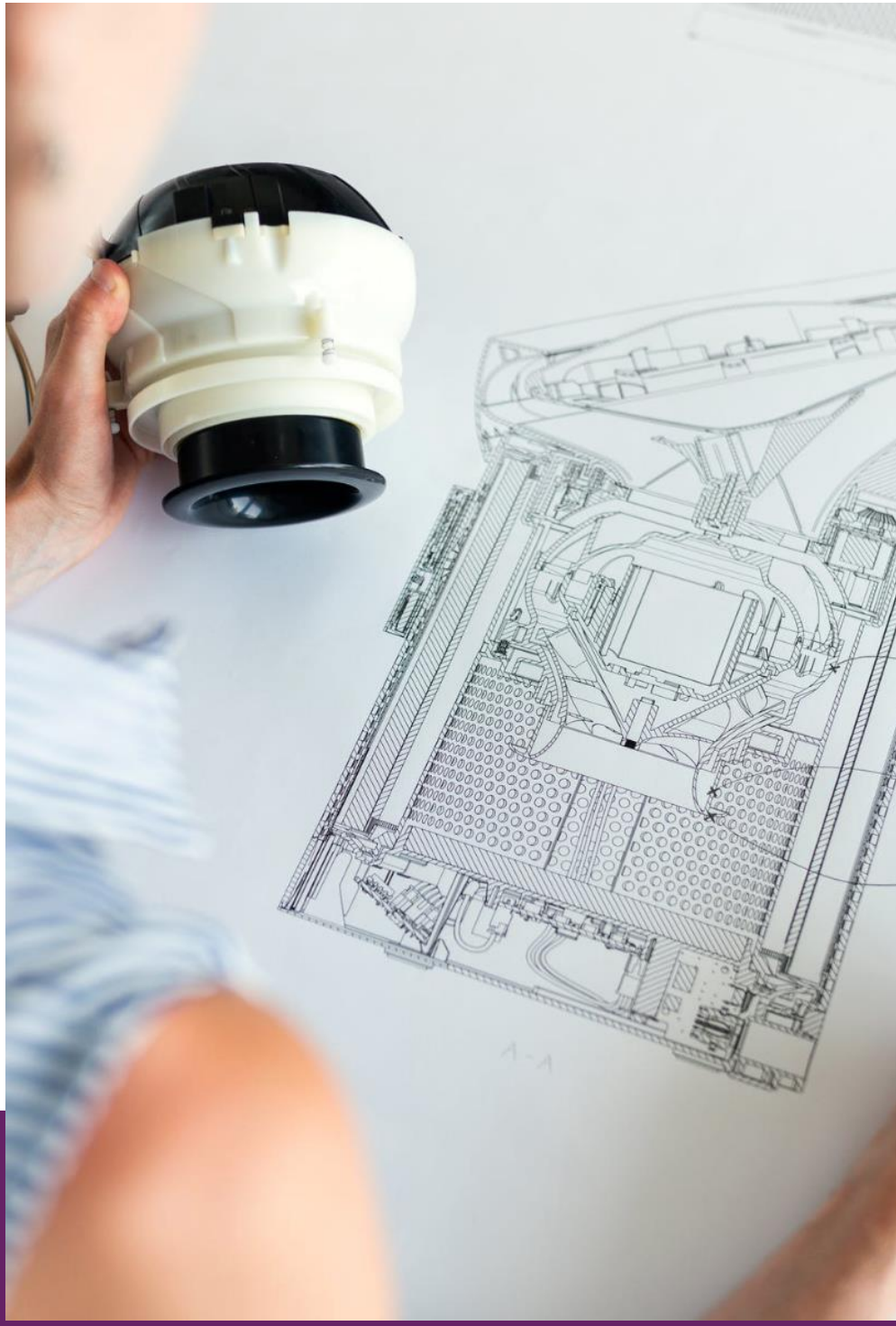
SME CLUSTER GROWTH

EMPOWERED ENGINEERING



STUDENT SME CONSULTANCY SCHEME TOOLKIT

www.**SMEclustergrowth**.eu

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Institut Mines-Télécom Business School

MTU Ollscoil Teicneolaíochta na Mumhan Munster Technological University

Alma Mater Studiorum Università di Bologna

Universidad de Málaga

University of Alcalá

crazy town

momentum [educate + innovate]

UIIN University Industry Innovation Network

INTRODUCTION

SME Cluster Growth student SME Consultancy Scheme is for engineering SMEs to access postgraduate and undergraduate student expertise in addressing an existing problem or challenge to growth within their business.

Purpose of the toolkit

This is a toolkit for higher education institutes, students and SMEs interested in partaking in the Student SME Consultancy scheme.

As the scheme is to be delivered across Europe in diverse environments, it was intended that delivery can be adjusted according to local needs and context.

Background

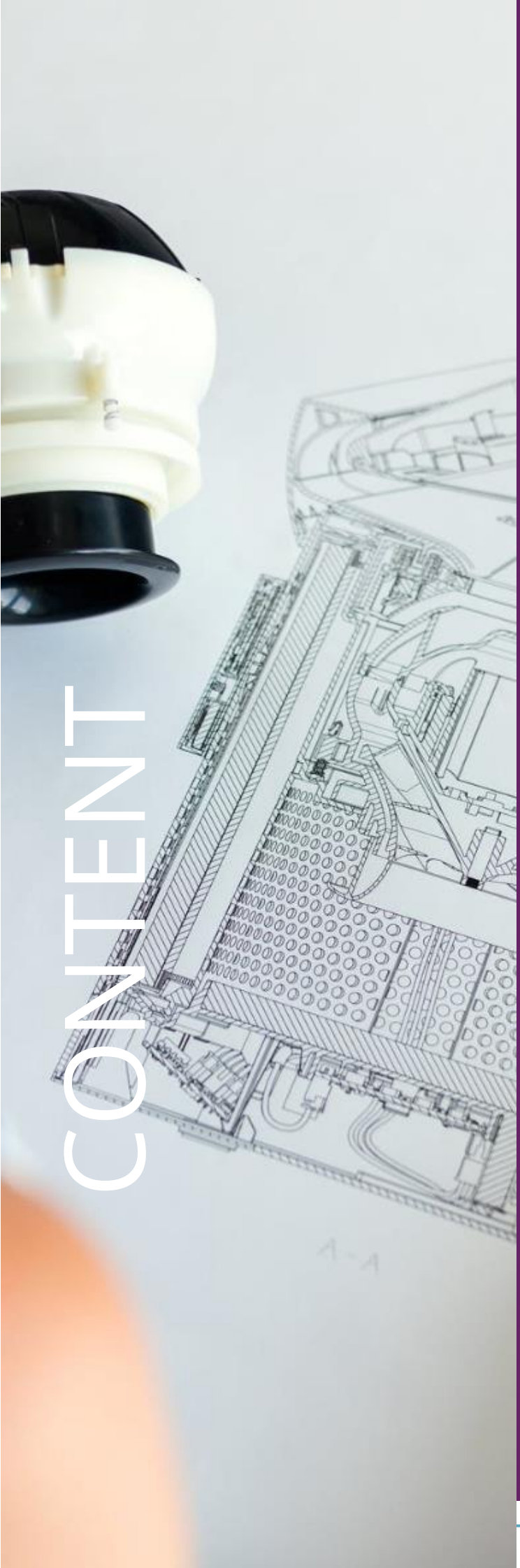
The toolkit was created based on the growth needs of engineering SMEs identified by a European study while taking into account practicalities (e.g. What is viable for SME participants?) and balancing between universal and local content. It also reports the results observed during the pilot implementation.

