

A PROJECT BY THOMAS MORE, KU LEUVEN, UPORTO, THE HAGUE UAS, UNIVERSITY WEST AND RVO-SOCIETY



# D12.1 Business and exploitation strategy report



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## PREFACE

The initial project description stated the exploitation plan would summarise actions that partners can undertake to make the project sustainable:

- instruct all partners of business opportunities
- provide for strategies to find interested students, sponsors
- provide instructions on the use of ECTS and Europass
- provide for a cost model and business opportunities to continue the course after the EU-funding period
- contact other universities and evaluate the option of joining the partnership (VirCampus model).

We will touch these issues in this report and refer to illustrations in annex.



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## 1. SUSTAINABILITY & BUSINESS OPPORTUNITIES

At the initial stage the HEI involved in the LLP project agreed on the same vision. A document stated they would jointly develop a multi-campus blended learning environment to offer engineers an innovative curriculum with a strong mix of theory and practice in real life settings. The profile of Community Service Engineering would be added to their engineering profile.

At the same time these partners agreed to focus on engineering as being a social undertaking and not a pure technical undertaking. Engineering is a process that starts with understanding people's and/or organisational needs and ends with actually bringing products and services to these people/organisations.

The profile would start as a postgraduate course initially.

For a postgraduate course (continuous/adult education) there are fewer formal requirements, the approval procedures are easier, no account should be taken of how to integrate the CSE profile into existing and already overcharged engineering curricula. Therefore, starting as a postgraduate course would be ideal to develop, test and further design this new curriculum for engineers.

However, it soon turned out that the economic crisis and austerity had amplified the pressure on higher education and not all partners in the lifelong learning project were given 'carte blanche' to launch a new postgraduate course. Cooperation within a single postgraduate was therefore no option. So alternative ways of cooperation were to be found.

Meanwhile partners have created a dynamic curriculum with joint topics, learning outcomes and references. This leads to a shared context in which international collaboration is happening. This is a sustainable setting for the future.

Sharing the same vision is an important asset to achieve the common goal but it is not sufficient to make things happen. The HE area has gone through major changes over the last years, often driven by budget related issues. CSE was facing the same challenges in all countries. Co-funding of the EU-commission was important to provide time and resources to work on the development of the curriculum that can now be continued in a sustainable way. At institutional level, all partners met challenges of different sorts, often very much linked to local institutional circumstances, but in every case, linked to budget constraints. Innovation of higher education is today submitted to the laws of economics: innovation, not accompanied by a good business plan, is not likely to happen. For most partners, this resulted in a solution that integrated CSE in the existing curriculum as much as possible, with additional costs restricted to the minimum.

All partners have agreed to implement CDIO as the basis of the curriculum for Community Service Engineering. While CDIO is the common framework, the implementation of CDIO and Community Service Engineering by the different partners is adapted to the local context. The partners have not developed a joined degree or diploma. Community Service Engineering is an element of Engineering Education at the universities of all partners involved. Resources are shared and collaboration between students and staff is organised at different levels. The actual implementation differs for



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each partner. CDIO has been the common language to develop Community Service Engineering by all partners but the results have been adapted to the local situation.

P2 (KU Leuven – Belgium) kept its plans to develop a separate postgraduate course. It was launched and pioneered in the academic year 2014-2015. Next it has been integrated as a track in an already existing postgraduate course named the Postgraduate Programme in Innovation and Entrepreneurship in engineering.

P4 (HHS – The Netherlands) initiated the idea of a diploma supplement for its technological bachelors. This idea was also introduced at P1 (TMK – Belgium) for technological bachelors and named the diploma supplement of 'socially ingenious'.

P3 (UPorto – Portugal) took up the CSE curriculum as a course in its Centre for Continuing Engineering Education. Furthermore the University of Porto stimulated its master students to undertake a master thesis with a clear social dimension. In implementing the project for the master thesis, Portuguese students are also urged to seek contact with the target audience and interact with other stakeholders. Students gain access to the short online track and the design thinking template that provides support in this undertaking.

P5 (UW – Sweden) chose to stimulate its students to do a master thesis for the social domain and support them in doing so via the design thinking template and the short online track. Furthermore Sweden saw potential for Community Service Engineering in some project based course units that are part of the regular engineering curriculum. UW has also developed the course of 'Welfare technologies and digitalization in social work and social pedagogy, 7.5 HE credits'.

The result is that partners have developed a similar context and learning outcomes for their engineering students which triggers international interaction and collaboration. Via the [questionnaire](#) – input for D12.1 Business and exploitation strategy report, partners expressed their intentions of the future.

Working in the shared context of Community Service Engineering provided the incentive to enter into Erasmus inter-institutional agreements as HEI's. These agreements allowed for staff mobility for teaching under the Erasmus programme.

The institutions also agreed that virtual mobility should be in place to add recent and relevant topics in a dynamic way to the short online track which forms the basis for the taught programme. During the project's lifetime this virtual mobility has been set up in the form of online conferences/webinars with participation of students and staff of the various institutions.

