HANDBOOK FOR PLANNING, LABELLING AND FOLLOW UP REVIEWING OF EIT MASTER AND DOCTORAL PROGRAMMES

'QUALITY FOR LEARNING' EIT QUALITY ASSURANCE AND LEARNING ENHANCEMENT MODEL

[eit.europa.eu]

eit European Institute of Innovation & Technology

This Handbook has been written by Prof. Lena Adamson as part of the EIT service contract 12/2011/EITPROC. It is based on the contributions from the European Institute of Innovation and Technology (EIT), the three Knowledge and Innovation Communities (KICs) and the European Commission – Directorate General for Education and Culture.

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EIT – A New Animal in the European Educational Landscape [1] [2]

The European Institute of Innovation and Technology (EIT) is a new independent community body set up to address Europe's innovation gap and to become a key driver of EU sustainable growth and competitiveness through the stimulation of world-leading innovation. The initiative is based on the knowledge triangle, fostering the integration between research, education and innovation/business across the EU. The mission of the EIT concerns both innovation and business creation, but equally important via its educational activities, to contribute to a skilled workforce with a new more entrepreneurial mindset. The EIT's mission is also to elaborate on the models that enable this impact to materialise – the EIT as a role model for integrating all parts and all actors of the knowledge triangle.

The EIT is a distributed organisation, headquartered in Budapest, Hungary, and consisting of a Governing Board and three Knowledge and Innovation Communities (KICs). These are multi-stakeholder, independent, legal and financial integrated entities, governed by a CEO appointed by a board of major stakeholders from academia and business. The KICs are organised around Co-Location Centres (CLCs), geographical locations where most or the whole innovation chain is in close proximity. The emphasis is on people from diverse backgrounds working together with face-to-face contact. In January 2010, three KICs were in place: Climate-KIC, EIT ICT Labs, and KIC InnoEnergy.

The EIT is a new innovation infrastructure but it is not a new infrastructure for education. EIT educational programmes are carried out at the KIC universities by their faculty but with the EIT specific learning outcomes and other quality criteria that are required for the EIT Label.

Introduction

The EIT is a new European innovation structure promoting education opportunities within the knowledge triangle that are carried out at KIC universities by their faculties. The EIT's and the KICs' educational mission is to raise a new generation of entrepreneurs and innovators in Europe. This is done by delivering a unique brand of excellent and relevant education responsive to both business and societal demands, focused on creativity, innovation, and entrepreneurship, distinguished by an 'EIT Label'.

EIT-labelled degrees and diplomas are based on the integration of the three sides of theknowledge triangle: education, research and business/innovation. Accordingly, they have a strong focus on creativity, innovation, and entrepreneurship and build on a set of specific quality criteria and overarching learning outcomes. In order to implement these criteria and learning outcomes coherently across the KICs, taught at a large number of different European universities, an internal EIT Quality Assurance and Learning Enhancement model (EIT QALE) has been developed. This model consists of a set of Quality Indicators divided into individual assessment fields.

> Fig. 1
EIT QALE Model

The 1+4 quality indicators of the eit quality assurance and learning enhancement model

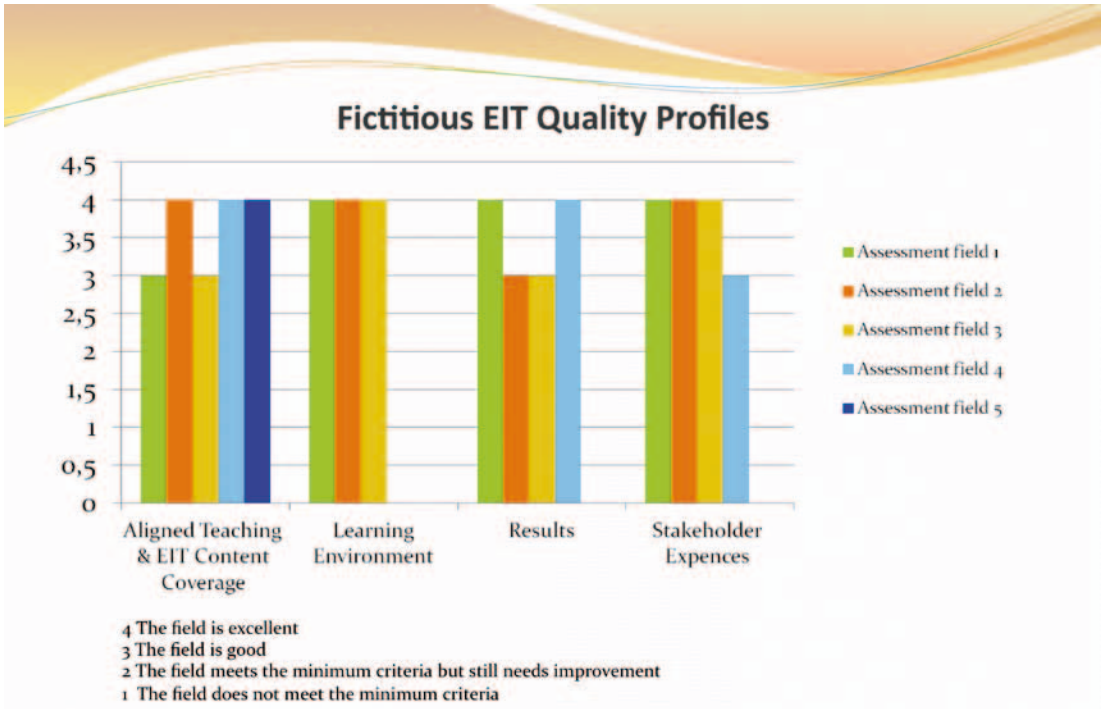
Q Indicators: ********** Assessment fields:	Q Indicator 0 COMPULSORY REQUIREMENTS		Q Indicator 1 ALIGNED TEACHING AND CONTENT COVERAGE	Q Indicator 2 LEARNING ENVIRONMENT AND FACILITIES	Q Indicator 3 RESULTS	Q Indicator 4 STAKEHOLDER EXPERIENCES
Assessment field 1	0.1 Mobility		1.1 EIT Overarching Learning Outcomes Coverage	2.1. Robust Entrepreneurship Education	3.1 Student Creativity	4.1 Student Experiences
Assessment field 2	0.2 Business Partner Curriculum Collaboration		1.2 General Quality of Intended Learning Outcomes	2.2 Highly Integrated, Innovative 'Learning-by-doing' curricula'	3.2 Achieved Learning Outcomes	4.2 Alumni Experiences
Assessment field 3	0.3 ECTS, DS and Recognition		1.3 Fit for Purpose Assessment	2.3 Mobility, European Dimension and Openness to the World	3.3 Retention Rates	4.3 Other Stakeholders Experiences
Assessment field 4	0.4 Application, Selection and Admission		1.4 Availability and Format of KIC Grading Criteria		3.4 R & D Projects on KIC Educational Activities	
Assessment field 5	0.5 English as Teaching language, EIT Logo		1.5 Active and Appropriate Teaching Methods			

The model is based on the learning outcome paradigm as it has been brought forth within the Bologna process, where the aim is to move from 'teacher driven' to 'student centred' teaching and learning, changing higher education from being just knowledge based into also being competence based [3] [4] [5] [6] [7] [8]. The model is in this regard in line with European Standards and Guidelines (ESG).

This handbook offers guidelines and hands-on working tools to educate coordinators, teachers and reviewers in order to support them in *planning, developing, awarding the EIT Label*, and doing *follow-up reviewing* of EIT-labelled programmes. The handbook is divided into four main parts.

The **first part** of the handbook consists of templates that should be used for conducting the reviews for awarding the EIT Label and doing the follow-up reviewing of already EIT-labelled programmes, resulting in short, quality reports. A recommendation is to also use these templates as tools for planning and developing the programmes. References to other parts of the handbook can be found in the templates making it possible to start working with them without further initial reading.

The **second part** describes the basis for the EIT Label and the EIT QALE model, its components, logic and the two processes; awarding the EIT Label to new programmes and the process for follow-up reviewing of already EIT-labelled programmes and how the results will be presented in quality profiles:



< Fig. 2
Quality Profiles

The **third part** of the handbook defines quality in higher education in the EIT context and presents and defines some important terms and concepts connected to this and related to teaching for quality in the knowledge triangle. This part can be used as a glossary and the recommendation is to read it when working with any of the templates.

The QALE model is originally worked out for Master programmes and the **fourth part** of this handbook consists of adjustments of the model to Doctoral programmes.

The task for review teams is to assess the 'KIC added value', that is, whether the programmes foster a true integration of the knowledge triangle dimensions, namely research, education and innovation/business. This is done by using the templates that follow below. Other aspects are left to local or national QA systems.

Template M0	For Initial Checking of **Compulsory Requirements** (Quality Indicator 0)
Template M1	For Labelling and for Follow-up Reviewing of **Aligned Teaching and Content Coverage** (Quality Indicator 1)
Template M2	For Labelling and for Follow-up Reviewing of **Learning Environment and Facilities** (Quality Indicator 2)
Template M3	For Follow-up Reviewing of **Results** (Quality Indicator 3)
Template M4	For Follow-up Reviewing of **Stakeholder Experiences** (Quality Indicator 4)
Template M5	For Reviewers' **Recommendations for Awarding or Maintaining** the EIT Label
Template M6	Suggestions from the Review Team of Fields that Need **Development**

Part 1
Templates for Master Programmes

Template M0

For Initial Checking of Compulsory Requirements for Master Programmes

Quality Indicator 0

Material to be provided and used for the review

Existing documents and a signed statement from KIC CEO or EDU Director that the programme fulfils all compulsory requirements.

Instruction for reviewers

This indicator differs from the rest of the Quality Indicators in the sense that all assessment fields are necessary components of EIT-labelled degrees and as such are obligatory. They are assessed on a yes/no basis and all assessment fields need to be fulfilled in order to proceed with the review of the programme. Should this not be the case, the review should stop here and the education coordinator contacted.
Thank You!

No.	Assessment Field	Evaluation Yes or No
0.1	0.1.1 Does the mobility window have a minimum of 30 ECTS or equivalent in workload?	Yes/No
	0.1.2 Is the mobility window composed of both international and cross-organisational mobility?	Yes/No
0.2	0.2.1 Are a minimum of two non-university partners [a] actively engaged in the development of the curriculum and teaching activities?	Yes/No
	0.2.2 Is there an active promotion of jointly agreed curricula involving different sectors of the KIC partnership?	Yes/No
0.3	0.3.1 Does the programme cover 120 ECTS, including KIC added-value activities?	Yes/No
	0.3.2 Is a Diploma Supplement provided to each student?	Yes/No
	0.3.3 Is the degree recognised in at least the countries of the awarding universities?	Yes/No
0.4	0.4.1 Are criteria for the assessment of the students' entrepreneurial potential included in the selection process?	Yes/No
	0.4.2 Do the universities delivering the programme conduct the application, selection and admission of students jointly?	Yes/No
	0.4.3 Will graduates be included in the KIC alumni organisation and tracking system?	Yes/No
0.5	0.5.1 Is the programme taught in English?	Yes/No
	0.5.2 Is 'EIT' included in relation to the name of the programme?	Yes/No
	0.5.3 Is the EIT logo on the degree certificate and/or on the DS or will a separate certificate be provided?	Yes/No
	Total	Go/No-Go

[a] This includes all non-academic partners: businesses, NGOs, university hospitals, university foundations, etc.

Template M1

For Labelling *and* for Follow-up Reviewing of Master Programmes

Quality Indicator 1 **Aligned Teaching and Content Coverage**

Quality Indicator 1 **Aligned *Teaching and Content Coverage* Assessment in Points by Fields of Assessment.**

No.	Assessment Field	Points*
1.1	EIT Overarching Learning Outcomes Coverage	
1.2	General Quality of Intended Learning Outcomes	
1.3	Fit for Purpose Assessment	
1.4	Availability and Format of KIC Grading Criteria	
1.5	Active and Appropriate Teaching Methods	
	Total	

* 1 The field does not meet the minimum criteria = 'NOES' are present
2 The field meets the minimum criteria but still needs improvement = Criteria are partially met
3 The field is good = Most criteria are 'YESSES'
4 The field is excellent = All 'YESSES'

Material to be provided and used for the review, see page 27

Instruction for reviewers

Write a short (max. 500 words) evaluation on this Quality Indicator by stating your opinions on the five assessment fields below. Please qualify your statements, preferably with some examples. Then grade each assessment field on the four-graded scale in the table above. As guidelines for your evaluation use Annex 1.2 'EIT Overarching Learning Outcomes', in addition to explanations of terms and concepts in this document. Please note that different universities within the same programme may show different quality on the same assessment field. Your grading should be a holistic evaluation on the programme as a whole. The review focus is primarily on KIC added value. Please avoid giving information about anything other than the assessment fields that are listed.
Thank You!

