be considered. A first step towards this is to include a relevant question in the Comments section of the course evaluation questionnaire.
- Training of teaching staff regarding student-centered learning should be considered. The University's Center for Teaching and Learning, which aims to improve the teaching experience, could help towards this direction.

PRINCIPLE 4: STUDENT ADMISSION, PROGRESSION, RECOGNITION OF POSTGRADUATE STUDIES, AND CERTIFICATION

INSTITUTIONS SHOULD DEVELOP AND APPLY PUBLISHED REGULATIONS COVERING ALL ASPECTS AND PHASES OF STUDIES (ADMISSION, PROGRESSION, THESIS DRAFTING, RECOGNITION AND CERTIFICATION).

All the issues from the beginning to the end of studies should be governed by the internal regulations of the academic units. Indicatively:

- *the student admission procedures and the required supporting documents*
- *student rights and obligations, and monitoring of student progression*
- *internship issues, if applicable, and granting of scholarships*
- *the procedures and terms for the drafting of assignments and the thesis*
- *the procedure of award and recognition of degrees, the duration of studies, the conditions for progression and for the assurance of the progress of students in their studies*
- *the terms and conditions for enhancing student mobility*

All the above must be made public in the context of the Student Guide.

Documentation

- *Internal regulation for the operation of the Postgraduate Study Programme*
- *Research Ethics Regulation*
- *Regulation of studies, internship, mobility, and student assignments*
- *Degree certificate template*

Study Programme Compliance

I. Findings

The admission requirements and candidate evaluation criteria are posted on the department's official website, where students can access all relevant information.

The Study Guide is available through the PSP website and provides comprehensive guidance on procedures and services. The programme's total of 120 ECTS credits falls within the typical range for postgraduate programmes in both the EU and Greece.

The selection process for admission to the PSP, beyond standard procedures, includes an interview that assesses the candidate's understanding of a research paper. This innovative approach allows the committee to determine whether the prospective student has the necessary background to successfully complete the programme.

During the online courses, students are required to complete both group and individual assignments, while examinations are conducted on campus. A detailed guide for the diploma thesis is available on the department's official website.

Many graduates have either entered the workforce directly after completing their studies or continued their education at the doctoral level.

II. Analysis

The meeting with the students revealed that a large percentage of them are already employed, and there were also many cases where graduates are working while continuing their studies at the doctoral level. From the meeting with employers and social partners, it became clear that the PSP provides students with the necessary skills to meet market demands, with employers stating that they are willing to hire more graduates once they complete their studies. The department should seek stakeholders to strengthen scholarships and increase the number of students in the department.

III. Conclusions

The student admission process to the PSP is innovative as it includes the study and discussion of a scientific article with the committee. During their studies, students complete individual and group assignments, while examinations are held in person on the university campus. The positive impressions and the willingness to employ graduates reflect their satisfactory level of knowledge.

Panel Judgement

Principle 4: Student admission, progression, recognition of postgraduate studies and certification	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

- The PSP should increase efforts to encourage stakeholders to offer scholarships to the students.

PRINCIPLE 5: TEACHING STAFF OF POSTGRADUATE STUDY PROGRAMMES

INSTITUTIONS SHOULD ASSURE THEMSELVES OF THE LEVEL OF KNOWLEDGE AND SKILLS OF THEIR TEACHING STAFF, AND APPLY FAIR AND TRANSPARENT PROCESSES FOR THEIR RECRUITMENT, TRAINING AND FURTHER DEVELOPMENT.

The Institution should attend to the adequacy of the teaching staff of the academic unit teaching at the PSP, the appropriate staff-student ratio, the appropriate staff categories, the appropriate subject areas, the fair and objective recruitment process, the high research performance, the training- development, the staff development policy (including participation in mobility schemes, conferences, and educational leaves-as mandated by law).