What the toolkit contains:

Chapter 1 introduces an overview of the scheme.
Chapter 2 provides resources for the HEI.
Chapter 3 provides resources for SME.

Note that the toolkit contains primarily *recommendations*, as the local organiser always knows best what is viable and beneficial for their participants.

> *"Alone we can do so little; together we can do so much."*
>
> Helen Keller



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1. SCHEME OVERVIEW: How to get started

The SME Cluster Growth Student Consultancy Scheme is an opportunity for engineering SMEs to access postgraduate and undergraduate student expertise in addressing an existing problem or challenge to growth within their business.

As the scheme is to be delivered across different European regions, the content has been designed to be highly flexible. Each partner can localize the delivery to meet local needs.

The Student SME Consultancy scheme takes the form of a module integrated into an undergraduate or postgraduate course, designed to be offered over one or two semesters, accredited or unaccredited.

The scheme consists of each matching groups of PhD/MA/BA students to conduct in-house research (consultancy) to take up a growth-related business challenge project (conducted in the workplace or in the university).

The scheme will require the involvement of the SMEs in student progress at certain intervals, as well as hosting the final session on their premises where the students pitch or present their results and findings.

The Consultancy opportunity will depend on the tri-partite negotiated arrangements between all three stakeholders in the process. There is a clear recognition in education that students gain important skills and attributes in the practice base that may not be gained through the classroom. However, equally, there is a recognition that ensuring and maintaining the appropriate context for the learning can be challenging especially in dynamic environments.

This guide seeks to address some of the more common issues by providing checklists and templates to support the interactions. However, the details of the interaction will be individual to each situation (student, SME and university) so the relevant sections of this guide and the associated resources have been developed so that they can be tailored for the particular partnership setting and form the basis of a locally agreed tripartite arrangement.

Checklist for project partners when embarking on the delivery within their region…

1. Preparation of the promotion materials for the HEIs to use in announcing the module in their institutions
2. Identification of the participating SMEs and their challenge (suggested to identify SMEs in the project Training Programme with specific challenges to growth, through use of the Growth Roadmap)
3. Identification of postgraduate and undergraduate programmes interested in utilising the scheme
4. Match the SME problem and student team for delivery
5. Finalise module content and schedule within existing programmes and in line with Quality Assurance considerations

1. SCHEME OVERVIEW: Delivery

The Scheme contains research projects to be delivered within one or two semesters within any field of discipline and is suitable for multi-disciplinary collaboration.

Delivery involves:

- SME recruitment (suggested to identify SMEs in the project Training Programme with specific challenges to growth, through the use of the Growth Roadmap)
- SME presentation on the problem (growth-related)
- Development of the project or challenge specification
- Identification/matching of student teams for each SME (if there is more than one SME participating)
- Identification of module appropriate to SME and student team (accredited or unaccredited)
- Teaching required/chosen lessons/modules
- Student preparation of draft solutions in consultation with SME
- Final presentation on a chosen solution and implementation strategies
- Assessment of the student learning
- Evaluation of the scheme

1. SCHEME OVERVIEW:
Module Descriptor

An outline module descriptor is provided here

Please note

- Each HEI will have a structure which is appropriate for the description of modules within their programmes.
- The descriptor offered here is intended as a guide, presented as a sample.
- Of course, the learning outcomes will reflect the duration and credit volume associated with the module (if accredited) and the assessment methodologies offered here are indicative only.
- The language of the learning outcomes will also change to reflect the level of the work.
- It would be anticipated that modules at Masters or Doctoral Level would require the students to address less well-defined problems and those at Bachelor level would be rather better defined.
- Where the module bears a high credit value (if accredited) it would be expected that the students would be able to apply solutions and undertake some action research – whereas a lower credit volume might be associated with developing a proposed solution only.

1. SCHEME OVERVIEW: Module Descriptor

TABLE: This is a proposed module descriptor to be adapted locally (if appropriate).

Title:	Student SME Consultancy
Duration:	(May be 1 or 2 semesters)
Credits:	(May be 5 or more credits)
Degree Level:	PhD / Master / Bachelor
Field of Study:	
Module Delivered in:	(The particular Programme or Course can be listed here)
Module Coordinator:	
Module Description:	This module presents students with an opportunity to research and develop a proposed solution (and possibly implement that solution) to an SME defined project. The module will require the student (pairs of students) to develop a strategy to address a defined problem or challenge within a specified time frame. The student is expected to be self-motivated, and collaborative and must communicate the process and outcomes of the project, in a manner appropriate to the SME, the academic supervisor and other stakeholders.

Learning Outcomes: On successful completion of this module the student will be able to: (indicative Learning Outcomes)	
	Contribute to the development of an agreed problem definition shared by all stakeholders.
	Conduct appropriate research to explore the problem and relevant literature
	Develop a project plan that responds to the problem statement illustrating a sensitivity to the situation and any constraints in the workplace setting
	Develop an appropriate strategy to address the identified problem.
	Work effectively on their own initiative and as part of a multi-disciplinary team.
	Select from a number of possible solutions
	Demonstrate effective communication skills
	Reflect on learning events and communicate any identified learning gaps at an early stage

1. SCHEME OVERVIEW:
Module Descriptor: Assessment Methods

Assessment Type (some possible examples)	Relevant Learning Outcome	% of total
Interim Problem Statement / Research Question Development: (Usually at an early stage of the process)		
Presentations / Pitches (Generally mid way and again toward the end of the process – ideally to include different audiences)		
Learning Log (Each learner might be encouraged to keep a private learning log to assist them in identifying learning events		
Project / Laboratory Notebook (A record of the project/consultancy/action research work as the student experiences it – entries to be dated and signed)		
Reflective Journal (See the support piece on reflection – linking learning events to learning outcomes)		
Portfolio of Evidence Electronic portfolio collating evidence of learning throughout the consultancy module – Some learning management systems support this – student diary pro (moodle), Pebble Pad, Microsoft OneNote etc…		
Project Final Report Final written communication summarizing the project as well as presenting the outputs and suggestions for further development		

1. SCHEME OVERVIEW

Module Descriptor : Workload planning

Workload Type	Workload Description	Hours	Frequency	Average Weekly Learner Workload
Lecture	Scheduled Lectures to support the learning – generally preparatory			
Tutorial	Small group scheduled – usually in flipped classroom mode			
Independent / Self-directed Learning	Students own work on the consultancy project throughout the timeframe			

1. SCHEME OVERVIEW: Recruiting SME Participants

MAIN TARGET GROUP: ENGINEERING SMES

The **main target group** of the consultancy scheme are established engineering SMEs with 50-250 staff, 10-50 MEUR turnover struggling with growth.

