



## SWOT Analysis Women Power Code



Co-funded by the Erasmus+ programme of the European Union.

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## Introduction

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The SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis matrix or 'Grid' is a means to capture information so that we can easier perform the analysis in the next step.

In this first step we will collect data on both the internal factors of the project, as well as the external influences to the project.

We will use this SWOT analysis to make clear our present position and where we wish to arrive.

The SWOT analysis consists of four main categories that are traditionally written inside a table.

They are:

- Strengths
- Weaknesses
- Opportunities
- Threats

Strengths and weaknesses are internal to the business and are controllable.

Conversely, opportunities and threats are uncontrollable external forces that act upon the situation.

On the next page is the SWOT table for the Women Power Code project.

Each cell of the table is later discussed in more detail.

## SWOT Analysis

Strengths	Weakness
<ul style="list-style-type: none"> <li>• The strength of open and innovative practices in a digital era</li> <li>• The target group gets new and improved digital skills</li> <li>• Innovative framework that creates new degrees and curricula in adult education and include coding as one of the most important skills.</li> <li>• Social inclusion</li> <li>• Content</li> <li>• Transnational dimension</li> <li>• The strength of the innovative character of the project</li> <li>• Partnership</li> <li>• PARENTAL/GUARDIAN CONSENT</li> <li>• ADDITIONAL PROVISION ON MONITORING AND EVALUATION</li> <li>• Additional Provisions on Data Protection</li> <li>• Protection of Children and Vulnerable Adults</li> <li>• Health and Safety</li> </ul>	<ul style="list-style-type: none"> <li>• non-observance of deadlines (delay in preparing technical and financial reports and sending them to the project management team),</li> <li>• exceeding or unspending the allocated budget, non-observance of performance (quantitative or qualitative) parameters,</li> <li>• non-observance of the financial rules or failure of a project partner to fulfill its tasks and leaving the project team.</li> <li>• Low level of motivation among project partners - partners will be encouraged to express interests, suggestions and share the work accordingly to their tasks.</li> <li>• Poor communication among partners – a systematic communication plan will be introduced, discussed and agreed at the kick-off meeting.</li> <li>• Weaknesses not delivering tasks in time – on line meetings and follow up communication will always help partners to be updated on the current situation of specifics tasks.</li> <li>• Unclear roles - detailed work plans will be specified and agreed at the kick-off meeting.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• Digitally skilled and growing numbers of women in the ITC industry will mean economic growth and a more inclusive society</li> <li>• The constant development of the Internet of Things (IoT) signifies entrepreneurship possibilities</li> <li>• CIVIC collaborates with a Cypriot company (M.K. Innovations Ltd) for the development of a training programme for young individuals on the subject of Robotics</li> <li>• Robotics is an effective, fascinating and motivating way to introduce young people, especially women to coding</li> <li>• Utilizing the non-working school time (i.e. after school, summertime, afternoon) available in a constructive way to set up HUBS in youth centres/ educational institutions</li> </ul>	<ul style="list-style-type: none"> <li>• Current policy</li> <li>• Lack of community support</li> <li>• Only 29 out of every 1000 female graduate have a computing or related degree</li> <li>• Women leave the sector mid-career to a greater extent than men</li> <li>• Only 19.2% of ICT- sector workers are managed by female bosses</li> <li>• Security attacks on IOT systems</li> <li>• Virus attacks on computers and IOT devices</li> <li>• Sudden changes in allowed standards for the internet of things</li> <li>• Security flaws inside social networks</li> <li>• The mobile industry keeps pushing forward while overlooking some security concerns of the past.</li> <li>• Possible breach of Biometric Database</li> <li>• Inefficient patch management of internet service providers</li> <li>• Security Professionals are overworked Due to Inefficient Systems</li> </ul>



## Strengths

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Positive attributes internal to the organisation or situation that are within our control.

The strength of open and innovative practices in a digital era.

Educate adult women (with ages above 40), in order for them to understand and learn coding to improve their daily life by using new technologies to enrich teaching, improve learning experiences and support personalised learning.

The target group gets new and improved digital skills and will create the necessary context for general life improvement. Through this initiative, we intend not only to better prepare women with basic digital skills for a more competitive, more technologic work environment, but we also aim at smoothing the gender gap acknowledged in the ICT sector.