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Assessment field 1.1 EIT Overarching Learning Outcomes Coverage

- 1.1.1 Are the EIT Overarching Learning Outcomes for **Creativity** skills and competencies specified sufficiently in the programme?
- 1.1.2 Are the EIT Overarching Learning Outcomes for **Innovation** skills and competencies specified sufficiently in the programme?
- 1.1.3 Are the EIT Overarching Learning Outcomes for **Entrepreneurship** skills and competencies specified sufficiently in the programme?
- 1.1.4 Are the EIT Overarching Learning Outcomes for **Research** skills and competencies specified sufficiently in the programme?
- 1.1.5 Are the EIT Overarching Learning Outcomes for **Transforming** skills and competencies specified sufficiently in the programme?
- 1.1.6 Are the EIT Overarching Learning Outcomes for **Leadership** skills and competencies specified sufficiently in the programme?
- 1.1.7 Are the EIT Overarching Learning Outcomes for **Making Value Judgements** specified sufficiently in the programme?
- 1.1.8 Do sufficient amount of modules of this programme deal with **relevant content** for the thematic field of the KIC?

Assessment field 1.2 General Quality of Intended Learning Outcomes

- 1.2.1 Are the learning outcomes **assessable**, i.e. do they describe visible use of knowledge?
- 1.2.2 Do the learning outcomes address the **content** of the study modules as they are titled?
- 1.2.3 Are the learning outcomes on the right **academic level** for study modules?

Assessment field 1.3 Fit for Purpose Assessment

- 1.3.1 Are assessment methods fit for purpose in accordance to **content**?
- 1.3.2 Are assessment methods fit for purpose in accordance to **form**?

Assessment field 1.4 Availability and Format of KIC Grading Criteria

- 1.4.1 Are KIC-relevant (creativity, innovation, business/entrepreneurship) grading criteria **available** to students in advance?
- 1.4.2 Are grading criteria **true descriptors** of level of achievements, rather than just indicating number of right answers or single statements of pass or fail, etc.?

Assessment field 1.5 Active and Appropriate Teaching Methods

- 1.5.1 Are teaching learning methods designed to **activate** the students?
- 1.5.2 Are teaching methods **appropriate** for reaching the intended learning outcomes?

Template M2

For Labelling *and* for Follow-up Reviewing of Master Programmes

Quality Indicator 2 Learning Environment and Facilities

Quality Indicator 2 *Learning Environment and Facilities.* Assessment in Points by Field of Assessment.

No.	Assessment Field	Points*
2.1	Robust Entrepreneurship Education	
2.2	Highly Integrated, Appropriate 'Learning-by-doing' Curricula	
2.3	Mobility, European Dimension and Openness to the World	
	Total	

* 1 The field does not meet the minimum criteria = 'NOES' are present
2 The field meets the minimum criteria but still needs improvement = Criteria are partially met
3 The field is good = Most criteria are 'YESSES'
4 The field is excellent = All 'YESSES'

Material to be provided and used for the review, see page 27

Instruction for reviewers

Write a short (max. 500 words) evaluation on this Quality Indicator by stating your opinions on the three assessment fields below. Please qualify your statements, preferably with some examples. Then grade each assessment field on the four-graded scale in the table above. As guidelines for your evaluation use criteria and specifications in Annex 1 'Conditions for EIT-labelled degrees and diplomas'. Please note that different universities within the same programme may show different quality on the same assessment field. Your grading should be a holistic evaluation on the programme as a whole. The review focus is primarily on KIC added value.
Please avoid giving information about anything other than the assessment fields that are listed.
Thank You!

Assessment field 2.1 Robust Entrepreneurship Education

- 2.1.1 Does the programme foster a climate in which entrepreneurship is nurtured and where students are offered a comprehensive array of technical, financial and human services and means (e.g. incubators, mentoring and coaching, 'business angels', seed money, etc.) to test out the commercial potential and viability of their ideas/research outcomes?
- 2.1.2 Does the programme provide structured opportunities for on-the-job learning, exposing students to the reality of professional life in industry and business?

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Assessment field 2.2 Highly Integrated, Appropriate 'Learning-by-doing' Curricula

- 2.2.1 Has the programme adopted a strong trans-disciplinary approach (e.g. via joint courses across sectors) going beyond the borders of science and technology but also reaching out to social sciences to address broad societal challenges and to link up with new business and innovation processes?
- 2.2.2 Has the programme established responsible partnerships between universities and enterprises in the development of curricula, in teaching activities and by joint supervision of Master and PhD projects?
- 2.2.4 Does a coherent support structure for knowledge transfer (e.g. knowledge transfer units, incentives schemes for researchers, co-location centres) exist?
- 2.2.5 Does the programme promote joint or multiple degrees and qualifications awarded by the different partner universities of the KIC on the basis of jointly agreed curricula involving different strands of the KIC partnership (education-research-business and industry)?

Assessment field 2.3 Mobility, European Dimension and Openness to the World

- 2.3.1 Does the programme take a 'learning outcomes' oriented approach in the development of the EIT-labelled curricula in accordance with the European Qualifications Framework and the common transparency instruments (learning outcomes, ECTS, DS), thus facilitating recognition, at least in the countries of the awarding universities?
- 2.3.2 Does the programme facilitate smooth transitions between academia and industry, e.g. via student internships, recruitment of teaching staff from the industry and business sector, etc.?

Template M3
For Follow-up Reviewing of Master Programmes

Quality Indicator 3 Results

Quality Indicator 3 *Results.* Assessment in Points by Field of Assessment.

No.	Assessment Field	Points*
3.1	Student Creativity	
3.2	Achieved Learning Outcomes	
3.3	Retention Rates	
3.4	Research and Development Projects on KIC Educational Activities [b]	
	Total	

* 1 The field does not meet the minimum criteria = 'NOES' are present
2 The field meets the minimum criteria but still needs improvement = Criteria are partially met
3 The field is good = Most criteria are 'YESSES'
4 The field is excellent = All 'YESSES'

Material to be provided and used for the review specifically for assessment fields 3.1 and 3.2 of this indicator:

3.1 Examples of student creativity can, for instance, consist of projects, products or creativity test scores.
3.2 A list of theses and other evidence of student work (e.g. theses, products, reports, etc.). Subsequently, reviewers will request examples of theses and other evidence based on a random choice.
3.3 Retention rates.
3.4 Reports on R&D projects and examples that give evidence to 3.4.2 and 3.4.3 (see also page 34).

Instruction for reviewers

Write a short (max. 500 words) evaluation on this Quality Indicator by stating your opinions on the four assessment fields below. Please qualify your statements, preferably with some examples. Then grade each assessment field on the four-graded scale in the table above. As guidelines for your evaluation use Annex 1.2 'EIT Overarching Learning Outcomes', in addition to the description of this quality indicator in this document. For reviewing 3.2 'Achieved Learning Outcomes', pick a random sample from the list provided, request these from the KIC and review according to 3.2.1. Please note that different universities within the same programme may show different quality on the same assessment field. Your grading should be a holistic evaluation on the programme as a whole. The review focus is primarily on KIC added value.
Please avoid giving information about anything other than the assessment fields that are listed.
Thank You!

[b] This assessment field adds value to the review but is not mandatory. If it scores two or lower, it should not be recorded in the final score.

Assessment field 3.1 Student Creativity

- 3.1.1 Has evidence of students' creativity been provided?

Assessment field 3.2 Achieved Learning Outcomes (before grading see next page of this document)

- 3.2.1 Does the sample demonstrate that students' have achieved the EIT Overarching Learning Outcomes including robust entrepreneurial skills and a true integration of the knowledge triangle dimensions (see next page for criteria that may be used)?

Assessment field 3.3 Retention Rates

- 3.3.1 Are retention [c] rates satisfactory?

Assessment field 3.4 Research and Development Projects on KIC Educational Activities (before grading see page 34 of this document)

- 3.4.1 Have any R&D activities in relation to this programme been reported?
- 3.4.2 If yes on 3.3.1, have these led to new knowledge about what developments in the programme are needed, alternatively of 'what works'?
- 3.4.3 Have they led to knowledge based decisions on what to keep or what to change in the programme?

Guidelines for reviewing assessment field 3.2 'Achieved Learning Outcomes'

The KIC added value student work should be reviewed in relation to the selected EIT Overarching Learning Outcomes specified below. Give then an overall grading for this assessment field (3.2) on the previous page.

Creative skills and competencies
The ability to think beyond boundaries and systematically explore and generate new ideas.

Innovation skills and competencies
The ability to use knowledge, ideas or technologies to create new or significantly improved products, services, processes or policies or new business models.

Entrepreneurship skills and competencies
The ability to transform innovations into feasible business solutions.

Research skills and competencies
Knowledge and understanding of cutting-edge research methods, processes and techniques; their application, within their study field; the investigation of new venture creation and growth, and the capability to work in cross-disciplinary teams in the thematic field of their KIC.

Intellectual transforming skills and competencies
The ability to transform practical experiences into research problems and challenges.

Making value judgments
An appreciation of ethical, scientific and sustainability challenges as they pertain to their field of work.

Criteria for reviewing student work may include:

A. Aims/objectives and research questions

- A.1 Is the problem based on experiences from innovation/business contexts?
- A.2 Is this problem transformed into viable research questions?
- A.3 Does this section show students creativity?
- A.4 Does this section bring up issues to do with sustainability in the thematic field of the KIC?

B. Methods

- B.1 Does this section show the student has sufficient technical and scientific knowledge and understanding to be able to investigate and answer the research questions?
- B.2 Does this section show the student's creativity?
- B.3 Does this section bring up issues to do with sustainability in the thematic field of the KIC?

C. Results and conclusions

- C.1 Does this part contain a section related to the usability of results in innovation and business contexts?
- C.2 Does this section show the student's creativity?
- C.3 Does this section bring up issues to do with sustainability in the thematic field of the KIC?

[c]
Meaning number of admitted students completing the full programme

Template M4
For Follow-up Reviewing of Master Programmes

Quality Indicator 4 Stakeholder Experiences

Quality Indicator 4 *Stakeholder Experiences.* Assessment in Points by Field of Assessment.

No.	Assessment Field	Points*
4.1	Student Experiences	
4.2	Alumni Experiences	
4.3	Other Stakeholder Experiences	
	Total	

* 1 The field does not meet the minimum criteria = 'NOES' are present
2 The field meets the minimum criteria but still needs improvement = Criteria are partially met
3 The field is good = Most criteria are 'YESSES'
4 The field is excellent = All 'YESSES'

Material to be provided and used for the review, see pages 27

Instruction for reviewers

Write a short (max. 500 words) evaluation on this Quality Indicator by stating your opinions on the three assessment fields below. Please qualify your statements, preferably with some examples. Then grade each assessment field on the four-graded scale in the table above. Please note that different universities within the same programme may show different quality on the same assessment field. Your grading should be a holistic evaluation on the programme as a whole. The review focus is primarily on KIC added value.
Please avoid giving information about anything other than the assessment fields that are listed.
Thank You!

Assessment field 4.1 Student Creativity

- 4.1.1 See specific criteria and cut off values for questionnaire/interviews/focus groups results

Assessment field 4.2 Alumni Experiences

- 4.2.1 See specific criteria and cut off values for questionnaire/interviews/focus groups results

Assessment field 4.3 Other Stakeholder Experiences

- 4.3.1 See specific criteria and cut off values for questionnaire/interviews/focus groups results

Template M5

Recommendations by the Review Team for Awarding *or* Maintaining the EIT Label for Master Programmes

Instruction for reviewers

The final evaluation and suggestion for receiving/maintaining the EIT Label builds on the average score of indicators 1-4, however the evaluation should be made from a holistic view without sharp cut-off values. This means that from a holistic perspective some shortfalls can be compensated by for instance the existence of a clear improvement plan. Should the review team not recommend the programme to receive/maintain its label, main arguments for this should be specified. Should the review team not agree on a recommendation, the Chair of the group makes the final decision. This situation should be stated clearly and main arguments for the disagreement should be specified.
Thank You!

Awarding the EIT Label

No.	Indicator	Points*
1	Aligned Teaching and Content Coverage	
2	Learning Environment and Facilities	
	Total	

* 1 The field does not meet the minimum criteria
2 The field meets the minimum criteria but still needs improvement
3 The field is good
4 The field is excellent`

Maintaining the EIT Label

No.	Indicator	Points*
1	Aligned Teaching and Content Coverage	
2	Learning Environment and Facilities	
3	Results	
4	Stakeholder Experiences	
	Total	

* 1 The field does not meet the minimum criteria
2 The field meets the minimum criteria but still needs improvement
3 The field is good
4 The field is excellent

Recommendation	Awarding the EIT Label	Maintaining the EIT Label
Yes, for four years before next follow up		
Yes, for one year before next follow up		
No		

Date:

Name of Chair of Review Team:

Names of Review Team members:

Template M6

Suggestions from the Review Team of fields that need development

Instruction for reviewers

When writing suggestions of fields that need developing (which can be made regardless of recommendation) please do not exceed 1 000 words and consider the use of listing them as bullet points.

Part 2
The EIT Label and the EIT QALE Model

What is the EIT Label and what is the basis for awarding it?

The EIT Label is given to an educational programme, not to individual students. All students who have passed an EIT-labelled programme are awarded a degree, by their university, with the EIT Label, which guarantees the EIT profile and education or students of excellent quality.