SMEs do not have to be the same as those partaking in the SME Cluster Growth research or Training programme.

"Engineering SME: An SME providing engineering services and products within all industries. For use in this project, partners have decided to take a broad understanding of engineering, being from all sectors."

USEFUL CONSIDERATIONS WHEN RECRUITING SMES FOR THE CONSULTANCY INITIATIVE

- It is suggested to use SMEs engaged with other joint projects, identifying the growth challenge during the Growth Roadmap process.
- Look for SMEs that are looking to grow and are open to collaboration and learning. This leads to better participation and commitment to the scheme.
- SMEs who are looking to recruit may be well-placed to interact with students and access talent in this way.
- All participants don't need to be at the same growth stage or have equal capability/experience, but they should have an interest in exploring growth and university-business-collaboration.
- What SMEs are you (in the University) interested in developing a long-term partnership with? → Use the scheme to generate more university-business collaboration.

1. SCHEME OVERVIEW:
Template for promotion - modify accordingly

SME Cluster Growth Student Consultancy Scheme:
Supporting SMEs in the engineering sector to innovate and grow

Join a unique hands-on consultancy scheme

- Access current knowledge and expertise to help your SME grow.
- Network, collaborate and learn with future skilled employees and higher education institutions.
- Learn how to engage and collaborate with universities and ecosystems to foster growth.

What will you gain?

The scheme is dedicated to providing you with access to the most up to date expertise to help your SME grow:

- Communicate your challenges to the next generation of experts
- Learn the newest approaches to growth within your industry
- Get a bespoke solution to your presented challenge to growth
- Build your brand and influence within your future local skilled workforce
- Build your brand and influence within your local higher education institution

What? A consultancy scheme to design the best solution to your current challenge to growth.

For whom? SMEs working in the engineering sector

Duration? 6-24 weeks (depending on your needs and the length of the program).

Location? [your location] and online

Language? In your national language.

The scheme is implemented by a unique international network from France, Ireland, Italy, Spain, Turkey. Content will be local with international elements. Activity is made possible through co-funding from ERASMUS+ scheme of the European Union.

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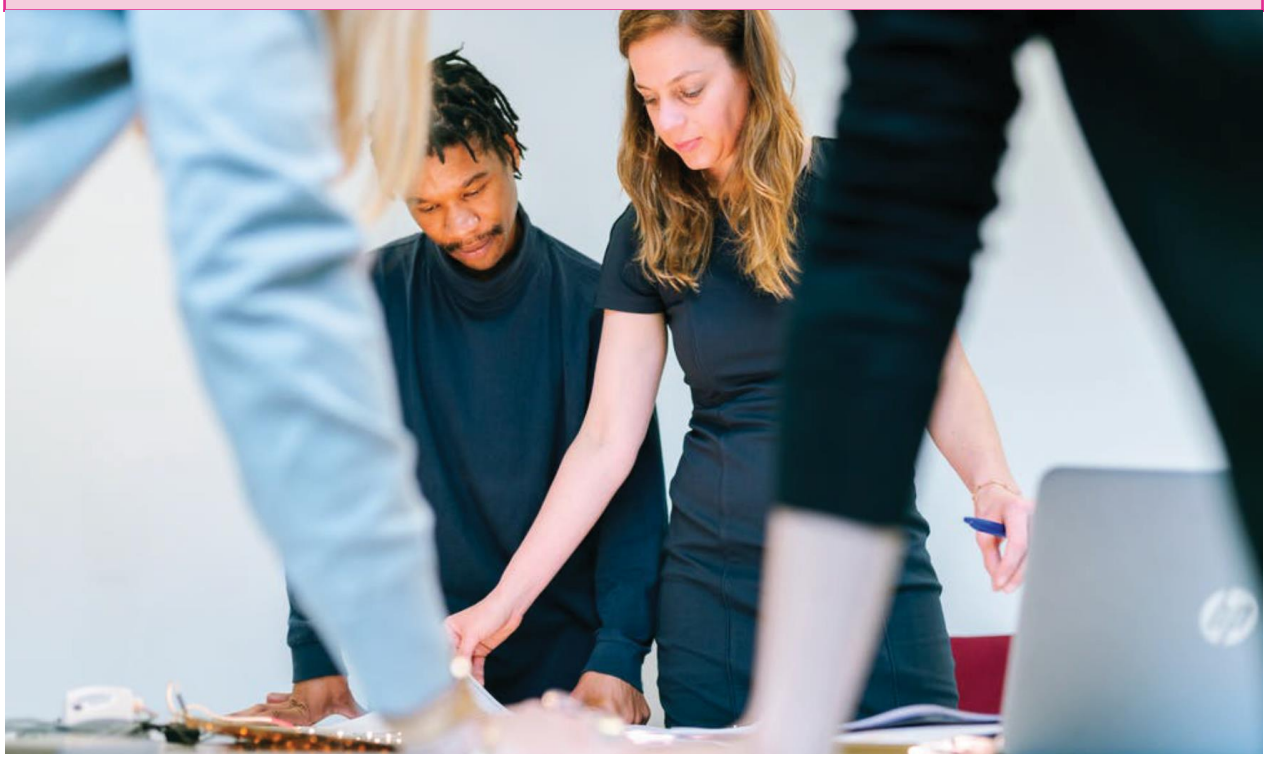
2. HEI RESOURCES - Content

Student Development Opportunities
Skills Gained through Collaboration with Enterprise
Framework of Qualifications
Employer Engagement Guidelines
SME Partner Perspective
Planning, Managing and Monitoring Student Consultancy
Guidelines Framework Development
Evaluation of Process



2. HEI RESOURCES:

Student Development

Student Development Opportunities

Given the pace of change and the uncertainty of the employment situations of the future, collaboration with employers plays an important role in ensuring that our programmes and development pathways are directly informed by a broad range of practice domains.