To offer an innovative framework aligned to the Smart Learning Environment trend that creates new degrees and curricula in adult education and include coding as one of the most important skills.

### Social inclusion strengths

Celebrating the art of creating with code, motivating adult women to start learning to code, as well as connecting individuals, groups, organisations and companies who are willing to help more women experience the joy and relevance of coding.

Our society is going toward a future where people say; "you code like a woman". We aim for this to become praise, rather than a critique.

Digitally skilled and growing numbers of women in the ITC industry will mean economic growth and a more inclusive society. Adult learning, education at all levels becoming skilled in business and this field will contribute to the final result.

Growing numbers of women who take up a digital career will further intice more women to enter digital business environments, which will benefit the digital industry, women themselves and Europe's economy.

In an ideal scenario, if there were as many women who worked in the digital sector as as men, the European GDP would increase annually by around € 9 billion (1.3 times Malta's GDP), as found by the study.



## Content strengths

We will use the KEY INTERNET OF THINGS (IoT) CONCEPTS that we create in the programming of IoT by using code language for redesigning the knowledge, skills and competences of the new curricula and new expert profile acquired by minimum 140 adult women until 2020;. This includes:

- Elaboration of a NEW CURRICULA AND NEW EXPERT PROFILE in the IT field, more exactly Programming the IoT by using code, for adult women based on GAMIFICATION theory that will be available after the first year of the project;
- Elaboration of training manual with 6 modules for a new specialisation in the IT field for adult women and validation it by the minimum 140 stakeholders until the middle of the project;
- Developing attitudes, mental models and engagement of minimum 140 adult women together their daughters by creating the new and innovative WOMEN POWER CODE VIDEOGAME that will be tested and disseminated in 2020 for increasing work-based active learning;
- Setting up until mid of 2020 of a Social Learning Community (SLC) dedicated to ADULT WOMEN and not only, aiming to make the digital world more attractive for adult women as well as cooperation building for creativity and innovation development among stakeholders (VET providers, IT companies, Universities, Women Associations) from IT field;
- Women age 40 to 60 willing to improve their daily life, to change their job or to find new opportunities.

## Transnational dimension strength

The project will be implemented by a strategic partnership formed of 7 partners from 7 different EU Member States (UK, Italy, Belgium, Bulgaria, Romania, Netherlands and Slovenia). The leader of this project makes digital work, being a SME which designs websites and applications, a world leader in promoting greater participation of girls and women in strategic, innovative ESTEAM, 1 regional development agencies, a web design company, training providers.

Our project will create a complete and integrated framework to define, prepare, assess and equip adult women with the proper educational tools helping the promotion of programming skills of girls and women.



## The strength of the innovative character of the project

The project equips the beneficiaries within the target group with new and improved digital skills and will create the necessary context for general life improvement. Through this initiative, we intend not only to better prepare women with basic digital skills for a more competitive, technological work environment, but we also aim at smoothing the gender gap acknowledged in the ICT sector.

The constant development of the Internet of Things (IoT) signifies entrepreneurship possibilities, but, at the same time brings about significant issues such as technology architectural choices to security concerns in all aspects of life.

WOMEN POWER CODE will empower adult women with important knowhow which will help them surpass these issues and make them thrive in this exciting new context. The theoretical results/products of the project will link mothers with daughters in a common process of learning in order to find out together, the benefits of using IoT, as well as mastering the Knowledge, Skills and Competences for introducing IoT for Smart Living. This projects objectives are twofold, : acquiring knowhow and empowering women's Generations, who don't have the native digital skills and need to update their knowledge on the new technologies and start making use of them, but also to stimulate the new generation of girls (Millennial Generation), who have native digital skills.

However, there is still an ongoing issue with the same generation of boys that needs to be addressed, as they are also not as interested in tackling the STEM arena as was once seen.

Using gamification techniques in the learning process (for e.g. interactive simulation, immersed/augmented reality), mothers and daughters will spend more time side by side and will master the use of code in order to develop new applications and programs for Smart Living.