More specifically, the academic unit should set up and follow clear, transparent and fair processes for the recruitment of properly qualified staff for the PSP and offer them conditions of employment that recognise the importance of teaching and research; offer opportunities and promote the professional development of the teaching staff; encourage scholarly activity to strengthen the link between education and research; encourage innovation in teaching methods and the use of new technologies; promote the increase of the volume and quality of the research output within the academic unit; follow quality assurance processes for all staff (with respect to attendance requirements, performance, self-assessment, training, etc.); develop policies to attract highly qualified academic staff.

Documentation

- *Procedures and criteria for teaching staff recruitment*
- *Employment regulations or contracts, and obligations of the teaching staff*
- *Policy for staff support and development*
- *Individual performance of the teaching staff in scientific-research and teaching work, based on internationally recognised systems of scientific evaluation (e.g. Google Scholar, Scopus, etc.)*
- *List of teaching staff including subject areas, employment relationship, Institution of origin, Department of origin*

Study Programme Compliance

I. Findings

The laws of the Greek state dictate the criteria and recruitment procedures for faculty members of higher education institutes in Greece. The University of the Aegean, being a public university, must adhere to strict regulations akin to all Greek public universities.

EEAP found that the teaching staff delivering the PSP in Internet of Things: Intelligent Environments in Next-Generation Networks have excellent qualifications to teach the courses offered by the programme. The workload of the teaching staff is relatively high. The teaching staff has decided not to be reimbursed for the delivery of this specific MSc. However, the teaching hours in the PSP count towards the expected teaching workload per academic in the department, which is normal practice in academic departments. Despite the relatively high workload, the department's staff is research-active and produces high-quality publications in international journals.

Development opportunities exist regarding upskilling the teaching capabilities of the staff (via the dedicated Centre of Support for Teaching & Learning); however, the interviews with staff

members indicated that most of the staff either are unaware of this service or are not taking advantage of such offering.

The department facilitates and supports the mobility of teaching staff. Greek state law allows for sabbatical leaves once every 6 years of service.

Each module in this programme is taught by staff specialising in the topic(s) of the syllabus. The course evaluations are very good, and the percentage of student participation is satisfactory. The student satisfaction with the quality of teaching became apparent during the meetings of the EEAP with the students and graduates of the programme.

The programme is linked with the research undertaken by the department's staff. At least 23 publications (14 in journals and 6 in conferences) have been published with MSc students named as co-authors.

II. Analysis

The quality of the academic staff is evident. The interviews also highlighted their high level of commitment to the delivery of the programme. Discussions with students also highlighted this.

Although a programme on upskilling staff in teaching is offered, staff do not actively use it. Additionally, the programme is delivered remotely (except for sitting examinations physically at the campus). As such, staff should be upskilled not only for the technical aspects of the delivery but also on the andragogy principles and how these are affected by the means of delivery.

Although this PSP is not research-oriented, the teaching staff has very good research profiles, with most having excellent research output. Students are participating in publications, which is highly commendable.

There is no established per review process in the department. This is done on occasion on to help new members of staff.

III. Conclusions

Faculty members have excellent qualifications and are highly capable of teaching the topics they are assigned to teach. Students appreciate their teachers' efforts, making the programme very successful.

The Department and the University should establish teaching awards every year for the staff delivering in the programme. Such awards would boost the morale and encourage the academic staff to enhance their teaching skills to serve student interests better.

A tailored programme should be offered by the university's Centre of Support for Teaching & Learning in the andragogy principles of remote teaching and learning.

Panel Judgement

Principle 5: Teaching staff of postgraduate study programmes	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

- Establish teaching awards for the academic with the best feedback from the department.
- Upskill academic and teaching staff in the andragogy principles of remote teaching and learning.
- Establish a peer review process on an annual basis.

PRINCIPLE 6: LEARNING RESOURCES AND STUDENT SUPPORT

INSTITUTIONS SHOULD HAVE ADEQUATE FUNDING TO COVER THE TEACHING AND LEARNING NEEDS OF THE POSTGRADUATE STUDY PROGRAMME. THEY SHOULD –ON THE ONE HAND- PROVIDE SATISFACTORY INFRASTRUCTURE AND SERVICES FOR LEARING AND STUDENT SUPPORT, AND – ON THE OTHER HAND- FACILITATE DIRECT ACCESS TO THEM BY ESTABLISHING INTERNAL RULES TO THIS END (E.G. LECTURE ROOMS, LABORATORIES, LIBRARIES, NETWORKS, NETWORKS, CAREER AND SOCIAL POLICY SERVICES ETC.).