Practice-based learning opportunities offer the student the opportunity to obtain practical, transferable skills to enable them to take advantage of innovative professional and career development opportunities, broaden career aspirations and ensure that they are equipped for a variety of workplaces (Valencia-Forrester, 2019). According to McGagh, *et al.*, 'Industry has an important role to play in the skills development of doctoral candidates, and industry placements are a major vehicle through which the delivery of industry-relevant experience and transferable qualities could be enhanced' (2016, p. 68).

Publications and research on employability skills or transferable skills provide a good insight into the kind of personal and professional abilities that can ensure agility and adaptability in our successful graduates. Relationships with enterprises provide opportunities for learning that universities would struggle to replicate. These opportunities are many and can vary throughout different disciplines but, within undergraduate learning they often include:

- SME site visits
- Expert guest lectures and seminars
- Industry-based projects
- Challenge-based learning
- Work placement or internship

Skills Gained through Collaboration with Enterprise

The Council recommendation for lifelong learning 2018 considers competencies as a combination of knowledge, skill and attitudes, noting that

Key competencies are those that all individuals need for personal fulfilment and development, employability, social inclusion, sustainable lifestyle, successful life in peaceful societies, health-conscious life management and active citizenship. They are developed in a lifelong learning perspective, from early childhood throughout adult life, and through formal, non-formal and informal learning in all contexts, including family, school, workplace, neighbourhood and other communities.

The Reference Framework sets out eight key competencies:

— Literacy competence,
— Multilingual competence,
— Mathematical competence and competence in science, technology and engineering,
— Digital competence,
— Personal, social and learning to learn competence,
— Citizenship competence,
— Entrepreneurship competence,
— Cultural awareness and expression competence.

https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018H0604(01)&from=EN

2. HEI RESOURCES:

Framework of Qualifications

Framework of Qualifications

Education providers consider programmes and awards generally in the context of the overall programme outcomes or learning outcomes that will be attained. Within each national context, learning is usually considered in terms of levels on a framework. Established in 2008, and revised in 2017, the EQF provides a reference or translation tool to ensure mobility of learning and learners and to support the comparison of qualifications from different countries and different learning providers.

The EQF provides 8 different levels which relate to proficiency – the knowledge, skill, responsibility and autonomy of the student who has achieved a qualification at that level. It is closely linked or mapped to national qualifications frameworks through a referencing process, allowing learners and employers to navigate accessible qualifications databases and to develop mutual awareness and trust across the system as a whole. Member States are committed to the development of the EQF to ensure that it is a widely used and effective tool to support the understanding of national, international and third-country qualifications by employers, workers and learners.

Within each national qualifications, framework level descriptors are provided to illustrate the overall programme outcomes that might be expected for a full award at that level. In some cases, these level descriptor are presented in broadly applicable formats and in other cases, they are provided with more specific detail relating to the subject matter of the particular course.

For example, in Ireland, the ten levels of the National Qualifications Framework are mapped to the European Qualifications Framework (EQF) and the Quality and Qualifications Authority (QQI) provides both generic and specific award type descriptor.

Cedefop provides an online tool offering an insight into the national frameworks of 38 countries indicating the legal status and the stage of development as well as the links to the EQF. More detailed country-specific reports provide a greater level of analysis in the form of European inventories on the national qualification's frameworks. While the national frameworks vary to some extent, they all provide for awards at varying levels and act as a reference framework for learning.

Within an outcomes-based higher education system, learning is defined as a set of learning outcomes. When an activity such as a student consultancy module is to fit into the context of a defined programme or designed into a new programme the course developers should be clear about which learning outcomes can be attained through the practice and how the attainment of those learning outcomes can be evidenced and assessed.
A clear statement of learning outcomes and a description of the evidencing and assessment rubrics and supports will be important to ensure that the consultancy experience provides the kind of benefits to all parties that are anticipated.

2. HEI RESOURCES:

Framework of Qualification continued..

NFQ EQF – In the original EQF, the proficiencies were considered as knowledge, skill and competence. The 2017 revision saw this restructured as Knowledge, Skill, Responsibility and Autonomy. EU Commission 2018 "The European Qualifications Framework: supporting learning, work and cross-border mobility"

For example: Reports referencing national qualifications frameworks to the European Qualifications Framework (including the project partner countries Denmark, France, Germany, Italy, Ireland, Portugal and Romania) are available at: https://europa.eu/europass/en/reports-referencing-national-qualifications-frameworks-eqf (https://europa.eu/europass/en/european-qualifications-framework-eqf).

https://www.qqi.ie/Articles/Pages/Active-NFQ-Standards-for-HE.aspx).

The National Qualifications Framework online tool provides an overview of NQF developments in Europe.
Overview | CEDEFOP (europa.eu)

The most recent series of inventories (2020) for 38 countries are available here: European inventory on NQF | CEDEFOP (europa.eu)

2. HEI RESOURCES:

Employer Engagement Guideline

Employer Engagement Guideline

Engagement between universities and small and medium-sized enterprises is the focus of this project. These kinds of interactions are often more challenging than engagements with large multinational corporations. The reasons for this are many and varied but SMEs often have difficulties in committing resources to initiatives that do not have an immediate positive effect on their business, not because of any lack of strategic vision but often simply because they tend to be time-poor.

Identifying SMEs as potential partners in a Student Consultancy Initiative can be achieved by reflecting on the sector chosen as the focal point of the activity and local knowledge and existing relationships. Strategically focusing on a sector or subsector with a current talent shortage might be practical as it would be evident to the partner SME that they could immediately benefit through the additional resource in the short term and access to future talent in the longer term for example.

Means by which the benefit of the engagement can be evidenced through exemplars of similar interactions, testimonials of similar organisations can be influential in helping potential partners to understand the potential gains for their business as well as their role in the process.

Respecting the time challenges of the external partner includes being well prepared in advance of any initial meetings. It is also important to ensure that FACILITATOR language does not act as a barrier to the relationship. Each interaction should be considered as part of the larger relationship that the University has or seeks to develop with the external SME.

The overall student consultancy initiative is designed to be flexible to fit into programs and levels of participating universities, so the following resources are designed to be adapted or adopted as appropriate. It is important that the employer has an opportunity to understand the overall programme into which the module fits and can gain some appreciation of the modules that the student has already attained as this may well influence the project specification.

2. HEI RESOURCES:

SME Partner Perspective

SME Partner perspective

SMEs play a key role in the Student Consultancy initiative, providing both the context for the initiative as well as supporting the process. The challenge of integrating student work into the realities of workplace settings is not trivial and may present additional difficulties for smaller organisations. This may present particular difficulties in terms of the absorptive capacity of smaller organisations with fewer resources.