## Partnership strengths

**Civic Computing (CIVIC)** was established in 2001, in Edinburgh, Scotland and is one of the largest suppliers of digital work to the Scottish Government. CIVIC is known for innovation in product development and were first to develop a Java CMS over 10 years ago (Content Control). They were also the first to market a solution for compliance with EU legislation on Cookies (Cookie Control), and recently launched a new social media tool (Ffora) targeting mainly youngsters seeking personalised content.

**North-East Regional Development Agency** Romania has 135 employees, out of which 91% are university graduates, engineers, economists, public administration experts, etc. and almost 50% of them are involved in VET and adult education activities within Regional Studies Center, a structure established within our institution since 2010 ([www.crsnordest.ro](http://www.crsnordest.ro)).

**The Digital Leadership Institute** is a Brussels-based, international NGO whose global mission is to bridge the gender gap and digital divide by educating and empowering digital leaders of today and tomorrow. DLI (formerly Zen Digital Europe) is a recognised world leader in promoting greater participation of girls and women in strategic, innovative ESTEAM (entrepreneurship, science, technology, engineering, arts and mathematics) sectors,

**Eurocrea Merchant** is a consulting and training company based in Italy, with two offices located in Milan and Naples. Our mission is to improve the competitiveness of the European society, through business development, training and creation of transnational partnerships. The company was born 20 years ago with a focus on business and finance and with the aim to support Italian SMEs in the process of start-up and management of the company.

**Business Development Friesland (BDF)** from the Netherlands helps people and organisations to grow. We take own initiative to do so and we get frequently requested by businesses, schools, universities or governments to support them in their efforts. The legal status of BDF is a foundation, from its origin and mission it serves the needs of the supporting the regional economy and employment.

**Daniel SG** is a private educational and consulting organisation specializing in adult education in the field of entrepreneurship, e-business, e-marketing, digital skills, website and app development, as well as e-business and e-marketing consulting activities, software development, web applications, web integration, mobile apps.

**Bioanim** is a micro SME from Slovenia. We started to participate in EU projects in 1999 and have been since involved in FP5, FP6, FP7, Lifelong learning and other types of EU projects. We design and produce (web)3D visualizations and e-learning software, especially from the field of biology, ecology or medicine.

The most important associated partner of WOMEN POWER CODE project is the **European Digital Learning Network (DLEARN)** that has been created from the initiative of valuable and experienced European organisations, active in Europe for many years in the field of education and training.





## General strengths

### Parental/guardian consent

The beneficiaries must obtain the Parental/Guardian consent for participants of minor age prior to their participation in any mobility activity.

### Additional provision on monitoring and evaluation

The NA and the Commission monitor the correct implementation of the Erasmus Charter for Higher Education and/or the consortium accreditation by the beneficiaries. In case the monitoring reveals weaknesses, the beneficiary concerned must establish and implement an action plan within the timeframe specified by the NA or the Commission. In the absence of adequate and timely remedial actions by the beneficiary concerned, the NA may withdraw the consortium accreditation or recommend to the Commission to suspend or withdraw the Erasmus Charter for Higher Education in accordance with the provisions set in the consortium accreditation or Erasmus Charter for Higher Education respectively.

*(See Appendix 1 for Additional Provisions on Data Protection and Protection of Children and vulnerable adults)*

## Weaknesses

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Internal factors within our control that may impede our ability to meet our objectives.

The weaknesses materialising most frequently within this project are:

- non-observance of deadlines (delay in preparing technical and financial reports and sending them to the project management team),
- exceeding or unspending the allocated budget, non-observance of performance (quantitative or qualitative) parameters,
- non-observance of the financial rules or failure of a project partner to fulfill its tasks and leaving the project team.

Another kinds of weaknesses and respective measures is compiled as following:

- Weaknesses regarding the strategic partnership:
  - Low level of motivation among project partners - partners will be encouraged to express interests, suggestions and share the work accordingly to their tasks.
  - Poor communication among partners – a systematic communication plan will be introduced, discussed and agreed at the kick-off meeting.
  - Weaknesses not delivering tasks in time – on line meetings and follow up communication will always help partners to be updated on the current situation of specifics tasks.
  - Unclear roles - detailed work plans will be specified and agreed at the kick-off meeting.
  - Partner withdrawal – disposition and penalties specified in the partner's agreement.
- Weaknesses regarding the implementation of the project:
  - Failure to reach project aims - comprehensive quality management system in place.
  - Project outputs do not meet requirements – extensive research and analysis at project start, frequent feedback loops, project management plan.
  - Low reach-out to target groups - Use of large existing networks and multipliers, and relevant stakeholders who find the approach very useful.
  - Insufficient number of participants in the project activities – broad information stage at the first project stage about the project will be developed among partners, involve them in project activities such as the needs analysis and stocktaking phase, organize multiplier events to inform on the purpose of the innovative learning by gamification and the respective benefits. Because the management of a project involves weaknesses, most of them due to its uniqueness, the Steering Committee of the project will have also the role of providing the internal weakness management according to Risk Management Plan elaborated by the lead partner.



Thus, each partner of the consortium will make use of the weakness identification checklists (sheets) to control the possible weaknesses and will report to the lead partner any potential weakness identified and the context in which it can occur in such a way as it can be appropriately analyzed and evaluated and followed by a decision on the action to be taken to avoid or remove it without affecting the project.



## Opportunities

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External factors that the organisation or project should (or could) develop.

Growing the number of digitally skilled women in the ICT industry, will mean economic growth and a more inclusive society.

A study on women active in the ICT sector, (Digital Single Market published in October 2013) found that allowing more women to enter the digital jobs market can create an annual € 9 billion GDP boost in the EU area.

In the world of today, learning the digital language and becoming digitally astute is a must in order to get a job. In the future, ninety percent of jobs will demand digital skills and therefore, the ICT sector is growing.

The Digital Agenda for Europe estimates that by 2020 there will be a skills deficit that equates almost a million unfilled jobs. Despite high unemployment across Europe, the huge e-skills gap is a barrier to accessing existing roles in the sector. In order to boost competitiveness, productivity and employability of the workforce, we need to bridge this e-skills gap by updating the skills of the existing talent pool.

The constant development of the Internet of Things (IoT) signifies entrepreneurship possibilities, but, at the same time, it brings about significant issues such as technology architectural choices to security concerns in all aspects of life.

Women must not only learn how to make use of existing technology, but also be able to create their own solutions, IoT technologies, and applications are meant to better all aspects of life.

CIVIC is currently collaborating with a Cypriot company (M.K. Innovations Ltd) for the development of a training programme for young individuals on the subject of Robotics.

Research has shown that Robotics is an effective, fascinating and motivating way to introduce young people, especially women to coding. Robotics is increasingly being considered as the fourth "R" of learning, "Reading, wRiting and aRithmetic" that modern-day students must understand to succeed in a highly competitive, technology-driven world. Robotics integrates all STEM fields in way no other subject can cover – is the mother of all subjects. It integrates mechanical, electrical, electronics, control engineering, computer science, technology, math and science.

The purpose of the collaboration is to develop a tool kit for implementation for introducing 'coding/ robotics' to young people aged 13-16 yrs old by:

- Utilising the non-working school time (i.e. after school, summertime, afternoon) available in a constructive way to set up HUBS in youth centres/ educational institutions.
- Creating SYNERGIES between youth centres and various stakeholders in order to bridge the skills-gap between education and the labour market, based on the principle of VOLUNTEERS MENTORS who will support and guide throughout the Youth Workers to set up and run a ROBOTICS HUB.
- Introducing the OPEN BADGES as a method to VALIDATE and AWARD the coding skills thus achieving transferability, credibility and transparency of the non-formal learning and permeability in formal education through the CODING/DIGITAL profiles of participants to be available on-line.
- Creating transnational cooperation between partners for the organisation of ROBOTICS COMPETITIONS, events, KA1 MOBILITY etc. thus ensuring sustainability and exploitation products



and results.

The present project is a natural continuation of CIVIC's CSR vision to actively contribute to the acquisition of useful skills by our youth.

At the same time CIVIC is also experimenting (applied research) with educational applications harnessing the power of IoT in an effort to deliver engaging and lasting educational experiences bridging the online with the offline (offline referring to no screen time in this context) thus contributing also to the battle against screen addiction which is growing problem among our youth.



## Threats

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External factors beyond our control that could place the project or organisation at risk.