Institutions and their academic units must have sufficient resources and means, on a planned and long-term basis, to support learning and academic activity in general, so as to offer PSP students the best possible level of studies. The above means include facilities such as the necessary general and more specialised libraries and possibilities for access to electronic databases, study rooms, educational and scientific equipment, IT and communication services, support and counselling services.

When allocating the available resources, the needs of all students must be taken into consideration (e.g. whether they are full-time or part-time students, employed students, students with disabilities), in addition to the shift towards student-centred learning and the adoption of flexible modes of learning and teaching. Support activities and facilities may be organised in various ways, depending on the institutional context. However, the internal quality assurance proves -on the one hand- the quantity and quality of the available facilities and services, and -on the other hand- that students are aware of all available services.

In delivering support services, the role of support and administration staff is crucial and therefore this segment of staff needs to be qualified and have opportunities to develop its competences.

Documentation

- *Detailed description of the infrastructure and services made available by the Institution to the academic unit for the PSP, to support learning and academic activity (human resources, infrastructure, services, etc.) and the corresponding firm commitment of the Institution to financially cover these infrastructure-services from state or other resources*
- *Administrative support staff of the PSP (job descriptions, qualifications and responsibilities)*
- *Informative / promotional material given to students with reference to the available services*
- *Tuition utilisation plan (if applicable)*

Study Programme Compliance

I. Findings

Students have the opportunity to provide feedback on courses during the semester and on the PSP in general upon completing their studies. While students have the option to select an Academic Advisor through an online platform, most do not. This could deprive the students from having proper guidance during a period of personal difficulty affecting their studies, that should require proper evaluation and allowance from the teaching staff, particularly during the assessment periods.

The department strives to provide resources for a comprehensive understanding of the course material. It offers students a platform for synchronous and asynchronous e-learning, simulators to enhance knowledge retention, and, in some courses, sends equipment for hands-

on experience. During the courses, there is active student involvement, primarily through group projects. In many cases, diploma theses lead to publications, highlighting the students' engagement with the academic community. A significant portion of students continue their studies at the doctoral level, demonstrating the faculty's dedication to fostering student advancement.

Students are offered opportunities for internships and Erasmus+ programmes; however, many do not participate as they are already employed.

Employers and social partners who have interacted with the students consider them to have a satisfactory level of knowledge and are willing to employ and collaborate with them. Additionally, they are open to collaborating with the department on industrial doctoral programmes.

The External Evaluation and Accreditation Panel (EEAP) observed that there is no officially established student representation (e.g. one per semester), resulting in a lack of formal student representation in the quality assurance processes of the postgraduate programme. There is also a lack of formal mechanisms for handling complaints, such as the absence of a Student Complaints Management Coordinator and an official complaints website. Students rely on direct communication with teaching staff during courses or indirect communication via email. While this is not currently a problem due to the small student population, it may become significant if student numbers increase.

II. Analysis

There are no concerns regarding the interaction between staff and students. Students are treated equally, fostering a positive educational environment. They are present on campus only during examination periods, as all courses are conducted exclusively online.

Student assignments contribute to skill development and, in many cases, are published in academic journals or serve as part of a work-portfolio.

III. Conclusions

The PSP fosters positive interactions between students and staff, dynamically integrating them into the academic community. Students have access to simulators and are provided with equipment in certain courses to support their learning needs. Employers and social partners have expressed their willingness to hire many of the programme's graduates.

However, the department exhibits certain shortcomings, such as the absence of formal complaint mechanisms and the need for enhanced student support, which could improve the overall quality of the educational experience, especially if the student population increases significantly

Panel Judgement

Principle 6: Learning resources and student support	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

- Expand student support services and establish the role of the Academic Advisor.
- Establish a formal complaint submission mechanism.
- Encourage the inclusion of an officially established student representation in the quality assurance processes.