The EIT Label is based on the refined Quality Criteria for EIT-labelled degrees and diplomas and the EIT Overarching Learning Outcomes in a set of seven knowledge forms. Together these two documents form the 'Conditions for EIT-labelled degrees and diplomas' (see Annex 1).

In summary, EIT-labelled degrees and diplomas build on four groups of quality criteria as well as the EIT Overarching Learning Outcomes:

1. Robust entrepreneurship education
2. Highly integrated, innovative 'learning-by-doing' curricula
3. International and cross-organisational mobility – the European dimension and openness to the world
4. Outreach strategy and access policy [d]
5. The EIT Overarching Learning Outcomes.

The 'EIT Overarching Learning Outcomes' specify that programmes should ensure that students achieve skills and competencies in the EIT-specific knowledge forms of *Creativity, Innovation, Entrepreneurship, Research, Intellectual Transforming, Leadership and Making Value Judgments* related to their fields of study. These learning outcomes complement the learning outcomes of QF-EHEA (see Annex 1.3) and should be transformed into more specific outcomes on programme and module levels respectively, as well as being connected to fit for purpose forms of assessment, teaching and learning activities. They should not be treated as separate components, but instead be integrated in a well-balanced manner to create programmes that foster innovative and entrepreneurial mindsets based on the knowledge triangle.

What are the EIT-KIC requirements for a high quality QA system?

The mission of the EIT and the KICs, in addition to creating new innovations and business, and developing students' skills and competencies in creativity, innovation and entrepreneurship, is also to elaborate on the models that enable this impact to materialise. The EIT and the KICs work towards being a role model for integrating all parts and all stakeholders of the knowledge triangle [9]. This applies also for the development of an internal quality assurance model for the educational activities carried out within the KICs.

The EIT QALE model:

- is evidence based, in the sense that it rests on knowledge and research concerning both evaluation and teaching and learning;
- is constructed in a generic way so that, with simple adjustments, it can be contextualised and applied to all types of programmes regardless of content and/or level;
- includes the professionals that are involved in order to create a trust base and motivation to use the system;
- has a clear stakeholder perspective;
- is constructed to act both as a planning and an evaluation tool;
- is based on a clear logic, giving evidence to its purpose; and
- focuses on KIC added value.

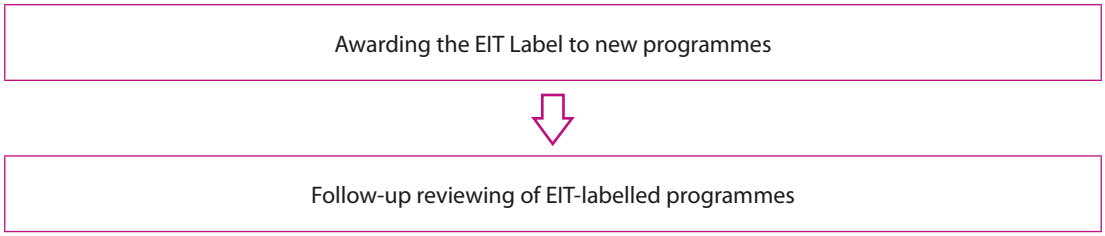
These elements are the necessary requirements for a high quality QA system making it transparent, easy to understand and work with, and a tool for both accountability and enhancement, the two main purposes of quality assurance [10].

[d] Not applicable for programme reviews

What are the components, the logic and the structure of the EIT QALE model?

The model includes two main processes:
(1) Awarding the EIT Label and (2) The follow-up reviewing of EIT-labelled programmes:

> Fig. 3
The EIT QALE model consists of two processes



The *logic* of the model is based on two questions:
1. Do programmes ensure that students attain the EIT learning outcomes? and
2. Are the criteria in 'Conditions for EIT-labelled degrees and diplomas' fulfilled?

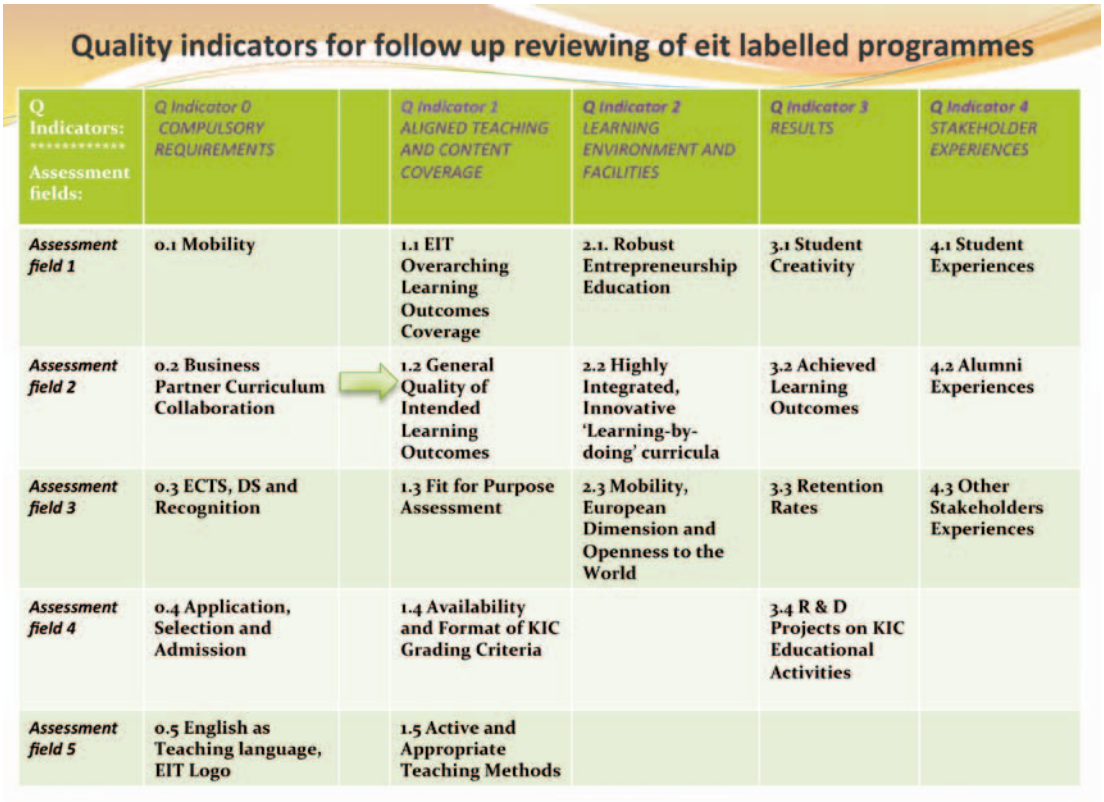
That is, do programmes provide students with opportunities to develop a true entrepreneurial mindset and knowledge triangle skills and competencies?

The *structure* consists, for transparency and predictability, of a total set of five Quality Indicators, each comprised of a number of assessment fields. The labelling process consists of three indicators (see figure 4), and the review process an additional two (more result-oriented) indicators (see figure 5). Each assessment field is graded on a four point scale (except indicator 0, see below), then added up for each indicator and finally presented in a short report and illustrated by quality profiles [10].

> Fig. 4
EIT QALE Model Indicator structure for 'Awarding the EIT Label to new programmes'

Quality Indicators for Awarding the EIT Label

Q Indicators: ********** Assessment fields:	Q Indicator 0 COMPULSORY REQUIREMENTS		Q Indicator 1 ALIGNED TEACHING AND CONTENT COVERAGE	Q Indicator 2 LEARNING ENVIRONMENT AND FACILITIES
Assessment field 1	0.1 Mobility		1.1 EIT Overarching Learning Outcomes Coverage	2.1. Robust Entrepreneurship Education
Assessment field 2	0.2 Business Partner Curriculum Collaboration		1.2 General Quality of Intended Learning Outcomes	2.2 Highly Integrated, Innovative 'Learning-by-doing' curricula
Assessment field 3	0.3 ECTS, DS and Recognition		1.3 Fit for Purpose Assessment	2.3 Mobility, European Dimension and Openness to the World
Assessment field 4	0.4 Application, Selection and Admission		1.4 Availability and Format of KIC Grading Criteria	
Assessment field 5	0.5 English as Teaching language, EIT Logo		1.5 Active and Appropriate Teaching Methods	



Quality indicators for follow up reviewing of eit labelled programmes

Q Indicators: ********** Assessment fields:	Q Indicator 0 COMPULSORY REQUIREMENTS		Q Indicator 1 ALIGNED TEACHING AND CONTENT COVERAGE	Q Indicator 2 LEARNING ENVIRONMENT AND FACILITIES	Q Indicator 3 RESULTS	Q Indicator 4 STAKEHOLDER EXPERIENCES
Assessment field 1	0.1 Mobility		1.1 EIT Overarching Learning Outcomes Coverage	2.1. Robust Entrepreneurship Education	3.1 Student Creativity	4.1 Student Experiences
Assessment field 2	0.2 Business Partner Curriculum Collaboration		1.2 General Quality of Intended Learning Outcomes	2.2 Highly Integrated, Innovative 'Learning-by-doing' curricula	3.2 Achieved Learning Outcomes	4.2 Alumni Experiences
Assessment field 3	0.3 ECTS, DS and Recognition		1.3 Fit for Purpose Assessment	2.3 Mobility, European Dimension and Openness to the World	3.3 Retention Rates	4.3 Other Stakeholders Experiences
Assessment field 4	0.4 Application, Selection and Admission		1.4 Availability and Format of KIC Grading Criteria		3.4 R & D Projects on KIC Educational Activities	
Assessment field 5	0.5 English as Teaching language, EIT Logo		1.5 Active and Appropriate Teaching Methods			

< Fig. 5
EIT QALE Model Indicator structure for 'Follow-up reviewing of EIT-labelled programmes'

What are the Quality Indicators and their individual assessment fields?

The five Quality Indicators consider a) compulsory requirements, b) teaching and learning methods inclusive of teaching content in relation to the KIC thematic fields, c) learning facilities and environment, d) results, and e) stakeholder experiences. Below, these indicators are described mainly in terms of content, with the specific details found in the templates.

Quality Indicator 0 Compulsory requirements

All assessment areas of indicator 0 are essential components of EIT-labelled degrees and as such are compulsory. They are evaluated on a yes/no basis (template 0) and all assessment fields need to be fulfilled in order to proceed with the assessment of the programme. Examples are issues to do with mobility windows, number of ECTS, DS and recognition, application, selection, and admission of students.

Quality Indicator 1 Aligned teaching and content coverage

Indicator 1 evaluates in five different assessment fields whether the programme sufficiently covers the EIT learning outcomes in relation to the thematic field of the KIC, whether it is characterised by aligned teaching and activating teaching methods (student-centred) [10] and whether it provides students' with access to assessment criteria.

Quality Indicator 2 EIT learning environment and facilities

Quality Indicator 2 reviews the study environment. The three assessment fields for this indicator are derived from the document 'Conditions for EIT-labelled degrees and diplomas' and consider, in turn, robust entrepreneurship education; highly integrated, innovative 'learning-by-doing' curricula; and mobility, the European dimension and openness to the world.

Quality Indicator 3 Results

This indicator consists of four assessment fields (template 3). The first evaluates students' creative thinking and potential, a core component and the hallmark of the EIT-labelled programmes. Examples of student creativity can, for instance, consist of projects, products or creativity test scores.

The second evaluates achieved learning outcomes (ALOs), which are samples of actual (degree) products by EIT students. However, instead of evaluating individual student work and then drawing general conclusions about the quality of the programme, the evaluation concerns whether students with poor results in relation to the EIT specific thesis grading criteria have been allowed to pass through the system or not. This is to ensure that the model evaluates educational quality and not student quality [11] [12].

The third assessment field relates to the retention rates. In the case of low retention this needs to be closely analysed since student drop out does not automatically mean low programme quality.

The fourth and final assessment field concerns outcomes by the KICs in the form of published articles, reports, conference presentations, etc. on research and development projects on KIC educational activities. This assessment field will stimulate the KICs in undertaking close evaluations and research on their educational activities in order to know what results they achieve and why [13]. Successful examples should also appear on the EIT website in the future.

Quality Indicator 4 Stakeholder experiences

The last indicator is divided in four assessment fields, stakeholder experiences and opinions of a) students, b) alumni, c) industry/business stakeholders, and d) other stakeholders. Data is gathered by questionnaires or interviews (focused primarily on issues to do with Indicators 1 - 3), depending on how big the groups are.

How will the results be presented?

The EIT and the KICs highlight the importance of information to students and stakeholders about educational quality. The indicator structure of the EIT QALE system creates the possibility to present the results in quality profiles (see Fig. 2). These profiles will provide students and stakeholders with transparent quality information. The profiles can also be aggregated on, for instance, KIC or EIT level to generate a 'bigger picture' and be the basis for making meaningful comparisons of educational quality [10].

Awarding the EIT Label to new EIT programmes – Who does what, when?

The responsibility for the labelling process rests with the KICs [e] on the basis of this handbook. This means that KICs are responsible for choosing all persons involved in this process (providers of information, most preferably those who work with and within the programme, reviewers including stakeholders and representatives from other KICs, and decision makers) following a set of rules, at what time a new labelling process takes place, and what KIC internal body that takes the decision. KICs award the label based on the recommendation from review group (Template 5). KICs are responsible for presenting Template 5, once a decision on a label is taken, to EIT Headquarters, which in turn informs the EIT Governing Board. This should take place prior to the actual labelling of the programme [f].