We want to stress the importance of maintaining a network with partners in the field in the various countries. The CSE curriculum also offers new opportunities and other perspectives for these partners. Belgium clearly had an advantage of being close to the RVO Society (P6). This partner in the field already had ten years of experience in stimulating technological innovation in organisations in the social domain and prompting them for real-life project ideas. The other partner countries still had



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to identify their strategic partner(s) in the field in order to initiate a demand driven approach for real-life project work for the social domain.

## 2. STRATEGIES TO FIND INTERESTED STUDENTS & SPONSORS

A very important issue is to find interested students. There is a big difference whether these students are to be recruited for a postgraduate course or for project based coursework and/or elective courses in the CSE context from the regular engineering curricula.

### 2.1 POSTGRADUATE COURSE

Various activities have been set up to promote the postgraduate course. Furthermore a lot of organisations and parties have been asked to notify about the start of the new curriculum via their communication channels. A short summary of possibilities:

- The members of the local country CSE steering committee have been asked to inform their own (LinkedIn) network.
- E-mails have been sent out to final year students and alumni
- The international offices have been asked to inform their partners.
- Various organisations have been asked to support the notification – VOKA, Resoc Kempen, Flanders’ DC, ...
- Targeted messages have been sent to HR managers and Leadership, Talent & Learning Specialists in bigger companies.
- Targeted messages have been sent to companies in assistive technologies.
- Targeted messages have been sent to bigger social profit organisations.
- [An interview](#) has been published in the newsletter of MVO Vlaanderen.
- An elevator pitch has been sent to [Weliswaar](#) has been published.
- An interview with Luc Bonte has been published. Luc Bonte is the director of [Vredeseilanden](#). In the interview he gives his view on the new CSE curriculum and its potential for society. Luc Bonte is an engineer himself and worked for a very long time for Arcelor before moving to work for the social profit sector ([Vredeseilanden](#) & [Coopibo – north](#))
- [LOKO](#) is the student council in Leuven, it has a division for international students in Leuven called LOKO International. LOKO has promoted the curriculum among its members.
- [AEGEE](#) is the European Student’s forum. A representative has promoted the curriculum via the AEGEE communication channels.
- [BEST](#) – VTK has promoted the curriculum. BEST is the Board of European Students of Technology. VTK is the branch in Leuven.
- The CSE organising committee attended 4 Graduation moments (face-to-face) in Geel, Mechelen, Leuven (groep T) and Leuven (masters of engineering science). The folder was also distributed at the Graduation moment at KHLIM (Hasselt).
- The curriculum has been announced on the study portal [Flamenco – Study in Flanders](#) website.
- The curriculum has been promoted via [masterstudies.com](#).
- A Facebook group and LinkedIN group promote the curriculum via social media.
- The CSE team has obtained publications in the national press.



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- The curriculum is promoted according to the standard flow and timing of promotion of postgraduate courses, which starts by January, and which is also supported by the central KU Leuven communications department.
- The [short online track on Udemey](#) is available for an international public.

## 2.2 PROMOTION IN REGULAR ENGINEERING CURRICULA

Various activities have been set up to promote CSE within the regular engineering curricula.

- The diploma supplement has a separate page on the website
- A folder has been created and distributed on various campuses
- Teachers of project based coursework at engineering faculties (electronics-ICT, electro mechanics, applied computer science, bioscience,...) have been informed on the CSE projects database and supporting course; they also have been involved in designing the track within their faculty
- The diploma supplement and optional course has been presented to many groups of students starting project based coursework
- Students have testified about their experiences

## 2.3 FINDING SPONSORS FOR THE CSE-TRACK

A sponsor file has been created and distributed among potential sponsors.

## 3. PROVIDE INSTRUCTIONS ON THE USE OF ECTS AND EUROPASS

Students from Europe participating in CSE will receive up to 60 ETCS course credits. There is a different offer at each partner institution. An overview is made on the CSE-partner institutions pages.

CSE partner	Offer and ECTS credits
P1 = KU Leuven	<a href="https://innoverendondernemen.be/english/innovationproject/socialprofit">https://innoverendondernemen.be/english/innovationproject/socialprofit</a>
P2 = Thomas More	<a href="http://www.thomasmore.be/socially-ingenious">http://www.thomasmore.be/socially-ingenious</a>
P3 = UPorto	<a href="https://sigarra.up.pt/feup/en/cur_geral.cur_areas_cient_view?pv_curso_id=11161&amp;pv_ano_lectivo=2016&amp;pv_tipo_cur_sigla=FL&amp;pv_origem=CAND">https://sigarra.up.pt/feup/en/cur_geral.cur_areas_cient_view?pv_curso_id=11161&amp;pv_ano_lectivo=2016&amp;pv_tipo_cur_sigla=FL&amp;pv_origem=CAND</a>
P4 = HHS	<a href="http://www.technetdelft.nl/index.php?id=1031">http://www.technetdelft.nl/index.php?id=1031</a>
P5 = University West	<a href="https://kubik.hv.se/print_courseplan.php?courseid=6546&amp;course_rev_id=11590&amp;lang=en">https://kubik.hv.se/print_courseplan.php?courseid=6546&amp;course_rev_id=11590&amp;lang=en</a>
P6 = RVO-Society	<a href="http://www.rvo-society.be/projecten/community-service-engineering">http://www.rvo-society.be/projecten/community-service-engineering</a>



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Students from other parts of the world contact their international office and/or departmental office to ensure credit transfer.