PRINCIPLE 7: INFORMATION MANAGEMENT

INSTITUTIONS BEAR FULL RESPONISBILITY FOR COLLECTING, ANALYSING AND USING INFORMATION, AIMED AT THE EFFICIENT MANAGEMENT OF POSTGRADUATE STUDY PROGRAMMES AND RELATED ACTIVITIES, IN AN INTEGRATED, EFFECTIVE AND EASLILY ACCESSIBLE WAY.

Institutions are expected to establish and operate an information system for the management and monitoring of data concerning students, teaching staff, course structure and organisation, teaching and provision of services to students.

Reliable data is essential for accurate information and decision-making, as well as for identifying areas of smooth operation and areas for improvement. Effective procedures for collecting and analysing information on postgraduate study programmes and other activities feed data into the internal system of quality assurance.

The information collected depends, to some extent, on the type and mission of the Institution. The following are of interest:

- *key performance indicators*
- *student population profile*
- *student progression, success, and drop-out rates*
- *student satisfaction with their programmes*
- *availability of learning resources and student support*

A number of methods may be used to collect information. It is important that students and staff are involved in providing and analysing information and planning follow-up activities.

Documentation

- *Report from the National Information System for Quality Assurance in Higher Education (NISQA) at the level of the Institution, the department, and the PSP*
- *Operation of an information management system for the collection of administrative data for the implementation of the PSP (Students' Record)*
- *Other tools and procedures designed to collect data on the academic and administrative functions of the academic unit and the PSP*

Study Programme Compliance

I. Findings

The department has established and operates an information system for managing and monitoring data concerning students, academic staff, programme structure and organisation, teaching and provision of services to students and the academic community.

The QA and OMEA analyse the answers through a special digital platform and provide the results to the academic staff for action on their activities in teaching if necessary.

On-line information systems are used to collect data about students' satisfaction on the courses, content and examinations.

The department does not systematically collect data about the programme's graduates, although such graduates are one of the key sources for recruiting PhD students.

The university's electronic services are satisfactory, and the data seems reliable, which is essential for accurate information and decision-making and for identifying areas of smooth operation and areas for improvement.

Seven quality objectives have been set and monitored by 18 key performance indicators.

II. Analysis

The procedures for collecting and analysing information on teaching, study programmes, project work and other activities are clearly documented in the quality manual. The data is fed into the internal system of QA, as evidenced by information that was also provided on student population profile, student progression, student satisfaction with the programme, availability of learning resources, and student support. The procedures work well.

The course evaluation questionnaire includes 18 questions that students are asked to answer at the end of each module to provide information about the academic staff's teaching performance. The participation of the students in giving feedback is about 75%. THE data from the course satisfaction surveys is systematically analysed, as evidenced by the information provided, and communicated for use by OMEA for further programme improvement.

III. Conclusions

The PSP in in Internet of Things: Intelligent Environments in Next-Generation Networks at the University of the Aegean has established procedures to collect data, analyse and communicate the results to the relevant bodies. The provided data were presented in graphs, demonstrating trends and allowing direct interpretation and comparisons. The KPIs set are clear.

Panel Judgement

Principle 7: Information management	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

- Establish an alumni database and actively engage with them.

PRINCIPLE 8: PUBLIC INFORMATION CONCERNING THE POSTGRADUATE STUDY PROGRAMMES

INSTITUTIONS SHOULD PUBLISH INFORMATION ABOUT THEIR TEACHING AND ACADEMIC ACTIVITIES RELATED TO THE POSTGRADUATE STUDY PROGRAMMES IN A DIRECT AND READILY ACCESSIBLE WAY. THE RELEVANT INFORMATION SHOULD BE UP-TO-DATE, OBJECTIVE AND CLEAR.

Information on the Institutions' activities is useful for prospective and current students, graduates, other stakeholders, and the public.