EIT HQ is responsible for displaying quality information to students and other stakeholders on the EIT website.

The process at the KIC starts, after the review team has been formed, by establishing a time plan for a) gathering and providing the review team with the necessary information and material (see below and in Templates 0, 1 and 2), b) for how long the review process should take, c) for when the KIC decision should take place, and d) when this will be sent to the EIT. The EIT then plans for a) the KIC decisions including Template 5 to be presented at the GB and b) for displaying the quality profiles to students and stakeholders at the EIT website. Quality profiles will also be presented on KIC websites.

The review work starts with the team dividing the workload between them according to competencies. One person is assigned to be responsible for the compilation of the full quality report according to Templates 0, 1 and 2, together with the final evaluation and recommendation for awarding the EIT Label or not (Template 5).

[e] See Article 8.1 of the EIT Regulation and 8.1 in the Framework Partnership Agreement, FPA

[f] See 8.3 FPA

Please note that the first step is to evaluate Quality Indicator 0 – Compulsory requirements. If these requirements are not fulfilled the labelling process halts and the Education Coordinator is contacted.

The quality reports should then be presented, discussed and passed at the relevant KIC internal body (e.g. Education Committee, KIC Education Director, CEO), before a KIC decision and Template 5 is sent to the EIT. In case of doubt the review team is asked to complement the report with more information.

The follow-up reviewing of EIT-labelled programmes – Who does what, when?

The normal review cycle is four years, one year for those programmes that have received more substantial recommendations for development and improvement during the labelling process.

The responsibility for the review process rests jointly with the EIT [g] and the KICs on the basis of this handbook, complemented by external experts, selected by the KICs and approved by the EIT according to a set of rules. This means that KICs are responsible for choosing all persons involved in this process (providers of information, preferably those who work with and within the programme, reviewers including stakeholders and representatives from other KICs, and decision makers) according to these rules. The decision of the review process, whether a programme should maintain the label or not, is taken by the KIC CEO or their nominees. In case of differing views within the review group, the Chair of the group (who should be one of the external representatives) makes the final decision for recommendation.

The process at the KIC starts, after the review team has been formed, with establishing a time plan for a) gathering and providing the review team with the necessary information and material (see below and in Templates 0, 1, 2, 3 and 4), b) for how long the review process should take, c) for when the KIC decision should take place, and d) when this will be sent to the EIT. The EIT then plans for a) the KIC decisions and Template 5 to be presented at the GB and b) for displaying the quality profiles to students and stakeholders at the EIT website.

The review work starts with the team dividing the workload in between them according to competencies and assigns one person to be responsible for the compilation of the full quality report according to Templates 0, 1, 2, 3 and 4, together with the final evaluation and recommendation for the programme to maintain the EIT Label or not (Template 5).

Please note that the first step is to evaluate Quality Indicator 0 – Compulsory requirements. If these requirements are not fulfilled the labelling process stops and the Education Coordinator is contacted.

The quality reports should then be presented, discussed and passed at the review committee before the KIC decision and Template 5 are sent to the EIT. In case of doubts the review team is asked to complement the report with more information. In case of disagreements the Chair takes the decision.

The EIT Governing Board reserves the right to revoke the label should established conditions not be applied accordingly and/or consistently [h].

How will the same educational quality level be kept between KICs?
There will be one representative from each KIC in each evaluation team. The EIT Educational Panel will, at regular intervals, discuss and benchmark the results of these reviews.

[g]
From the Commission proposal for an EIT SIA: '[…] the EIT actively promotes, inter alia, the EIT labelled degrees by monitoring their quality and coherent implementation across KICs'.

[h]
Governing Board decision of September 2011

Material to be provided to review teams by KIC staff and partners

The general principle for the choice of material to be used in both the labelling and the follow-up review process is that the person(s) who are responsible for this choose the *necessary documentation in order to give evidence for the requirements of each assessment field of each quality indicator* (the questions of all assessment fields in the templates should guide this selection.) This is due to three reasons: First, overall reviews of all programme modules will be too extensive and random selections will risk that essential information is missed out; secondly, the documentation looks different at different universities and it is impossible to list all these correctly here; thirdly, when the persons who work and teach in the programmes do the selection in direct relation to what is required in relation to the Quality Indicators, this will become a strong driver of development of the programmes.

Providing material for both labelling and reviewing includes *clearly marking out for reviewers where the relevant information can be found in the chosen documents.* As far as possible officially accepted documents from the KIC universities should be used.

A list of all material, per quality indicator, should be attached with name and contact information to the KIC contact person.

If, in this process, assessment fields with big shortfalls are discovered, a recommendation is to write an Improvement plan and add this to the material sent to the review team.

Material to be provided, specified per quality indicator:

Indicator 0	• Existing documents and a signed statement from KIC CEO or EDU Director that the programme fulfils all compulsory requirements
Indicator 1 – Labelling	• Programme descriptions • List of all course/modules that are included in the programme • Access to course/module descriptions containing learning outcomes and information about assessment tasks and grading criteria • Other documents that give evidence of the assessment fields of the indicator • Please choose only enough material for reviewers to make a sound evaluation
Indicator 2 – Labelling	• This indicator requires different types of information and has to be chosen from a range of sources to cover all three assessment fields • Please choose relevant documents but only enough material for reviewers to make a sound evaluation
Indicator 3 – Labelling & Follow-up review	• **Assessment field 1:** For example projects, products or creativity test scores • **Assessment field 2:** A list of theses and other evidence of student work (e.g. theses, products, reports, etc) that reviewers make a random choice from and then require them from the KIC • **Assessment field 3:** Retention rates together with a short analysis of student retention • **Assessment field 4:** Examples in the form of published articles, reports, conference presentations etc. of research and development projects on KIC educational activities related to the programme under review. In addition material that answers the questions of 3.4.2 and 3.4.3

Indicator 4 – Labelling & Follow-up review	• **Assessment field 1:** Compiled results from student experience questionnaires • **Assessment field 2:** Compiled results from alumni experience questionnaires • **Assessment field 3:** Compiled results from questionnaires to other stakeholders

Working tools for reviewers

The main working tool for both awarding the labelling and follow-up reviewing is this handbook, first and foremost the templates. Each template addresses one quality indicator and consists of a) a table for the evaluation on a four-graded scale for each assessment field including grading criteria, b) short instructions on what material should be provided to reviewers, c) short instructions for the reviewers, and d) questions for each assessment field of this indicator.

The topic of the last template (Template 5) is the final recommendation, which should be done from a holistic view (therefore no sharp grading criteria are provided in this template), and if relevant, taking in to consideration improvement plans if these are provided.

It is important for reviewers to be well informed of how EIT-KICs use different terms and concepts as described in this handbook. The most convenient way is to read these parts while working within the templates. It is equally important to realise that both the labelling and the review processes are structured peer reviews, meaning that what should be reviewed is what is asked for in the templates and nothing else.

In case a KIC locally has added more than what is required by the QALE model, this should be evaluated with the aid of other templates and this information should not be part of the quality information that goes to EIT; the basis for decisions for awarding new labels and maintaining labels.

Part 3
Terms and Concepts

What is 'quality' in the EIT-KIC context?

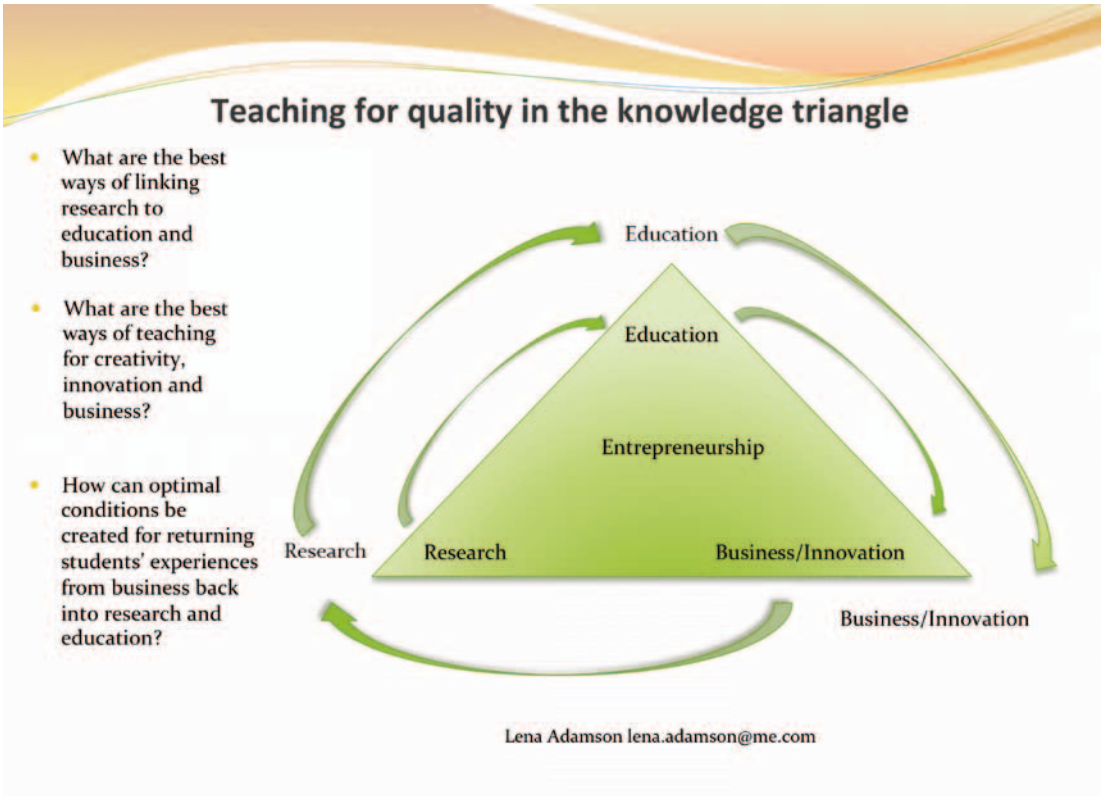
What constitutes quality in higher education has been debated for a long time. In this context high educational quality is determined by as many students as possible achieving (at least) the intended learning outcomes of the educational programme they take part in. For this to happen we know that some issues are more important than others: aligned teaching in combination with fair and reliable grading, (inter)active learning methods and clear and helpful feedback, in combination with a rich and supportive learning environment. The EIT-KIC definitions and meaning of these terms are presented in this section.

What does teaching for the knowledge triangle mean?

The knowledge triangle has so far mostly been presented as a theoretical concept and political marker on the changes that are needed in Europe when it comes to improving the integration between education, research and innovation/business. It is here transformed into a model of action – an everyday working model. Teaching and learning within the KICs should always take all three sides of the knowledge triangle into account. This refers both to educational programmes (Master and Doctoral at present), and activities connected to Continuous Professional Development (CPD), etc. Through creating a simple enquiry-based process around the three nodes of the triangle [14], questions are raised that should to be in the mind of everyone when planning and performing all EIT/KIC activities:

- What are the best ways of linking research to education and business?
- What are the best ways of teaching for creativity, innovation and entrepreneurship?
- How can optimal conditions be created for returning students' experiences from business back into research and education?

These questions constitute the basis for the EIT QALE model.



< Fig. 6
Teaching for Quality
in the Knowledge Triangle

What are learning outcomes (LOs) in the EIT-KIC context?

The EIT-KICs recognise two types of learning outcomes: intended learning outcomes (ILOs or LOs) and achieved learning outcomes (ALOs). ALOs are simply what students have achieved during a study or learning process, visualised in their individual responses to different types of exam tasks. ILOs [i] are written statements in educational documents of what a learner is expected to know, understand and/or be able to do at the end of a learning period, i.e. *the visible use of knowledge*. ILOs can be written on different levels, from qualification frameworks, to field/discipline, programme, course/module levels, and down to task level. At the top level they are sometimes named descriptors or *overarching* learning outcomes to distinguish them from the specified learning outcomes on course/module and task levels. The difference between overarching and specified learning outcomes is that the former express competencies on a general level whereas the latter should always be enough specified to be possible to tie to a fit for purpose assessment task [1].

The Bologna system levels (with QF-EHEA and National Qualification Frameworks, NQFs, at top levels) for LOs constitute a corner stone in the EIT QALE model, where the top EIT level (EIT Overarching Learning Outcomes) is used as frame of reference to which module levels of the EIT programmes are to be evaluated against. This is also in line with the Bologna system as a holistic system where all levels need to be integrated.

What are knowledge forms in the EIT-KIC context?

Knowledge forms are a way of logically grouping learning outcomes together, usually only done on the overarching level. Higher education has long focused more or less exclusively on 'knowledge and understanding'. The Bologna process has also promoted other learning needs, often called generic (transferable, transversal) skills and competencies, such as communication, making judgments, learning to learn, etc. Ordering these into knowledge forms is a way of highlighting these learning outcomes. Although the use of learning outcomes clearly moves students' learning from knowledge possession to knowledge performances, they do not by themselves guarantee that these knowledge performances cover much else than 'knowledge and understanding', still missing out on the more generic skills and competencies. The explicit use of different types of knowledge forms highlights this and is the true key of moving from content based to competence-based education [15].