What we know about SMEs from this project's research:

- While very willing to be involved in interactions with universities, SMEs are very sensitive to administrative burdens, academic jargon and time constraints.
- SMEs are aware of the benefits they can gain from interacting with undergraduate and postgraduate students but unsure of the scope and resources required.
- SMEs are unsure of what universities can offer them (except for graduate employees).

Before approaching SMEs to act as potential partners in the Student Consultancy initiative it is beneficial to prepare clear messaging that addresses (inter alia):

- The potential benefits for their organisation in the process – if there are exemplars and testimonies from other similar organisations that have been involved in similar processes this can be very helpful.
- Clarity about what is expected from them – this should help them in quantifying the effort that might be involved. It can include detail of what is expected in the specification of the project, problem statement, or challenge, the level of ongoing support and supervision expected, and their role in the formative and summative assessment processes
- Details of the programme, what the students will have already studied and the learning outcomes of specific consultancy modules, the supervision and assessment methodologies and rubrics
- The matching/selection process by which the student, project, and host organisation will be arranged
- The communication channels and relevant contact details as well as the mechanisms for monitoring the initiative and addressing concerns

2. HEI RESOURCES:

Planning, Managing and Monitoring

Planning, Managing and Monitoring Student Consultancy

The inclusion of all three parties in the planning and management of the process is key to ensuring the desired outcomes and anticipated benefits. However, learners and SMEs need support to ensure that they are in a position to contribute.

Clear communication and an understanding of the position of the consultancy piece within the overall programme are important. Equally the employer needs to have an awareness of the programme as a whole to develop a problem specification which is appropriate for the learner.

Reflection on the skills that students can gain from the interaction as well as the potential benefits for the organisation and the university, informs the planning and implementation process for the various partners

Partnerships including access to confidential data, specialist equipment and diverse environments require planning and procedures in place to ensure that the expectations of all parties are reasonable and that there are adequate protections in place.

Approval of the interaction should include consideration of the clear purpose and deliverables as well as a timeframe and process to monitor student experience and outcomes while also sensitive to the unpredictable nature and the often-challenging environment in which many host organisations operate.

It is recommended that the memorandum of agreement underpinning the activity 'is commensurate in complexity with the nature of the activity but which, where appropriate, addresses financial, insurance and IP related issues and that the mechanisms include 'the relevant supervisors, and oversight at disciplinary and/or institutional level' (QQI Framework of Good Practice for Research Degree Programme, pp. 26).

The principles offered below are adapted from the ACGR (ACGR, 2018) document, the MITACS structure, and the QQI guidelines addressing the preparatory stages as well as the monitoring of a collaborative project or placement.

2. HEI RESOURCES:

Planning, Managing and Monitoring continued..

Proposed Principles to Guide the Consultancy Process

- Clear preparatory stages are required to ensure that the expectations of all parties in the initiative are realistic as well as to ensure clear lines of communication and processes to support and monitor the activity
- Projects should include an agreement relating to the student's status, insurance and public liability as well as University consideration of the learner's fitness to participate in the project and appropriate preparatory stages including the preparation of a tri-partite agreement.
- If it is anticipated that confidential information will be disclosed to the student or their FACILITATOR supervisors during the project the University's standard non-disclosure agreement could form the starting point for the protection of the information
- Intellectual property agreements arising from Industry-University collaboration should be negotiated at an early stage and could consider, where appropriate, background intellectual property as well as any intellectual property potentially arising from the project work
- Students are supported in their industry collaboration through induction, which should involve SME procedures, the standards and behaviours expected, assignment of an industry advisor (supervisor) or mentor and agreement on project aims and objectives.
- Universities and their industry partners should co-design assessment tasks, considering the expected attributes to be attained, including disciplinary knowledge, technical and intellectual capabilities, personal qualities, professional conduct and knowledge transfer capabilities.
- There should be an agreement on the potential metrics to measure the success of the interaction from the perspectives of the three different parties

2. HEI RESOURCES:

Planning, Managing and Monitoring continued..

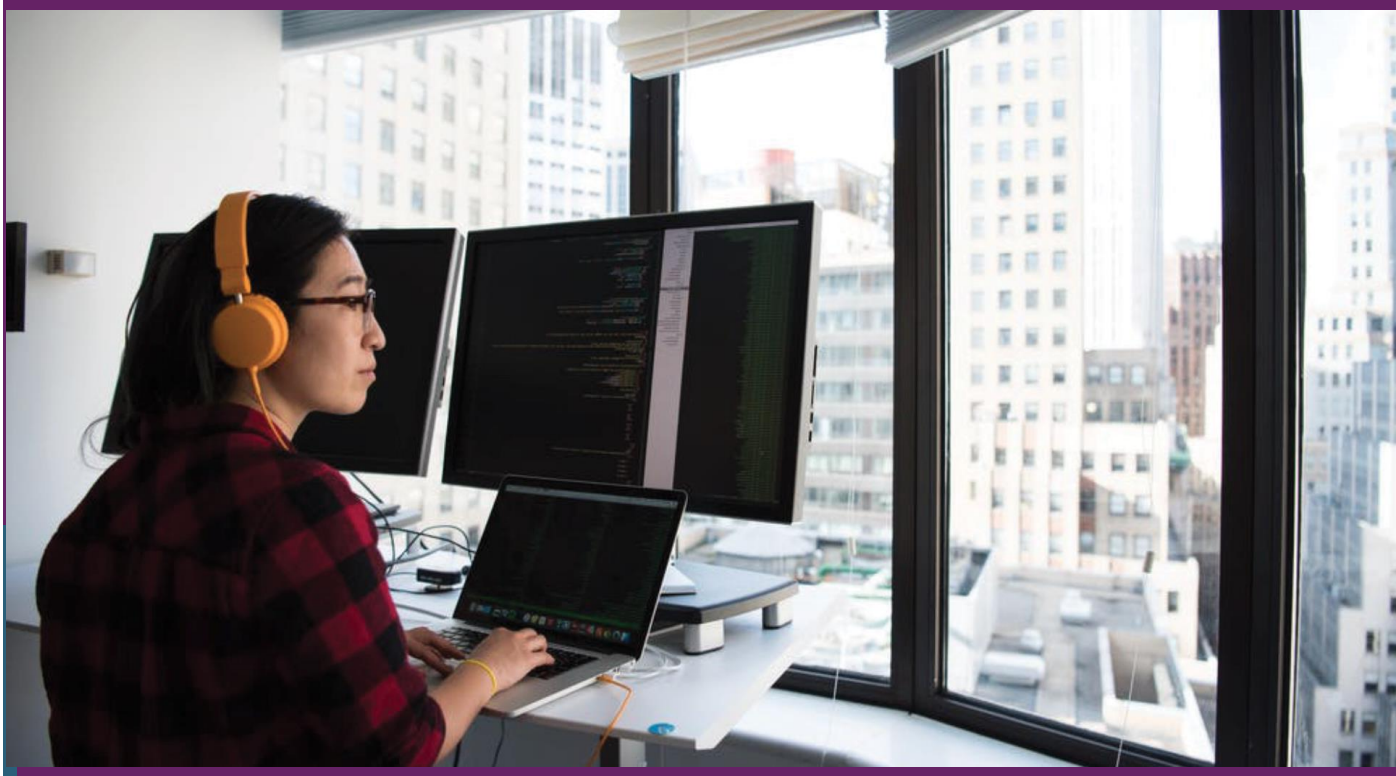
Planning, Managing and Monitoring Student Consultancy continued..