Therefore, Institutions and their academic units must provide information about their activities, including the PSP they offer, the intended learning outcomes, the degrees awarded, the teaching, learning and assessment procedures applied, the pass rates, and the learning opportunities available to their students. Information is also provided on the employment perspectives of PSP graduates.

Documentation

- *Dedicated segment on the website of the department for the promotion of the PSP*
- *Bilingual version of the PSP website with complete, clear and objective information*
- *Provision for website maintenance and updating*

Study Programme Compliance

I. Findings

The programme and the department provide ample and useful information to prospective and current students, as well as to alumni, external stakeholders and the general public.

The main channel for providing this information is the department's and programme's website, where information is found about the programme's activities, its intended learning outcomes, the teaching, learning and assessment procedures applied, the pass rates, and the learning opportunities available to their students. Information is also provided on the employment perspectives of the programme's graduates. The website is both in English and in Greek and seems to be up to date in its information content.

Other channels through which the programme uses to provide information about and to promote the programme include workshops, invited speakers, and most importantly industrial stakeholders and alumni.

II. Analysis

The programme's website is well-designed and the information provided is clear and well-structured. By consequence, the website is easy to navigate when one looks for specific information.

Information provision about the programme through industrial stakeholders and alumni is rather casual.

III. Conclusions

Public information could be further improved if the programme created an industrial advisory board and an alumni association.

Panel Judgement

Principle 8: Public information concerning the postgraduate study programmes	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

- Establish regular contact with industrial stakeholders and alumni (see also P9).

PRINCIPLE 9: ON-GOING MONITORING AND PERIODIC INTERNAL EVALUATION OF POSTGRADUATE STUDY PROGRAMMES

INSTITUTIONS AND ACADEMIC UNITS SHOULD HAVE IN PLACE AN INTERNAL QUALITY ASSURANCE SYSTEM FOR THE AUDIT AND ANNUAL INTERNAL REVIEW OF THEIR POSTGRADUATE STUDY PROGRAMMES, SO AS TO ACHIEVE THE OBJECTIVES SET FOR THEM, THROUGH MONITORING AND POSSIBLE AMENDMENTS, WITH A VIEW TO CONTINUOUS IMPROVEMENT. ANY ACTIONS TAKEN IN THE ABOVE CONTEXT SHOULD BE COMMUNICATED TO ALL PARTIES CONCERNED.

The regular monitoring, review, and revision of postgraduate study programmes aim at maintaining the level of educational provision and creating a supportive and effective learning environment for students.

The above comprise the evaluation of:

a) the content of the programme in the light of the latest research in the given discipline, thus ensuring that the PSP is up to date
b) the changing needs of society
c) the students' workload, progression and completion of the postgraduate studies
d) the effectiveness of the procedures for the assessment of students
e) the students' expectations, needs and satisfaction in relation to the programme
f) the learning environment, support services, and their fitness for purpose for the PSP in question

Postgraduate study programmes are reviewed and revised regularly involving students and other stakeholders. The information collected is analysed and the programme is adapted to ensure that it is up-to-date.

Documentation

- *Procedure for the re-evaluation, redefinition and updating of the PSP curriculum*
- *Procedure for mitigating weaknesses and upgrading the structure of the PSP and the learning process*
- *Feedback processes concerning the strategy and quality goal setting of the PSP and relevant decision-making processes (students, external stakeholders)*
- *Results of the annual internal evaluation of the PSP by the Quality Assurance Unit (QAU), and the relevant minutes*

Study Programme Compliance

I. Findings

The programme steering committee (PSC) of the MSc in the Internet of Things: Intelligent Environments in Next-Generation Networks (IT:IENGN) has an established internal evaluation process in the framework of departmental annual evaluation that follows university guidelines set out by the University Quality Assurance Unit (MODIP). The internal evaluation committee (OMEA) of the Department of Information and Communication Systems Engineering prepares a report based on these guidelines that covers items such as staffing levels, teaching and research work/output, facilities, student numbers and progression and the analysis of the student course evaluation questionnaires. This is submitted to the General Assembly of the department and finally to MODIP. The PSC of the MSc in Information and Communication

Systems Security contributes and reviews part of the OMEA report that relates to this programme with the intention to improve the curriculum and the delivery of the programme.