Using knowledge forms is also an effective way of profiling a certain educational programme, to make these programs distinct from other programmes, e.g. for the EIT programmes, where five of the seven chosen knowledge forms directly relate to the knowledge triangle. In the real world teaching and learning situation, these knowledge forms are of course blended into each other.

How do the EIT-KICs define the relationship between aims/objectives, syllabus and intended learning outcomes?

In general, the *aims/objectives* of a course or module should answer the question 'What is the purpose of this module/course/programme of study?' The *intended learning outcomes* should instead specify the knowledge, skills and attitudes, which someone will be required to demonstrate in order to have completed the module/course/programme successfully. The relationship between aims/objectives and the learning outcomes should of course be very close, where the learning outcomes are derived from the aims/objectives. *Syllabuses* then, describe the content, the subject matter of a module, course or a programme. In sum, learning outcomes describe what students will be able to do with the content in order to fulfil the aims/objectives [16].

[i] 'Intended learning outcomes' are sometimes called 'expected learning outcomes', and often just 'learning outcomes'. In this text 'intended learning outcomes' and 'learning outcomes' will be used interchangeably, whereas 'achieved learning outcomes' will be referred to distinctly.

How do the EIT-KICs define 'high quality' intended learning outcomes?

All learning outcomes in KIC education should:
- be clearly written (easy for the student to understand);
- describe the result of the learning (not processes and activities performed during the study unit);
- deal with the course content; and
- describe visible use of knowledge: 'After the end of course/module… the student should be able to…'.

For *specified* learning outcomes we also need to add *assessability*, meaning the use of what are often called action verbs, which makes them *possible* to assess. As an example, a student's understanding is not possible to assess, neither is being aware of or becoming familiar with, whereas abilities to define, explain, calculate, differentiate, categorise, compare, and so on, can be clearly demonstrated in an assessment task [16].

How do the EIT-KICs define fit-for-purpose assessment?

Assessment should be relevant to both content and form. This means that the assessment must concern the subject under study and the assessment method should mirror the competencies students are expected to be able to demonstrate10. Assessment methods used by the KICs must provide students with opportunities to give evidence of their competencies in creativity, innovation, entrepreneurship, etc. This calls for alternative ways to traditional academic writing only, especially in relation to thesis work.

What are the EIT-KICs' recommendations for fair and reliable assessment?

KIC education endeavours to use a *relevant grading system*. Working with learning outcomes, this naturally leads to a criterion based system. In theory, all students can achieve the intended learning outcomes of the course/module and then should of course have the correct grading for this. The foundation for a criterion-based system is a *grading scale* based on numbers (1, 2, 3, etc.), letters (A, B, C, etc.) or labels (Pass, Pass with distinction, etc.) and of *grading criteria* [j]; descriptors of the extent to which the student has achieved the learning outcomes for each level of the scale.

There should also be a *continuous dialogue* between colleagues of the interpretations, use of the grading criteria, and preferably also between teachers and students. There are studies [17] [18] [19], which show that training students in using grading criteria on other students' work can in fact improve their own learning. The EIT-KICs recommend the use of *rubrics* (sets of criteria and standards linked to learning outcomes often in grid format).

What are the EIT-KICs' recommendations for active teaching and learning?

Active learning is usually defined as the teaching method in which the students become involved in various teaching activities but are also required to think about what they are doing. In other words, the teaching activities should include both *'doing'* and *'thinking/reflecting about this doing'* (students should apply a meta perspective to their own learning). This is important, since higher education does not get better just because a few practical elements are added. What makes higher education different to vocational education is that one also theorises and reflects about that practical experience [20]. That is how the difference between skills and

[j] Also one of the demands in the European Standards and Guidelines (ESG)

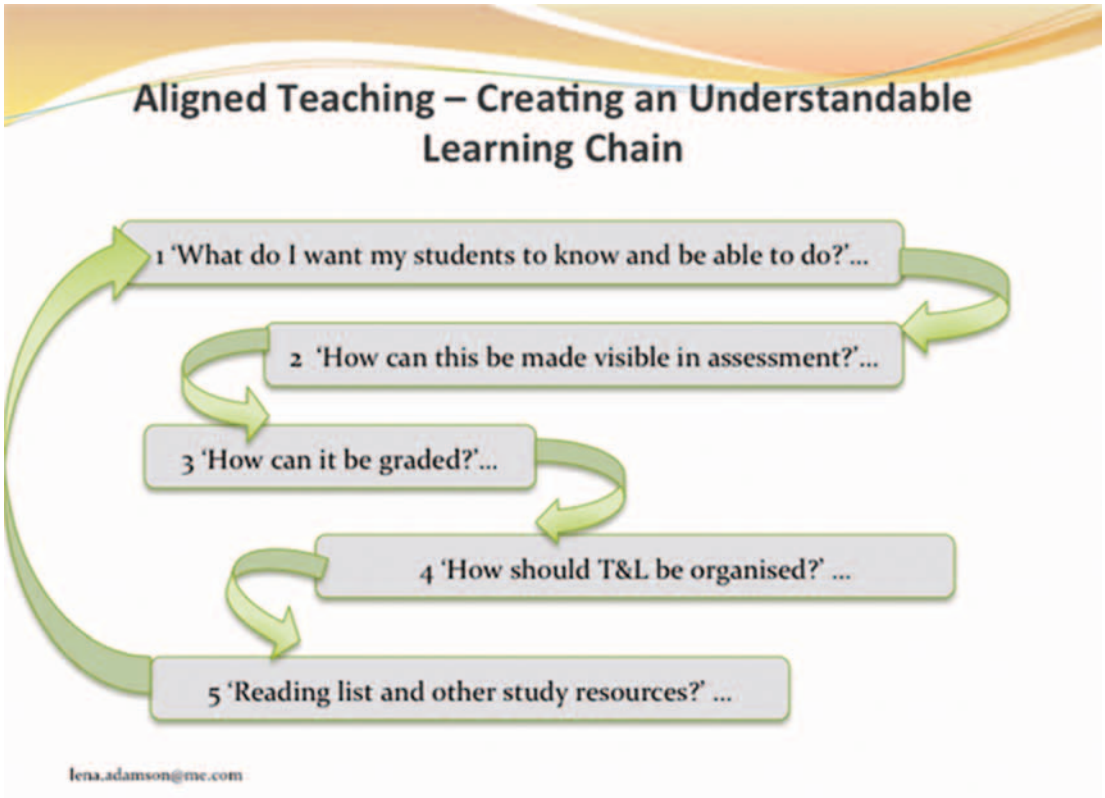
competence is defined here: a skill can be used in a particular context but nowhere else (e.g. typing technique), whereas a competence can be defined as the combination of knowledge and skill, and can be used in many different contexts. A competence allows individuals flexibility in their choice of actions.

There is a lot of support that active learning compared to more passive models (listening, as in pure lecturing models) promotes learning [21] [22] [23] [24]. The next step forward from the learning outcome paradigm may well be to instead define a study unit by its learning enquiries. However, active learning must not be equalled with the total absence of lectures. Teachers can activate students on a 'small scale' also during a lecture, for instance by asking them to compare their notes for a few minutes.

What is aligned teaching and why do the EIT-KICs endorse it?

Higher education in the European countries has been subject to considerable change within a short period. The Bologna process has led to a radical shift in the approach to the quality of education specifically by introducing the learning outcome paradigm. The consequences are two clear shifts of perspective [25]. The first involves those concerned in a change of focus from the teachers' activities to what students do and should do ('from teacher-driven to student-centred'). The second change is temporal from planning the module/course or programme 'from beginning to end', to a reversal of the process. Learning outcomes are defined first, followed by decisions of fit for purpose assessment methods, and finally the teaching and learning activities and materials that support learners' efforts to achieve the learning outcomes are chosen. This is often referred to as *constructive alignment* [26], *aligned teaching*, or sometimes as the *learning chain* and (should) result in students not only knowing things, but also knowing what to do and how to solve real life problems.

> Fig. 7
Aligned Teaching: The link between outcomes, assessment methods, grading, teaching and learning activities, and study resources.



Aligned teaching gives the student a clear logic and understanding of what s/he will be expected to do and be able to achieve by the end of the study period, subject to their own efforts. By explicitly linking the learning outcomes with relevant assessment the teacher also uses one of the strongest learning forces in the system – students' motivation to succeed with their studies.

In addition to changing focus from the teacher to the student, and from the beginning to the end of the learning period, aligned teaching also changes the focus for assessment from assessment solely of learning to assessment also *for* learning and maybe even assessment to learn. Finally, it shifts the relationship between the teacher and the students, from teachers talking to students to teachers talking and interacting with the students.

What are the EIT-KICs' definitions of joint curriculum development?

Joint curriculum development consists of cooperation between higher education institutions of different countries in specific disciplines, generating common education and training activities, generally under the heading of joint study programmes. These are characterised by a common assumption of responsibility by the participating institutions as regards the definition of the objectives of the programme, the design of the curriculum, the organisation of the studies, and the type of qualifications awarded.

The objectives of a programme are jointly defined by partner institutions, with a view to giving graduates an added value when they enter the European/international job market. This requires the identification of professional profiles that will be needed, as well as a search for coherence between the objectives pursued and the curriculum developed [27].

What do EIT-KICs mean with 'Research and Development Projects on KIC Educational Activities' in Quality Indicator 3?

The EIT and the KICs aim to make their mark in European higher education through excellent use of aligned teaching, learning outcomes, and clear assessment criteria. KIC teaching is performed with clear goals, the right choice of methods, critical refection and use of peer review processes. To improve and share these methods the KICs will run research and development projects on their work, specifically aimed towards teaching for the knowledge triangle competencies. These projects will be robust research that contributes significantly to teaching and learning knowledge in European higher education.

When carried out, these projects will be evaluated in assessment field 3.4 in the follow-up reviews.

Please note that this assessment field only adds value to the review it is not mandatory. If it scores 2 or lower it should not be recorded in the final score.

What are the EIT-KICs' definitions of joint, double and multiple degrees?

Joint degree means a single diploma issued by at least two of the higher education institutions offering an integrated programme and recognised officially in the countries where the degree-awarding institutions are located [28].

Double or *multiple degrees* mean two or more national diplomas issued by two or more higher education institutions and recognised officially in the countries where the degree-awarding institutions are located [28].

Part 4
EIT Doctoral Programmes

Introduction

The main outcome of EIT Doctoral programmes is the same as for the EIT Master programmes: the Doctoral candidates achieve the EIT Overarching Learning Outcomes (Annex 1.2). Programmes provide Doctoral candidates with opportunities to develop a true entrepreneurial mindset and knowledge triangle skills and competencies. However, third cycle programmes differ from second cycle in one fundamental aspect. It rests on the practice of research and as such it also becomes highly individualised. This has some implications for the EIT labelling and follow-up review processes described below. Overall, the EIT Doctoral programmes and the quality assurance of these draws on the *Salzburg II Recommendations* [29] and *Doctoral degrees beyond 2010: Training Talented Researchers for Society* [30].

How do EIT-KICs define a Doctoral programme?

A Doctoral programme either refers to a group of candidates or a single individual. In order to solve this in the labelling and follow up review processes, an EIT Doctoral programme will therefore be defined as *the EIT Doctoral Work Plan for the KIC added value*. This is a document that should be used for each doctoral student as a transparent contractual framework of shared responsibilities (cf. the Salzburg II Recommendations # 5) between the candidate and the KIC.

The subject of evaluation for labelling EIT Doctoral programmes will be the KICs' templates for these work plans. These should ensure, as for Master programmes, that 1) the Doctoral candidates are given the opportunities to attain the EIT Overarching Learning Outcomes and 2) that the criteria in 'Conditions for EIT-labelled degrees and diplomas' are fulfilled.

The subject of follow-up reviews will be theses and other products that give evidence of the specific EIT profile for these programmes.

What is the main difference between the EIT QALE model for Doctoral programmes and the one used for Master programmes?

The QALE model for Master programmes is constructed as a set of Quality Indicators, each comprising three to five assessment fields. For Doctoral programmes Quality Indicator One 'Aligned Teaching and Content Coverage' has been replaced by 'EIT Overarching Learning Outcomes Coverage'. Instead of looking at teaching processes in relation to the EIT learning outcomes as for Master programmes, this indicator leaves room for a more flexible approach for both labelling and doing follow-up reviews that suit both research training and taught courses in order to secure the EIT Label. This is the only difference from the model used for Master programmes, and the contents of this handbook therefore also provide useful information for planning, performing and reviewing the EIT Doctoral programmes. Regarding the actual processes for labelling and doing follow-up reviews, please see pages 25 and 26.