Monitoring of the process will include periodic opportunities to address any deficits that might arise. By agreeing on the learning outcomes and overall project objectives in advance, a learning journal or other shared online portfolio of activity can allow the university, employer and student to identify at early stage outcomes and objectives which are not being met.

This could for instance mean that the context or content of the work situation can be changed promptly to allow the learning opportunity to be gained or the learning outcomes can be re-negotiated as appropriate.

There are various mechanisms to support the ongoing monitoring of placement. They generally include the identification of learning incidents, opportunities or events, reflection on the learning in the context of the agreed learning outcomes, collection of evidence of the learning gained and a recording of the learning event and evidence against the relevant learning outcome(s).

A process to facilitate the sharing of this information supports the early identification of potential gaps in the learning opportunities in the context of the specific project or initiative and provides a solid basis for the assessment and validation of learning attained.



2. HEI RESOURCES:

Guidelines Framework Development

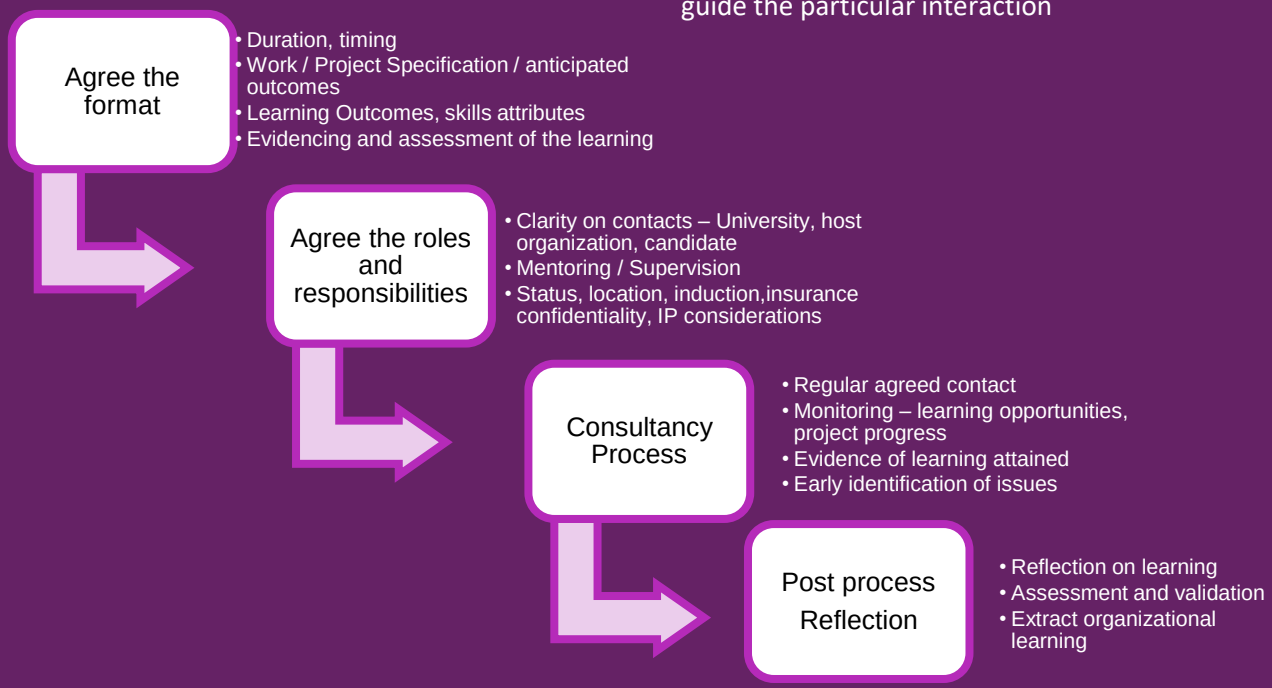
Guidelines Framework Development

A structure to support the student consultancy process, therefore, should facilitate an agreement between all three parties in advance. The agreement (which may be tailored to each workplace setting, university structure, or each student) should address the expectations of the SME partners, the learning to be attained, the expectations and responsibilities of the learner, the workplace supervisory or mentoring process, the support from the university as well as the monitoring of the process, the assessment framework and finally a process evaluation opportunity.

Figure 2 (below): Overview of the Student Consultancy Process

Each specific project interaction will be influenced by the needs and aspirations of the enterprise partner, the project specification, the location and duration, and the FACILITATOR programme or award. There will be other unpredictable influences, even in the most carefully planned scenarios. These could include sudden changes in business direction, changes in roles of key players or abrupt interruptions caused by global events such as the recent pandemic.

Planning for each interaction should include a tri-partite process in which the learner, the university and the partner enterprise consider what can and should be achieved. It is anticipated that the FACILITATOR supervisor will extract, supplement or modify appropriate elements of the framework document and supporting resources developed through the project to develop a tri-partite agreement to guide the particular interaction



2. Student-SME Consultancy Programme:

Student's Evaluation Form

Please, fill in this form to evaluate the **Student Consultancy Programme.**

It will take **less than 5 minutes** to complete it and it will support our group to improve the Programme, thank you!

E-mail: _____

Are you doing: ( ) Bachelor ( ) Master

In which field? _____

University:_____

Country:_____

Please indicate in which extent you agree with the following statements from 1 to 5 (***1 being strongly disagree*** and ***5 being Strongly Agree***) :

	1	2	3	4	5
The programm goals were fullfiled.					
You had easy access to the company.					
The company provided the information requested.					
The programm supported the development of important skills to your professional career.					
The lessons and lectures provided were important to develop the project.					
You received a feedback of the pitch you presented.					
You will recomend other students to follow this programm on future editions.					
The collaboration between you and your group was important to the development of the project.					
You were engaged on the development of the project since the beginning.					
You had intermediate meeting(s) with the responsible of the programm to discuss about the project.					
You had intermediate meeting(s) with the company to discuss about the project.					
All the members of the group participated actively to the development of the project.					