The evaluation of the teaching on the MSc programme is done at the end of each semester. The department has a well-established student questionnaire process, with the results thoroughly analysed. They cover comments on actual delivery and student workload allocation. This analysis includes a review of data on the employment opportunities and the views of recent graduates carried out by MODIP at university level.

In the 2nd semester the PSC initiates a process where any developments in the subject matter of the MSc are discussed and academics are encouraged to revise/add new material based on their research experience and interactions with stakeholders, covering the needs of the industrial sector recruiting MSc graduates. They are also encouraged to review their teaching approach based, in part, on student feedback. The PSC ensures that the MSc programme is current and to the right level in relation to other similar programmes in Greece and overseas. The PSC will submit a report to be discussed and ratified by the GA on possible changes in the curriculum of the MSc, facilities required and other recommended changes plus the allocation of teaching duties to be implemented for the next academic year.

II. Analysis

The EEAP is particularly pleased by the SPC/Department/University level evaluation of the MSc programme. It was obvious during the meetings with the Head of Department, programme coordinator, president/members of MODIP and staff that there is a well-established and thoroughly followed process of evaluation and programme improvement. This was also reflected in the comments made by current students, graduates and stakeholders that the EEAP met.

III. Conclusions

The internal assessment process of the MSc in the Internet of Things: Intelligent Environment in Next Generation Networks is scheduled and takes place in the 2nd semester on an annual basis. There is discussion at departmental level and the results and recommendations are submitted with the departmental report to the University Quality Assurance Unit. The views and comments of the students are received and evaluated through individual student questionnaires. It is noted that the overall culture of continuous programme evaluation is well established and supported by all staff teaching on the programme, with positive outcomes.

However, the EEAP observed that the views of the current students on the MSC in its entirety were not taken into consideration in any official processes at departmental level. (note: student questionnaires refer to individual courses). In addition, the PSC and the department do not engage with their graduates in an annual established manner to receive their feedback and comments for changes and improvements on the curriculum and suggestions for final year projects. It is worth mentioning that the graduates that met with the EEAP were in senior

positions, well informed and experience to offer such support. Finally, the EEAP noted significant support from the stakeholders that we met. Very positive comments were expressed and most of them reported on-going discussions with academic staff on one-to one basis. However, the department does not have an Industrial Advisory Board, which can meet once a year for example to offer support for the work of the academics and this MSc programme in particular for changes and improvements in the curriculum. This could also help establish a closer relationship both for the teaching but also for the research of the department and in relation to this MSc programme.

Panel Judgement

Principle 9: On-going monitoring and periodic internal evaluation of postgraduate study programmes	
Fully compliant	
Substantially compliant	**X**
Partially compliant	
Non-compliant	

Panel Recommendations

- Establish an official process for student participation and involvement in the steering committee of the programme and the departmental assembly for comments and feedback on the MSc programme.
- Establish an annual process involving the graduates able to provide feedback on the MSc programme.
- Establish a programme Industrial Advisory Board involving the stakeholders.

PRINCIPLE 10: REGULAR EXTERNAL EVALUATION OF POSTGRADUATE STUDY PROGRAMMES

THE POSTGRADUATE STUDY PROGRAMMES SHOULD REGULARLY UNDERGO EVALUATION BY PANELS OF EXTERNAL EXPERTS SET BY HAHE, AIMING AT ACCREDITATION. THE TERM OF VALIDITY OF THE ACCREDITATION IS DETERMINED BY HAHE.

HAHE is responsible for administrating the PSP accreditation process which is realised as an external evaluation procedure, and implemented by panels of independent experts. HAHE grants accreditation of programmes, based on the Reports delivered by the panels of external experts, with a specific term of validity, following to which, revision is required. The quality accreditation of the PSP acts as a means for the determination of the degree of compliance of the programme to the Standards, and as a catalyst for improvement, while opening new perspectives towards the international standing of the awarded degrees. Both academic units and Institutions must consistently consider the conclusions and the recommendations submitted by the panels of experts for the continuous improvement of the programme.