Students are stimulated to add the diploma supplement/additional degree to their [Europass CV](#).

#### 4. COST MODEL AND BUSINESS OPPORTUNITIES TO CONTINUE THE COURSE AFTER THE EU-FUNDING PERIOD

For most partners CSE has been integrated in the existing curriculum, with additional costs restricted to the minimum. The CSE curriculum will sustain at the local level in one way or another at each institution.

The short online track will sustain on Udemy without an additional cost involved.

The learning resources will sustain on FeedBack Fruits and Google Sites without any additional costs involved.

The projects' database will sustain on Thomas More servers.

In order to maintain the international collaboration coordination is needed at various levels.

1. Each institution should appoint a CSE contact person. Ideally these are the former members of the project board (work package leaders)
2. A central secretariat/leading partner/consortium coordinator

Together these persons will form the CSE steering committee.

The role of the CSE contact person per institution would be:

- To act as a point of contact for students, teachers and management within each institution
- To maintain and further develop the network of organisations that offer CSE projects
- To maintain and further develop the supporting framework (tools, list of relevant course units, development of additional course units, coaching, ...)

The required deployment of staff is part of each partner's autonomy but is estimated at 10 percent minimally.

The role of the leading partner/consortium coordinator/central secretariat would be:

- To launch a yearly call for project ideas to be put in the database according to WP5 procedures
- To arrange 4 annual (online) meetings to keep track of the CSE evolutions at each institution and exchange teaching material and approaches (update FeedBack Fruits)
- To decide whether the short online track should be updated and take the necessary actions



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- To agree on the series of online webinars and arrange for specific class groups, set the timing, organise and connect the participants
- To stimulate teacher exchange based on inter-institutional agreements within the consortium
- Be responsible, in conjunction with the partners, for promoting and publishing CSE beyond the consortium
- Be the contact for external questions and stimulate new partnerships
- To collect ideas from partners and bring these to the annual meetings
- To initiate or stimulate new projects and applications and presenting these for consideration to the annual meeting (eg. further work on a joint diploma on a European level could be investigated)

The required deployment of staff for the consortium leader is estimated at 20 percent.

The partners would opt for an alternating responsibility for the role as consortium leader per 2 years.

A rough estimate of the budget and yearly fee:

Revenu	2016-2017
	Budget
<b>Contributions</b>	
<i>Partner 1</i>	€ 2 333,33
<i>Partner 2</i>	€ 2 333,33
<i>Partner 3</i>	€ 2 333,33
<i>Partner 4</i>	€ 2 333,33
<i>Partner 5</i>	€ 2 333,33
<i>Partner 6</i>	€ 2 333,33
<b>total revenu</b>	<b>€ 14 000,00</b>
Expenditure	2016-2017
	Budget
<b>Cost consortium leader</b>	€ 14 000,00
<b>total expenditure</b>	<b>€ 14 000,00</b>
<b>RESULT</b>	<b>€ 0,00</b>

Finances would be arranged under a separate cost centre (alternating) and the consortium leader would be accountable for the bookkeeping.

More partners would mean a decrease in yearly contribution for each partner.



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## 5. CONTACT OTHER UNIVERSITIES AND EVALUATE THE OPTION OF JOINING THE PARTNERSHIP

Partners have already called upon their international networks and have invited other HEI to join the consortium as ally partners. Ally partners are higher education institutions which find interest in the four building blocks of the CSE curriculum and find ways to integrate it in their project based coursework or other parts of their engineering curricula in a similar way the LLP partners did. As such the consortium can be expanded.

Volgograd State Technical University (VSTU) is one those partners who has already actively collaborated. Also the first steps have been made for collaboration with UVic (Canada).

The promotional material developed under the LLP CSE will be used and adapted to attract the ally partners.

It will help to communicate the added value of joining the partnership. Sales arguments are:

- Access to a proven approach to enable engineers to develop solutions, applications, infrastructure and tools that truly meet the needs of end users and organisations in the social domain (WIL – Work Integrated Learning pedagogies)
- International cooperation with other Higher Education Institutions who share the curriculum's mission and vision and who are open to student and teacher exchange and collaboration on projects
- Recurring online webinars to introduce new and relevant topics to enrich professional content
- Link to companies – lift up in nice markets – connection to sponsors to take the next step to validation for projects' results

## 6. EUROPEAN PROJECT SEMESTER (EPS)

Contacts have been made with the management of the European Project Semester (EPS). This is a programme offered by 16 European universities in 12 countries throughout Europe to students who have completed at least two years of study. The CSE consortium sees a lot potential synergy with EPS since it also has project work in the core, is designed with engineering students in mind but open to other disciplines.

Joining the [EPS consortium](#) could also entail a pathway to sustainability for the developed curricula and know how through the LLP CSE.



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