2. Student-SME Consultancy Programme:

Student's Evaluation Form

Do you have any additional topics that you would like to add to this evaluation form? Feel free to write about your perceptions and issues.

THANK YOU!

3. SME RESOURCES - Content

Overview for employer
Outline Structure and options
Student Potential Profiles
Your Role as an SME Partner
University Communication Structures
Evaluation

3. SME Resources:

Overview

Overview for the employer

Outline Structure

The Student SME Consultancy scheme is designed to be part of a postgraduate (PhD, MA) or undergraduate level study programme. The intention is that the student(s) learn by working on a challenge or opportunity which you experience in your business. The flexible structure means that your commitment or effort can vary in terms of the duration and the anticipated student effort in line with the level of the programme and the credit volume that is attributed to the project activity.

The project or challenge that you set will be addressed by the student(s) under the guidance of the facilitator. The students may undertake the work at your premises, in the university or some combination of both.

> ***"Every problem is a gift — without problems, we would not grow."***
>
> ***Anthony Robbins, motivational speaker and writer***

Student Profile(s)

Postgraduate Students: It is intended that the students undertaking this project as part of their postgraduate course will be registered on (name of programme here). Details of (registered Programme are available here). This will give you an insight into the modules that the students have already completed and the structure of the course.

In this Postgraduate mode, the Consultancy Scheme is aligned with (number of credit) credits and will have an expected duration of Z(number of weeks/hours) of student effort.

Undergraduate students: It is intended that the students undertaking this project as part of their postgraduate course will be registered on (name of programme here). Details of (registered Programme are available here). This will give you an insight into the modules that the students have already completed and the structure of the course.

3. SME Resources:

Your Role and Communication

Your role as an SME partner:

1. Specifying the project / problem / challenge is an important part of hosting these students. Your student University contact person will assist in developing the detailed specification appropriate to the particular level and course that the student is undertaking. In specifying the role, it is important to think about what skills or knowledge the student should have in order to complete the project.
2. Supporting the student through mentoring and supervision as well as access to the appropriate information or context for the work as well as any required equipment during the project.
3. Contributing to the evaluation of the student progress and evaluation of the overall process as required
4. Continuing and timely communication processes and early identification of any issues.

Point of contact for the Consultancy Scheme:
Name:
Email:
Phone:

3. SME Resources:

Work placement Tripartite Agreement Template

Agreement Template		
Project Details		
Organisation name		
Address		
Workplace Mentor or Supervisor name		**Title**
Department		
Address		
Phone		**email**
Project Brief Description or Outline		
Student Details		
Higher Education Institution		
Course title		**Stage**
Department address		
Student name		**Student No**

3. SME Resources:

Work placement Tripartite Agreement Template

Agreement Template continued..		
Address		
Phone		**email**
FACILITATOR Contact Details		
HEI		
Contact name		**Title**
Department		
Address		
Phone		**email**
Alternate contact name		**Title**
Phone		**email**
Signatures		
Organisation Representative		**Date**
Higher Education Institution Representative		**Date**
Doctoral candidate		**Date**

3. Student-SME Consultancy Programme:

Company's Evaluation Form

Please, fill in this form to evaluate the **Student Consultancy Programme.**

It will take **less than 5 minutes** to complete it and it will support our group to improve the Programme, thank you!

E-mail: _____

Name of the Company:_____

Sector:_____

Country:_____

Please indicate in which extent you agree with the following statements from 1 to 5 (***1 being strongly disagree*** and ***5 being Strongly Agree***) :

	1	2	3	4	5
The programm goals were fullfiled.					
You participated on some lectures/lessons regarding the programm					
You provided a feedback of the pitch presented by the sutdents.					
You will recomend other companies to engage this programm on future editions.					
The students were engaged to develop a solution to the problem you presented.					
The solution(s) presented by the students will be implemented.					
The solution(s) presented by the students are feasible to implement.					
You had intermediate meeting(s) with the responsible of the programm to discuss about the projects.					
You had intermediate meeting(s) with the students to discuss about the project.					

3. Student-SME Consultancy Programme:

Company's Evaluation Form

Do you have any additional topics that you would like to add to this evaluation form? Feel free to write about your perceptions and issues.

THANK YOU!

4. Benefits of the Student-SME Consultancy Programme

Overview and feedback from Past Experiences

4. Benefits of the Student-SME Consultancy Programme

The SME-Student consultancy programme aims to connect companies and universities. The purpose of the program is to engage students in developing solutions to real challenges faced by companies.

As highlighted in the toolkit, the SME-Student Consultancy scheme takes the form of a module integrated into an undergraduate or postgraduate course, designed to be offered over one or two semesters, accredited or unaccredited. During our Pilot Experience, we observed two different paths chosen by the HEIs involved in the Project. While some integrated the programme inside existing courses in innovation or entrepreneurship or related areas, others created an extra-curricular activity to their students.

The programme were held in-person between September 2022 and July 2023. Considering that this programme is flexible regarding its length, each HEI adapted the duration of the programme according to the activity proposed.

These Pilot experiences was implemented involving more than 200 students from different level of degrees (Undergraduation, Master and PhD Degree).

These Pilot experiences saw the participation of 27 SMEs. It is important to stress that SMEs played a crucial role by presenting their real challenges, and by interacting with the students involved during the development of the ideas.

These Pilot experiences showed from the side of the students that it is an important programme to support the development of soft skills (e.g. problem solving, work team) and to promote a direct contact with companies and with the market as a whole. On the other side, companies declared that the programme was a great opportunity for them to get to know different ideas, access the freshness of student's views and get to know new talents to recruit for the future.

Student´s Feedback

These Pilot experiences were appreciated by the students. Most part of them highlighted the importance of the program to support their career development. According to them, the new approach proposed by the program provides a new perspective on how to link their educational path and the necessities of the companies. Students highlighted several main benefits of participating in the consultancy program. These included gaining practical problem-solving skills, building a professional network, enhancing their resumes, and boosting their confidence in their ability to contribute meaningfully to real-world business challenges. Some also mentioned the satisfaction of seeing their recommendations put into practice by client organizations.

They also perceived that participating in the consultancy programme was an essential advantage in establishing contacts valuable when seeking employment opportunities and career advice. Furthermore, as engineering companies and industry highly value practical experience, participation in this programme could differentiate them as competitive candidates when embarking on their job search after graduation.

Below we detail the feedback from the three main pillars of the program:

- Complementarity to Education
- Skill Development
- Program Structure

Complementarity to Education

Students recognized the initiative as highly complementary to their education. They noted that while classroom learning provides a solid foundation, the consultancy program allowed them to gain insights into the complexities of business operations, client interactions, and problem-solving.