Documentation

- *Progress report of the PSP in question, on the results from the utilisation of possible recommendations included in the External Evaluation Report of the Institution, and in the IQAS Accreditation Report, with relation to the postgraduate study programmes*

Study Programme Compliance

I. Findings

There has been no external evaluation since the programme began its operation. However, there are regular internal evaluations of the programme whose results were presented to the panel by the faculty and which are contained in the documentation made available by HAHE (they are also reported in the programme's website).

The internal evaluations are taking into account the feedback provided by the students and the external stakeholders and alumni during casual meetings with faculty members. The results of internal evaluations are discussed in the department's meetings and appropriate actions are taken if necessary. There is no student representative participating in these meetings.

The panel heard from both students and external stakeholders that there is a very friendly environment during exchanges with faculty members. In particular, all students met by the panel, both graduate and alumni, made very positive comments on the overall friendly atmosphere that prevails in the programme.

See also Principle 9 for more details on the internal evaluation process.

II. Analysis

The KPI's used to analyse the results of internal evaluations are appropriate and give an overall picture of the programme's evolution in time.

The presence of a student representative during the internal evaluation process could only enhance the quality of the process.

The results of internal evaluations are somehow skewed by the very small number of students (only 6 students registered this year).

III. Conclusions

There seems to be no alumni association and no industrial advisory panel at programme level. The internal evaluations could only benefit by formalizing these two important sources of feedback.

The programme leadership should consider increasing the number of students to increase the programme's viability in the long term.

The number of students is critically low and this potentially threatens the viability of the programme.

Panel Judgement

Principle 10: Regular external evaluation of postgraduate study programmes	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

- Include a student representative during the analysis of internal evaluation results.
- Establish an Industrial Advisory Board and an Alumni Association at programme level.

PART C: CONCLUSIONS

I. Features of Good Practice

The following can be included under the areas of good practice identified by the EEAP:

- The inclusion of individual interviews of candidates during the selection process.
- The subject matter covered by the programme of study is relevant and up-to-date.
- The MSc programme is highly regarded by the stakeholders.
- Staff are active in their research areas and this is reflected in the material delivered to the postgraduate students.
- Teaching staff are very approachable and eager to help students at the different stages of their studies.
- Graduates of the MSc programme are highly regarded by industry/stakeholders.

- The inclusion of individual interviews of candidates during the selection process

II. Areas of Weakness

The Panel identified the main areas of weakness as listed below:

- The number of students is critically low and this jeopardizes the programme's sustainability. This is the main concern of the EEAP.
- The lack of involvement of current students in the quality assurance processes of the programme.
- The lack of a formal Industrial Advisory Board meeting once a year in the 2nd semester.
- Lack of a formal Alumni Association.

III. Recommendations for Follow-up Actions

- Take immediate actions to promote the programme nationally and internationally so as to increase the number of students. Such actions include massive promotional campaigns targeting students in Computer Science departments and Engineering schools in Greece and abroad, as well as young employees of industrial partners of the programme
- Work closely with industrial and social stakeholders - especially big private or public organizations - to actively promote the programme, assessing the possibility of their staff following the programme or the allocation of industrial MSc level scholarships to cover the fees.
- Include students one per semester in the internal evaluation process.
- Establish an Industrial Advisory Board, which meets once a year in the 2nd semester.
- Establish an Alumni Association meeting at least once a year

IV. Summary & Overall Assessment

The Principles where full compliance has been achieved are: **3, 4, 5, 6, 7, 8 and 10**

The Principles where substantial compliance has been achieved are: **1, 2 and 9**

The Principles where partial compliance has been achieved are: **None**

The Principles where failure of compliance was identified are: **None**

Overall Judgement	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

The members of the External Evaluation & Accreditation Panel

Name and Surname	Signature
1. Tassos G. Karayiannis	
2. Maria Papatsimouli	
3. Nicolas Tsapatsoulis	
4. Konstantinos Salonitis	
5. Nicolas Spyratos	