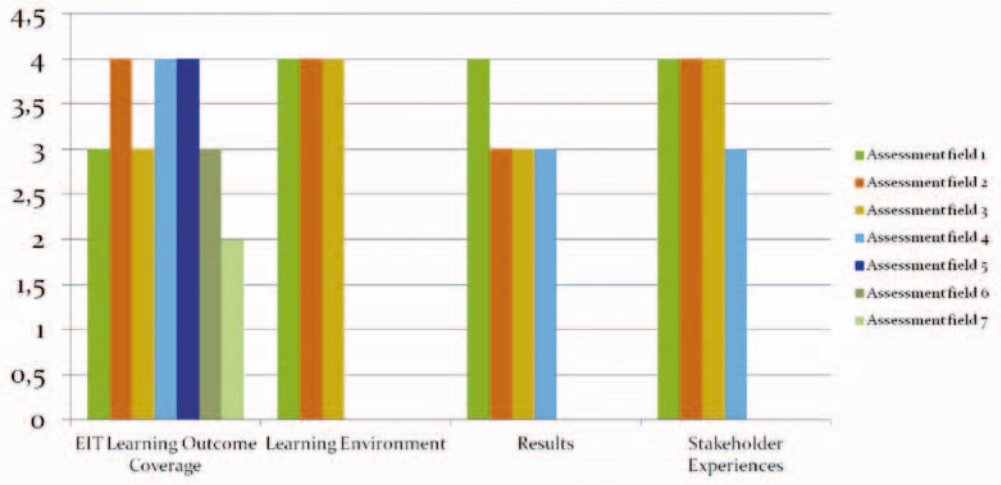
> Fig. 8
EIT QALE Model,
Quality Indicator structure
for Doctoral programmes

The 1+4 Quality Indicators of the Quality Assurance and Learning Enhancement Model Doctoral Programmes

Q Indicators: ********** Assessment fields:	Q Indicator 0 COMPULSORY REQUIREMENTS		Q Indicator 1 EIT LEARNING OUTCOMES COVERAGE	Q Indicator 2 LEARNING ENVIRONMENT AND FACILITIES	Q Indicator 3 RESULTS	Q Indicator 4 STAKEHOLDER EXPERIENCES
Assessment field 1	0.1 Mobility		1.1 Creativity s/c	2.1. Robust Entrepreneurship Education	3.1 Creativity	4.1 Doctoral Candidate Experiences
Assessment field 2	0.2 Business Partner Curriculum Collaboration		1.2 Innovation s/c	2.2 Highly Integrated, Innovative 'Learning-by-Doing' Curricula	3.2 Achieved Learning Outcomes	4.2 Alumni Experiences
Assessment field 3	0.3 ECTS, DS and Recognition		1.3 Entrepreneurship s/c	2.3 Mobility, European Dimension and openness to the World	3.3 Retention Rates	4.3 Other Stakeholders Experiences
Assessment field 4	0.4 Application, Selection and Admission		1.4 Research s/c		3.4 R & D Projects on KIC Educational Activities	
Assessment field 5	0.5 English as Teaching language, EIT Logo		1.5 Intellectual . Transforming s/c			
Assessment field 6			1.6 Leadership s/c			
Assessment field 7			1.7 Making Value Judgements s/c			

> Fig. 9
Quality Profiles,
Doctoral programmes

Fictive EIT Quality Profile



4 The field is excellent
3 The field is good
2 The field meets the minimum criteria but still needs improvement
1 The field does not meet the minimum criteria

The task now for review teams is to assess whether the programmes foster a true integration of the knowledge triangle dimensions; research, education and innovation/business. This is done by using the templates below. The review focus is primarily on KIC added value; *other aspects are left to local or national QA systems.*

Template D0	For Initial Checking of **Compulsory Requirements** (Quality Indicator 0)
Template D1	For Labelling and for Follow-up Reviewing of **EIT Overarching Learning Outcome Coverage** (Quality Indicator 1)
Template D2	For Labelling *and* for Follow-up Reviewing of **Learning Environment and Facilities** (Quality Indicator 2)
Template D3	For Follow-up Reviewing of **Results** (Quality Indicator 3)
Template D4	For Follow-up Reviewing of **Stakeholder Experiences** (Quality Indicator 4)
Template D5	For Reviewers' **Recommendations for Awarding** *or* **Maintaining** the EIT Label
Template D6	Suggestions from the Review Team of Fields that Need Development

Templates for Doctoral Programmes

Template D0

For Initial Checking of Compulsory Requirements for Doctoral Programmes

Quality Indicator 0

Material to be provided and used for the review

Existing documents and a signed statement from KIC CEO or EDU Director; the following compulsory requirements are fulfilled in relation to each doctoral candidate who will receive an EIT-labelled Doctoral Certificate. See also pages 27.

Instruction for reviewers

This indicator differs from the rest of the Quality Indicators in the sense that all assessment fields are necessary components of EIT-labelled degrees and as such are obligatory. They are assessed on a yes/no basis and all assessment fields need to be fulfilled in order to proceed with the review of the programme. Should this not be the case, the review should stop here and the Education Coordinator contacted.
Thank You!

No.	Assessment Field	Evaluation Yes or No
0.1	0.1.1 Does the mobility window have a minimum of 30 ECTS or equivalent in workload?	Yes/No
	0.1.2 Is the mobility period composed of both international and cross-organisational mobility?	Yes/No
0.2	0.2.1 Are a minimum of two non-university partners [k] actively engaged in the development, teaching, supervision and defence of the KIC added value of the programme?	Yes/No
	0.2.2 Is there an active promotion of the development, teaching, supervision and defence of the KIC added value of the programme involving different sectors of the KIC partnership?	Yes/No
0.3	0.3.4 Does the length of this programme comply with Salzburg II Recommendations (three to four years full time or equivalent) for Doctoral programmes?	Yes/No
	0.3.5 Is the degree recognised in at least the countries of the awarding universities?	Yes/No
0.4	0.4.1 Are criteria for the assessment of the candidates' entrepreneurial potential included in the selection process?	Yes/No
	0.4.2 Do the universities delivering the programme conduct the application, selection and admission of candidates jointly?	Yes/No
	0.4.3 Will doctorate holders be included in the KIC alumni organisation and tracking system?	Yes/No
0.5	0.5.4 Is the programme taught in English?	Yes/No
	0.5.5 Is 'EIT' included in relation to the name of the programme?	Yes/No
	0.5.6 Is the EIT logo on the degree certificate or will a separate certificate be provided?	Yes/No
	Total	Go/No-Go

[k] This includes all non-academic partners; business, NGOs, university hospitals, university foundations, etc.

Template D1

For Labelling *and* for Follow-up Reviewing of Doctoral Programmes

Quality Indicator 1 **EIT Overarching Learning Outcomes Coverage**

Quality Indicator 1 ***EIT Overarching Learning Outcomes Coverage.*** **Assessment in Points by Fields of Assessment.**

No.	Assessment Field	Points*
1.1	Creativity skills/competencies	
1.2	Innovation skills/competencies	
1.3	Entrepreneurship skills/competencies	
1.4	Research skills/competencies	
1.5	Intellectual transforming skills/competencies	
1.6	Leadership skills/competencies	
1.7	Making Value Judgements skills/competencies	
	Total	

* 1 The field does not meet the minimum criteria = 'NOES' are present
2 The field meets the minimum criteria but still needs improvement = Criteria are partially met
3 The field is good = Most criteria are 'YESSES'
4 The field is excellent = All 'YESSES'

Material to be provided and used for the review, **see page 27**

Material to be provided and used for the review are the templates used for individual work plans and other documents that give evidence that all doctoral candidates who will receive an EIT-labelled Doctoral Certificate will be able to attain the EIT Overarching Learning Outcomes.

Instruction for reviewers

Write a short (max. 500 words) evaluation on this Quality Indicator by stating your opinions on the seven assessment fields below. Please qualify your statements, preferably with some examples. Then grade each assessment field on the four-graded scale in the table above. Please note that different universities within the same programme may show different quality on the same assessment field. Your grading should be a holistic evaluation on the programme as a whole. The review focus is primarily on KIC added value.
Please avoid giving information about anything other than the assessment fields that are listed.
Thank You!

Assessment fields 1.1 -1. 7

- 1.1.1 – 1.7.1. Does the work plan include activities that promote doctoral candidates developing the skills and competencies as expressed in the seven knowledge forms of EIT Overarching Learning Outcomes?
- 1.1.2 – 1.7.2 Is other evidence provided that promotes doctoral candidates to develop these skills and competencies?

Template D2

For Labelling *and* for Follow-up Reviewing of Doctoral Programmes

Quality Indicator 2 Learning Environment and Facilities

Quality Indicator 2 ***Learning Environment and Facilities.*** **Assessment in Points by Field of Assessment.**

No.	Assessment Field	Points*
2.1	Robust Entrepreneurship Education	
2.2	Highly Integrated, Innovative 'Learning-by-doing' Curricula	
2.3	Mobility, European Dimension and Openness to the World	
	Total	

* 1 The field does not meet the minimum criteria = 'NOES' are present
2 The field meets the minimum criteria but still needs improvement = Criteria are partially met
3 The field is good = Most criteria are 'YESSES'
4 The field is excellent = All 'YESSES'

Material to be provided and used for the review, see page 27

Material to be provided and used for the review are the templates used for individual work plans and other documents that give evidence that all the criteria for the indicator are fulfilled in relation to each doctoral candidate who will receive an EIT-labelled Doctoral Certificate.

Instruction for reviewers

Write a short (max. 500 words) evaluation on this Quality Indicator by stating your opinions on the three assessment fields below. Please qualify your statements, preferably with some examples. Then grade each assessment field on the four-graded scale in the table above. As guidelines for your evaluation use criteria and specifications in Annex 1 'Conditions for EIT-labelled degrees and diplomas'. Please note that different universities within the same programme may show different quality on the same assessment field. Your grading should be a holistic evaluation on the programme as a whole. The review focus is primarily on KIC added value.
Please avoid giving information about anything other than the assessment fields that are listed.
Thank You!

Assessment field 2.1 Robust Entrepreneurship Education

- 2.1.1 Does the programme foster a climate in which entrepreneurship is nurtured and where doctoral candidates are offered a comprehensive array of technical, financial and human services and means (e.g. incubators, mentoring and coaching, 'business angels', seed money) to test out the commercial potential and viability of their ideas/research outcomes?
- 2.1.2 Does the programme provide structured opportunities for on-the-job learning, exposing doctoral candidates to the reality of professional life in industry and business?

>>>

Assessment field 2.2 Highly Integrated, Appropriate 'Learning-by-doing' Curricula

- 2.2.1 Has the programme adopted a strong trans-disciplinary approach (e.g. via joint courses across sectors) going beyond the borders of science and technology, but also reaching out to social sciences to address broad societal challenges and to link up with new business and innovation processes?
- 2.2.2 Has the programme established responsible partnerships between universities and enterprises in the development, teaching and by joint supervision of doctoral work?
- 2.2.3 Does a coherent support structure for knowledge transfer (e.g. knowledge transfer units, incentives schemes for researchers, co-location centres) exist?

Assessment field 2.3 Mobility, European Dimension and Openness to the World

- 2.3.1 Does the programme take a 'learning outcomes' oriented approach in the development of the EIT-labelled programmes in accordance with the European Qualifications Framework and the common transparency instruments (e.g. learning outcomes), thus facilitating recognition, at least in the countries of the awarding universities?
- 2.3.2 Does the programme facilitate smooth transitions between academia and industry via e.g. student internships, recruitment of teaching staff from the industry and business sectors, etc?

Template D3
For Follow-up Reviewing of Doctoral Programmes

Quality Indicator 3 Results

Quality Indicator 3 ***Results.*** **Assessment in Points by Field of Assessment.**

No.	Assessment Field	Points*
3.1	Creativity	
3.2	Achieved Learning Outcomes	
3.3	Retention Rates	
3.4	Research and Development Projects on KIC Educational Activities	
	Total	

* 1 The field does not meet the minimum criteria = 'NOES' are present
2 The field meets the minimum criteria but still needs improvement = Criteria are partially met
3 The field is good = Most criteria are 'YESSES'
4 The field is excellent = All 'YESSES'

Material to be provided and used for the review, see pages 27

Material to be provided and used for the review of this indicator:

3.1 Examples of candidates' creativity can for instance consist of projects, products or creativity test scores.
3.2 A list of theses and other evidence of candidate work (e.g. theses, products, reports, etc.). Subsequently, reviewers will request examples of theses and other evidence based on a random choice.
3.3 Retention rates
3.4 Reports on R&D projects and examples that give evidence to 3.4.2 and 3.4.3

Instruction for reviewers

Write a short (max. 500 words) evaluation on this Quality Indicator by stating your opinions on the four assessment fields below. Please qualify your statements, preferably with some examples. Then grade each assessment field on the four-graded scale in the table above. As guidelines for your evaluation, use Annex 1 'EIT Overarching Learning Outcomes' in addition to the description of this Quality Indicator in this document. For reviewing 3.2 pick a random sample from the list provided, require these from the KIC and review according to 3.2.1. Please note that different universities within the same programme may show different quality on the same assessment field. Your grading should be a holistic evaluation on the programme as a whole. The review focus is primarily on KIC added value.

Please avoid giving information about anything other than the assessment fields that are listed.

Thank You!

Assessment field 3.1 Creativity

- 3.1.1 Has evidence of doctoral candidates' creativity been provided?