This practical experience enhanced their understanding and prepared them for future career challenges. In addition, they felt that the programme allowed them to put into practice the techniques and concepts they had studied in the classroom, being the bridge that connects academic learning with real-world scenarios.

From an organisational point of view, the students appreciated that the consultancy took place at the end of the study programme, as they could practice all the knowledge they had acquired globally.

4. Benefits of the Student-SME Consultancy Programme

According to them:

“I learned how to speak professionally discussing real life issues. In college we do a lot of presentations, but I think this was a real insight into what working with companies in the future will be like. We learned to work independently with little guidance.”

“I learned how course material was relevant to real life scenarios. It also allowed me to get an understanding for a sector which I was not be familiar with adding to my expertise”.

“It was an amazing experience which gave an opportunity to apply academic work to real life scenarios”.

“The opportunity to develop a solution to a company allowed us to understand how we can put into practice the skills and knowledge that we acquire in the university”.

“This scheme helped me to understand the problems organizations face and the opportunity to interact with professionals and hear the view of the business.”

“The course was the bridge between theory and practice. It connected classroom teachings with real applications, making the learning experience more impactful“.

“We were motivated to start the project by choosing an SME from the mobile game industry that would be of interest to us as a group. While doing literature review and market research, we dived into the event and enjoyed it. We became acquainted with the reality and size of the business, and our perceptions were shaped accordingly. The SWOT analysis we made on behalf of the company has also joined our lives as an analysis method that we can use in every field, even on our own character. In general, we gained the skills to examine and develop a firm. It was a successful course”.

Skill Development

Many students expressed how the Student SME Consultancy Programme significantly contributed to their skill development. They mentioned that it provided them with practical experience in areas such as market research, strategic planning, and project management. This hands-on experience was seen as invaluable and a complement to their academic knowledge.

They felt that it enriched their learning pathway, equipped them with practical skills, and propelled them towards a successful and impactful engineering career. Students also gained hands-on experience by actively participating in engineering projects. This first-hand experience was invaluable from their point of view in building their skills and confidence as they prepare for future data scientist/engineer careers.

Collaborating with multidisciplinary teams and interacting with clients also improved their teamwork and communication skills, and through client interaction, they said they had learnt to understand their needs and effectively manage their expectations.

Finally, active participation in real projects also increased their confidence in mastery and problem-identification skills, giving them a tangible sense of achievement.

“The course provided a good opportunity to experience real-world problem-solving”.

"The course prepared us to face real-world challenges more confidently. It's one thing to read about innovation; however, it's different to engage in solving problems. We feel better prepared for the professional world“.

“We learned about the factors to consider when managing or starting a company or organization”.

“I learned that If I need something, it is necessary to seek help and the cooperation of other people is the most important thing.”

"The Programme classes provided an open environment for creativity. Within our group, there were no wrong answers, only continuous improvement. We fostered an atmosphere where audacious ideas were encouraged“.

4. Benefits of the Student-SME Consultancy Programme

Program Structure

Generally, students found the structure of the program satisfactory. They appreciated the mix of coursework, client interactions, and mentorship. The project-based nature of the program was particularly praised for its hands-on approach.

In essence, they valued the opportunity as a positive experience and perceived it as an integral and indispensable part of their studies.

"It gave us the opportunity to carry out our own project, we were able to take the lead. I think it was very helpful for us to have some insight into real company issues".

"It was a great opportunity to work for an organization and to understand their concerns and provide solutions for the same".

"It is very interesting to have conferences where people who live closer to reality help us to have those points of view."

"This scheme helped me to understand the problems organizations face and the opportunity to interact with professionals and hear the view of the business."

"Overall, a very good experience".

"Project concept was brilliant and the company was helpful timing could have been better but it was a fantastic opportunity and I'd do it again if I got given the chance".

SME´s Feedback

These Pilot experiences were also valued by the SMEs. The companies appreciated the open minded attitude of the university and the fresh approach brought in by students. The company also had the chance to access a variety of novel ideas. Though not all of them could be immediately implemented by the company, most of them pointed to novel paths, interesting to be explored to open up new business.

The main benefits highlighted by SMEs included access to cost-effective consultancy services, the opportunity to tap into the knowledge and creativity of the next generation of professionals, and the practical, actionable recommendations provided by the student teams. Additionally, they valued the connections formed with academic institutions, which could lead to further collaborations.

Mostly, and even when the consultancy has been short, it has provided access to specialised knowledge and new and innovative solutions. Moreover, as the students have different profiles (computer engineers, business administration graduates or economists), they can be future candidates to increase the workforce, not only to work on projects but also to increase the staff related to the company's management.

"As the students were about to finish their Master's studies, they had more advanced and specialised knowledge than undergraduates. The solid technical background of the students with an engineering profile was particularly relevant, as they provided in-depth knowledge and experience".

"The methodological research skills of the students provided the basis for analysing industry trends or exploring new technologies".

"Students with a business administration and economics background provided advice to help the company start developing and execute long-term, data-driven growth strategies".

"Some Masters students came from culturally diverse backgrounds (mainly from South American nations), providing SMEs with a global perspective that can be valuable for expanding into new markets in Spanish-speaking countries".

"Probably due to the consultancy's evaluation mechanisms, students were keen to do in-depth research and analysis. The company was able to take advantage of this for providing solid solutions to its clients".

"The students had contacts with many professors and researchers from different areas, which has been valuable for possible future collaboration".

"Some students (those who had business administration profiles) fostered an entrepreneurial mindset and contributed new ideas for business development and growth strategies. Students in this programme have injected fresh and innovative perspectives into the company, offering novel solutions to long-standing challenges".

4. Benefits of the Student-SME Consultancy Programme

“Another point of view and more knowledge”.

“To obtain an independent view of my company from an external expert approach. It is not easy to obtain an objective view of the company from an external source, since if the external source were hired as a consulting service, it would no longer be objective”.

“It was a reflexive exercise. Very interesting to appreciate our evolution and find where we were success and where we were wrong“.

“I have confirmed that intelligent people should join with people more intelligent than themselves. Higher education institutions always have great knowledge to contribute.”

“Engaging with students in the Design Thinking Lab was an enriching experience”.

“The students' ability to collaborate in teams and work towards solutions was a great point”

“The Programme showcased the students' creativity. The company received a diverse range of solutions that offered unique approaches to deal with their challenges”.

“The level of engagement and enthusiasm displayed by the students was impressive”

“Their passion for problem-solving and dedication to the task was evident throughout the process“.

“The company had the opportunity to work in close relations with students and, at the end of the lab, some students were asked for additional collaborations, in the form of stages and eventually a position within the company”.

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