Assessment field 3.2 Achieved Learning Outcomes

- 3.2.1 Does the sample demonstrate that doctoral candidates have achieved the EIT Overarching Learning Outcomes including robust entrepreneurial skills and a true integration of the knowledge triangle dimensions?

Assessment area 3.3 Retention Rates

- 3.3.1 Are retention [l] rates satisfactory?

Assessment area 3.4 Research and Development Projects on KIC Educational Activities [m] (before grading see page 34 of this document)

- 3.4.1 Have any R&D activities in relation to this programme been reported?
- 3.4.2 If yes on 3.4.1, have these led to new knowledge about what developments in the programme are needed, alternatively of 'what works'?
- 3.4.3 Have they led to knowledge-based decisions on what to keep or what to change in the programme?

[l] Number of admitted students completing the full programme.

[m] This assessment field adds value to the review but is not mandatory. If it scores 2 or lower, then it should not be recorded in the final score.

Template D4
For Follow-up Reviewing of Doctoral Programmes

Quality Indicator 4 Stakeholder Experiences

Quality Indicator 4 ***Stakeholder Experiences.*** **Assessment in Points by Field of Assessment.**

No.	Assessment Field	Points*
4.1	Doctoral Candidate Experiences	
4.2	Alumni Experiences	
4.3	Other Stakeholder Experiences	
	Total	

* 1 The field does not meet the minimum criteria = 'NOES' are present
2 The field meets the minimum criteria but still needs improvement = Criteria are partially met
3 The field is good = Most criteria are 'YESSES'
4 The field is excellent = All 'YESSES'

Material to be provided and used for the review, see pages 27

Instruction for reviewers

Write a short (max. 500 words) evaluation on this Quality Indicator by stating your opinions on the three assessment fields below. Please qualify your statements, preferably with some examples. Then grade each assessment field on the four-graded scale in the table above. Please note that different universities within the same programme may show different quality on the same assessment field. Your grading should be a holistic evaluation on the programme as a whole. The review focus is primarily on KIC added value.
Please avoid giving information about anything other than the assessment fields that are listed.
Thank You!

Assessment field 4.1 Doctoral Candidate Experiences

- 4.1.1 See specific criteria and cut off values for questionnaire/interviews/focus groups results

Assessment field 4.2 Alumni Experiences

- 4.2.1 See specific criteria and cut off values for questionnaire/interviews/focus groups results

Assessment field 4.3 Other Stakeholder Experiences

- 4.3.1 See specific criteria and cut off values for questionnaire/interviews/focus groups results

Template D5

Recommendations by the Review Team for Awarding *or* Maintaining the EIT Label for Doctoral Programmes

Instruction for reviewers

The final evaluation and suggestion for receiving/maintaining the EIT Label builds on the average score of indicators 1-4, however the evaluation should be made from a holistic view without sharp cut-off values. This means that from a holistic perspective some shortfalls can be compensated by for instance the existence of a clear improvement plan. Should the review team not recommend the programme to receive/maintain its label, main arguments for this should be specified. Should the review team not agree on a recommendation the Chair of the group makes the final decision. This situation should be stated clearly and main arguments for the disagreement should be specified.

Thank You!

Awarding the EIT Label

No.	Indicator	Points*
1	EIT Learning Outcomes Coverage	
2	Learning Environment and Facilities	
	Total	

* 1 The field does not meet the minimum criteria = 'NOES' are present
2 The field meets the minimum criteria but still needs improvement = Criteria are partially met
3 The field is good = Most criteria are 'YESSES'
4 The field is excellent = All 'YESSES'

Maintaining the EIT Label

No.	Indicator	Points*
1	EIT Learning Outcomes Coverage	
2	Learning Environment and Facilities	
3	Results	
4	Stakeholder Experiences	
	Total	

* 1 The field does not meet the minimum criteria = 'NOES' are present
2 The field meets the minimum criteria but still needs improvement = Criteria are partially met
3 The field is good = Most criteria are 'YESSES'
4 The field is excellent = All 'YESSES'

Recommendation	Awarding the EIT Label	Maintaining the EIT Label
Yes, for four years before next follow up		
Yes, for one year before next follow up		
No		

Date:

Name of Chair of Review Team:

Names of Review Team members:

Template D6

Suggestions from the Review Team of Fields that Need Development

Instruction for reviewers

When writing suggestions of fields that need developing (which can be made regardless of recommendation) please do not exceed 1 000 words and consider the use of listing them as bullet points.

Annexes

Annex 1.1 Conditions for EIT-labelled degrees and diplomas

The quality criteria for EIT-labelled degrees and diplomas form an integral part of the Framework Partnership Agreement (FPA) signed between the EIT and the KICs. The work of the EIT-KICs education working group has been to flesh out these criteria in order to make them more EIT-specific. Column 1 contains the 'original' criteria as stipulated in the FPA and column 2 includes the specifications. **The criteria and the specifications are to be read in conjunction and together form the conditions for EIT-labelled degrees and diplomas** awarded by the higher education institutions in the KICs.

These conditions may be further refined in the future to take into account lessons learnt from the practical implementation of the degree programmes (incl. further adaptations regarding PhD programmes) and of new developments in the field of higher education in order to continuously develop and improve EIT-labelled degree programmes.

1. Robust entrepreneurship education

Criterion (as per FPA)	Specifications
Adopt an open concept to innovation and entrepreneurship, encompassing but not confined to setting up a business or running an SME.	Application of the EIT Overarching Learning Outcomes* and the creation of a learning environment conducive to innovation, creativity and knowledge-intensive entrepreneurship with the main focus on the thematic area of the KIC. **see Annex 1.2*
In view of enhancing broad employability of graduates across sectors, set up coherent Master programmes and structured PhD trajectories in order to facilitate the acquisition of transferable skills, in particular entrepreneurial skills. These skills could include personal skills (e.g. team working, communication, self-confidence, taking initiative, problem-solving, taking calculated risk, leadership) and business skills (e.g. basic economics, financial literacy, developing market research, drafting a business plan, raising finance, sales techniques, running a business meeting).	
Embed entrepreneurship in the curricula and learning offer in order to provide relevant training for future entrepreneurs.	Provide and utilise the entrepreneurial environment at the co-location centres and at KIC level and actively engage students in entrepreneurship activities.
Foster a climate in which entrepreneurship is nurtured and where students are offered a comprehensive array of technical, financial and human services and means (e.g. incubators, mentoring and coaching, 'business angels', seed money) to test out the commercial potential and viability of their ideas/research outcomes.	

Provide structured opportunities for on-the-job learning, exposing students to the reality of professional life in industry and business.	Provide and use integrated mobility windows of: • a minimum of 30 ECTS for Master programmes; and • a minimum of 30 ECTS for PhD programmes or the equivalent in workload or duration. This includes **both geographical** (between countries/co-location centres) **and 'cross-organisational' mobility** (i.e. transition between academia and business/internships) in order to fulfil the purpose of the programme and meet the learning outcomes. For Master and where appropriate PhD programmes, define the specific learning outcomes of the mobility window and attribute a fixed number of ECTS to the mobility window. *Note: Criteria 1.5 and 3.2 – covered by same specification*

2. Highly integrated, innovative 'learning-by-doing' curricula

Criterion (as per FPA)	Specifications
Adopt a strong trans-disciplinary approach (e.g. via joint courses across sectors) going beyond the borders of science and technology but also reaching out to social sciences to address broad societal challenges and to link up with new business and innovation processes.	• Apply the EIT Overarching Learning Outcomes. • Integrate transdisciplinary/cross-disciplinary structural elements into the degree programmes. • Offer courses that provide a holistic view/ analysis of the subject (thematic area of the KIC: ICT/Energy/Climate).
Establish responsible partnerships between universities and enterprises in the development of curricula, in teaching activities and by joint supervision of Master and PhD projects.	• Actively engage a minimum of two companies/ business partners in the development of curricula and teaching activities. • Actively engage companies/business partners in the joint supervision of Master and Ph.D. projects. • Recruit/contract teaching staff/supervisors from industry and business.
Take into account the latest developments in innovative teaching by e.g. favouring interactive learning methods.	Apply active and student-centred learning methods and use new tools and delivery mechanisms.
Create a coherent support structure for knowledge transfer (e.g. knowledge transfer units, incentives schemes for researchers, co-location centres).	Use a support structure for technology transfer and valorisation of research results, building where possible on existing infrastructures in co-location centres and at KIC level, in order to enable students to put their ideas into practice.

Promote joint or multiple degrees and qualifications awarded by the different partner universities of the KIC on the basis of jointly agreed curricula involving different strands of the KIC partnership (education-research-business and industry).	• Develop the curriculum jointly with the universities involved in the KIC/different co-location centres. • Facilitate intra-KIC mobility of students, teaching staff and professionals. • Agree on the awarding of degrees.

3. Mobility, European dimension and openness to the world

Criterion (as per FPA)	Specifications
Take a 'learning outcomes' oriented approach in the development of the EIT-labelled curricula in accordance with the European Qualifications Framework and the common transparency instruments (learning outcomes, ECTS, DS), thus facilitating recognition, at least in the countries of the awarding universities.	• Apply 120 ECTS for Master degrees in order to facilitate global recognition and attract international students. • Apply the Diploma Supplement, ECTS credits and respect the Qualifications Framework of the European Higher Education Area. • Have the degree recognised in, at least, the countries of the awarding universities.
Integrate 'mobility windows' or structured opportunities for international mobility integrated in each study programme, both for intra-KIC and international mobility (within and outside KICs), with built-in mechanisms for the recognition of periods of study undertaken in partner institutions, based on the European credit transfer and accumulation system.	• Provide and use integrated mobility windows of: - a minimum of 30 ECTS for Master programmes; and - a minimum of 30 ECTS for PhD programmes or the equivalent in workload or duration. This includes **both geographical** (between countries/co-location centres) **and 'cross-organisational' mobility** (i.e. transition between academia and business/internships) in order to fulfil the purpose of the programme and meet the learning outcomes. • For Masters and, where appropriate PhD programmes, define the specific learning outcomes of the mobility window and attribute a fixed number of ECTS to the mobility window. • Utilise the co-location centres in providing and organising the mobility experience.
Facilitate smooth transitions between academia and industry via e.g. student internships, recruitment of teaching staff from the industry and business sector, etc.	• Actively engage a minimum of two companies/businesses in the development of curricula and teaching activities. • Actively engage companies/business partners in the joint supervision of Master and PhD projects. • Recruit/contract teaching staff/supervisors from industry and business.

Develop a culture of quality in alignment with recent developments in the European Higher Education Area (Bologna Process) in European cooperation in quality assurance by defining procedures for internal and external evaluation of quality of the study programmes. On top of this, new European and international approaches to quality of entrepreneurship education could be developed.	Comply with national quality assurance and recognition criteria.
Develop and implement a strategy for global cooperation.	Recruit international students and staff, and promote EIT-labelled programmes worldwide. Identify innovation hotspots in the world and engage in an active cooperation with a view to further develop and implement education and innovation activities.

4. Outreach strategy and access policy

Criterion (as per FPA)	Specifications
• Define a joint strategy involving the different strands of the KIC partnership (universities, research bodies, business and industry) for knowledge sharing with society at large. In this context provision of open educational resources could be encouraged.	To be further developed by EIT and KICs regarding: • cross-KIC strategy; and • KICs-EIT common strategy.
• Adopt an equitable access merit-based access policy with defined entry requirements in view of attracting entrepreneurial talent.	Define the criteria, including criteria for the assessment of entrepreneurial potential, and conduct jointly the student application, selection and admission.
• Establish structured links with future 'EIT' alumni.	• Set-up an alumni organisation and tracking system of EIT graduates.

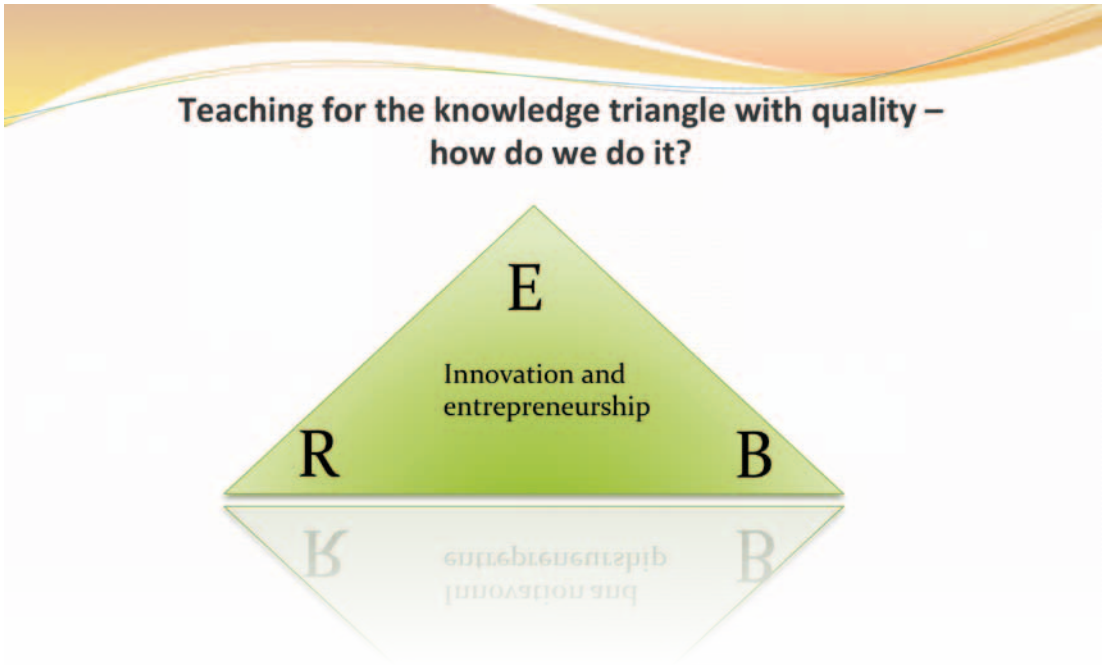
5. Other

Specifications
Make arrangements between the universities on the common denomination of EIT Master and PhD programmes in English, including the integration of 'EIT' in the name of the degree and the use of the EIT logo on the degree certificate and on the Diploma Supplement.

Annex 1.2 EIT Overarching Learning Outcomes

Towards/implementing EIT-labelled degrees and diplomas at Master and PhD levels EIT Overarching Learning Outcomes (EIT-LOS)

The EIT's mission is to deliver a unique brand of excellent and relevant education responsive to both business and societal demands, focused on innovation, entrepreneurship and creativity based on the integration of the knowledge triangle:



The hallmark of EIT educational activities is to not only educate students to know but also to know what to do and how to solve real life problems all framed within an entrepreneurial mindset.

To ensure that EIT-labelled educational programmes at Master and PhD levels foster students to become more creative, innovative, and enterprising, EIT-specific knowledge forms have been developed and EIT Overarching learning outcomes drafted (by the EIT-KICs education working group).

These learning outcomes, together with the refined quality criteria and the provision of a rich learning environment form the 'conditions' for guaranteeing the EIT Label.

EIT-LABELLED PROGRAMMES SHOULD ENSURE THAT STUDENTS CAN DEMONSTRATE:

Creativity skills and competencies

Master
The ability to think beyond boundaries and systematically explore and generate new ideas.

Doctoral
The ability to think beyond boundaries and systematically explore and generate new ideas and to inspire and support others in this process and contribute to the further development of those ideas.

Innovation skills and competencies

Master
The ability to use knowledge, ideas or technologies to create new or significantly improved products, services, processes or policies or new business models.

Doctoral
The ability to use their research combined with the knowledge, ideas or technologies of others to create, test and implement new or significantly improved products, services, processes or policies.

Entrepreneurship skills and competencies

Master and Doctoral
The ability to transform innovations into feasible business solutions.

Research skills and competencies

Master
Knowledge and understanding of cutting-edge research methods, processes and techniques; their application, within their study field; the investigation of new venture creation and growth, and the capability to work in cross-disciplinary teams in the thematic field of their KIC.

Doctoral
Original research contributions and the ability to apply, extend and develop research methods, processes and techniques using cross-disciplinary approaches towards new venture creation and growth in the thematic field of their KIC.

Intellectual transforming skills and competencies

Master
The ability to transform practical experiences into research problems and challenges.

Doctoral
The ability to autonomously and systematically transform practical experiences into research problems and challenges and to lead and support others in this process.

Leadership skills and competencies

Master
Leadership and decision-making, based on a holistic understanding of the contributions of higher education, research and business to value creation, in limited-sized teams and contexts.

Doctoral
Leadership and decision-making based on a holistic understanding of the contributions of higher education, research and business to value creation.

Making value judgments

Master
An appreciation of ethical, scientific and sustainability challenges as they pertain to their field of work.

Doctoral
The application of critical analysis, and evaluation of ethical, scientific and sustainability challenges in relation to their work.

These learning outcomes should be regarded as work in progress which may be further refined by the EIT and KICs when deemed necessary, in compliance with current and emerging European standards for cooperation in higher education and research.

The EIT Overarching Learning Outcomes complement the learning outcomes of QF-EHEA and should, in the same way, be transformed into more specific outcomes on programme and module levels respectively, as well as be connected to *relevant* forms of assessment, teaching and learning activities. The EIT overarching LOs are not separate components that can be 'ticked off' one by one when planning and (performing) teaching, but must instead be integrated in a well-balanced manner to create programmes that foster innovative and entrepreneurial mindsets based on the knowledge triangle.

Annex 1.3 EIT Knowledge Forms – QF-EHEA

The QF-EHEA uses five different forms of knowledge: 'Qualifications that signify completion of the second (Master) cycle are awarded to students who…':

Knowledge and understanding

Master
…have demonstrated knowledge and understanding that is founded upon and extends and/or enhances that typically associated with Bachelor's level, and that provides a basis or opportunity for originality in developing and/or applying ideas, often within a research context.

Doctoral
…have demonstrated a systematic understanding of a field of study and mastery of the skills and methods of research associated with that field.

Applying knowledge and understanding

Master
…can apply their knowledge and understanding, and problem solving abilities in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study.

Doctoral
…have demonstrated the ability to conceive, design, implement and adapt a substantial process of research with scholarly integrity.

…have made a contribution through original research that extends the frontier of knowledge by developing a substantial body of work, some of which merits national or international refereed publication.

Making judgments

Master
…have the ability to integrate knowledge and handle complexity, and formulate judgements with incomplete or limited information, but that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgements.

Doctoral
…are capable of critical analysis, evaluation and synthesis of new and complex ideas.

Communication

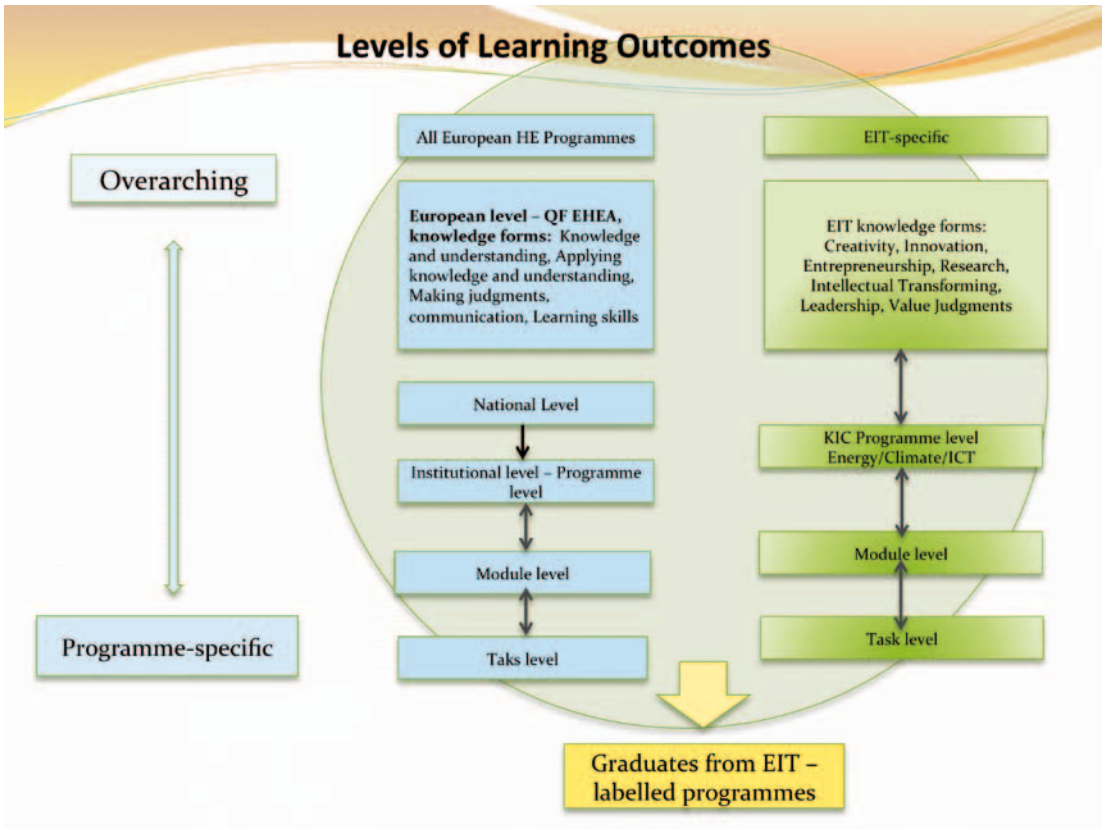
Master
…can communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously.

Doctoral
…can communicate with their peers, the larger scholarly community and with society in general about their areas of expertise.

Learning skills

Master
…have the learning skills to allow them to continue to study in a manner that may be largely self-directed or autonomous.

Doctoral
…can be expected to be able to promote, within academic and professional contexts, technological, social or cultural advancement in a knowledge based society.



Annex 2 Common format for diploma supplements for EIT-labelled degrees

As the EIT is an EU body, EIT-labelled degrees will fully align with the 'acquis' of the European Higher Education Area and give proof of correct implementation of transparency tools, like the Diploma Supplement, ECTS and the European Qualifications Framework.

This implies that the DS template for EIT degrees should not be reinvented but should be followed section by section, and that the EIT-labelled degree-awarding universities will have to follow the instructions as set out by the European Commission, the Council of Europe and UNESCO on the format of the DS. This information can be consulted at the DS page of DG EAC:
http://ec.europa.eu/education/lifelong-learning-policy/doc/ds/ds_en.pdf

Of particular relevance are the Explanatory Notes in section 2, which provide detailed information guidance on how to fill out the different sections of the template.

In addition the DS accompanying the EIT-labelled degrees will give particular attention to the following sections of the template:

2.3. Name and status of the awarding institution

According to the EIT Regulation only higher education institutions can award the degrees.

3.2. Official length of the programme

Here a reference to ECTS is mandatory for Master courses and where applicable, recommendable for (part of) the PhD programmes. Please note that ECTS credits should be attributed to the programmes with full respect of the ECTS key features as adopted by the European Commission and the Member States.
Reference: http://ec.europa.eu/education/lifelong-learning-policy/doc48_en.htm

3.3. Access requirements

Apart from the general access conditions (Bachelor or Master degree), the selection procedure with details on the criteria for selection (e.g. academic excellence, entrepreneurial potential, etc.) will be mentioned.

4.1. Mode of the programme

In this section it can be mentioned that mobility, both geographical and between academia and business is mandatory.

4.3. Programme details

Learning outcomes of each programme should be spelled out in detail (if necessary in an annex). Please start the description of the specific learning outcomes for the programme with a reference to the generic learning outcomes for the second or the third cycle as spelled out in the overarching Qualifications Framework for the European Higher Education Area or level 7 and 8 of the European Qualifications Framework for Lifelong Learning. See annex 2 on the EQF recommendation:
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:111:0001:0007:EN:PDF

6.1. Additional information

Here the following text on EIT-labelled degrees in general can be inserted:

'EIT Master/PhD degree programmes are offered by research universities in cooperation with research institutes and innovative businesses, which form the EIT Knowledge and Innovation Communities (KICs). Each KIC addresses a particular global challenge by integrating higher education, research and innovation.

The EIT Master/PhD in … is organised in the context of Climate KIC/KIC InnoEnergy/EIT ICT Labs.

EIT-labelled degrees build on the experience gained in the context of other EU actions and are in line with the main achievements of the European Higher Education Area (Bologna Process), in particular in the field of Quality Assurance (European Standards and Guidelines) and recognition tools like the European Qualifications Framework, ECTS and the Diploma Supplement.

EIT curricula are moreover specifically geared at innovation and creativity follow an entrepreneurial approach and have a developed international outreach strategy. They aim at translating state-of-the-art research into new services and products. Students work in trans-disciplinary multicultural teams coached in an interactive way by academics as well as practitioners. International mobility and placements in industry and business are an essential part of the curriculum. EIT degrees follow quality criteria to encompass the specific features of the EIT curricula.'

7.4. Official seal of stamp

Apart from the seals of the awarding universities, the EIT logo will always appear. The logo of the KIC concerned may figure in addition, but this is not mandatory.

DS and ECTS labels

EIT degrees could apply for the DS and ECTS labels respectively to make their good practice more visible to a wider public. More information can be found at:
http://eacea.ec.europa.eu/llp/erasmus/erasmus_ects_ds_en.php

Annex 3 Guidance on ECTS

For guidance on ECTS please consult the following weblink:
http://ec.europa.eu/education/lifelong-learning-policy/ects_en.htm

Abbreviations

ALO	Achieved Learning Outcome
CEO	Chief Executive Officer
CLC	Co-location Centre
DS	Diploma Supplement
ECTS	European Credit Transfer System
EIT	European Institute of Innovation and Technology
ESG	European Standard and Guidelines
ILO	Intended Learning Outcome
KIC	Knowledge and Innovation Community
LO	Learning Outcome
NGO	Non-Governmental Organisation
NQF	National Qualification Framework
QALE Model	Quality Assurance and Learning Enhancement Model
QF-EHEA	Qualification Framework of European Higher Education Area

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