Developing the new training tools, collecting best practices in the field and evaluating their potential for transferability to the transnational partnership, as well as development of a videogame for code competence learning and testing, are actions that cannot be implemented without the support of partners and whose results cannot be obtained without the involvement and contribution of the whole consortium.

A policy change is needed particularly because of an alarming drop in ICT female graduates (today only 29 out of every 1000 females who graduate, have a computing or related degree, and only 4 go on to work in ICT-related activities).

There still are a number of important milestones until we get there. Studies on the presence of women in STEM (science, technology, engineering and math) indicate that a lot of work has to be done before this will be considered a field where gender equality will no longer be an issue.

This is the main conclusion of the European Commission survey on women active in the ICT sector (Digital Agenda: Bringing more women into EU digital sector would bring €9 billion annual GDP boost, [http://europa.eu/rapid/press-release\\_IP-13-905\\_en.htm](http://europa.eu/rapid/press-release_IP-13-905_en.htm)).

As the study shows, nowadays too few women are found working in the ICT sector:

- Of 1,000 women with a Bachelors or other first degree, only 29 hold a degree in Information and Communication Technologies (ICTs) (as compared to 95 men), and only 4 in 1000 women will eventually work in the ICT sector.
- Women leave the sector mid-career to a greater extent than men and they are under-represented in managerial and decision-making positions (even more than in other sectors).
- Only 19.2% of ICT- sector workers are managed by female bosses, compared to 45.2% of non-ICT workers.

It is estimated that, by the year 2020, 50 billion devices will function using a connection to the Internet.

Rather than a problem, this picture seems to constitute a huge opportunity for women to capitalise on. This segment of the population has to get involved in the new era of hardware, software, and data by learning how to use Internet of Things: making life easier at home and at the job.



## Conclusion

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The SWOT analysis is about capitalising our strengths, overcoming weaknesses, exploiting opportunities, and countering threats. Moreover, it is about identifying the most important issues, setting priorities, appraising the options, and taking action.

The above study shows that for our project 'Women Power Code' will have excellent chances in taking advantage of opportunities over the weaknesses of the project. Also the threats coming from the "outside" are not likely to produce much harm to the project especially because of our sound team that has overcome such threats in the past and it is highly likely to successfully deal with them in the future.



## Appendix 1

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### Additional Provisions on Data Protection

All personal data contained in the agreement shall be processed in accordance with: National legislation by the NA, in particular the UK Data Protection Act 1998; in accordance with Regulation (EC) No 45/2001 of the European Parliament and of the Council on the protection of individuals with regard to the processing of personal data by the European Union institutions and bodies and on the free movement of such data. The beneficiary may lodge a complaint against the processing of his/her personal data with the Information Commissioners Office (ICO) with regard to the use of these data by the NA, or to the European Data Protection Supervisor with regard to the use of the data by the Commission. The beneficiary shall take appropriate technical and organisational measures against the unauthorised or unlawful processing of personal data and against actual loss or destruction or, or damage to personal data, having regard to the state of technological developments and the cost of implementing any measures, and the measures must ensure a level of security appropriate to the harm that might result from unauthorised or unlawful processing or accidental loss, destruction or damage and the nature of the personal data.

### Protection of Children and Vulnerable Adults

The beneficiary warrants that, in relation to all activities in connection with the Project where project activity is taking place in England or Wales, it will comply with all legislation and statutory guidance relevant at any time to the safeguarding and protection of children and vulnerable adults (including without limitation, the UN Convention on the Rights of the Child and the Children Act 1989), as may be amended from time to time. Equivalent provisions in equivalent legislation in locations other than England and Wales shall apply in those locations. The beneficiary acknowledges that, for the purposes of the Safeguarding Vulnerable Groups Act 2006, and any regulations made thereunder, as amended from time to time (the "SVGA"), and where the location is England or Wales, it is the "Regulated Activity Provider" in respect of any "Regulated Activity" (both as defined in the SVGA) carried out in connection with the Project and that it will comply in all respects with the SVGA and any regulations or orders made thereunder. Equivalent provisions in equivalent legislation applicable in locations other than England and Wales shall apply in those locations.

The beneficiary will ensure that it is (and that any individual engaged by it to carry out Regulated Activity in connection with the Project) subject to a valid enhanced disclosure check undertaken through the Disclosure and Barring Service (DBS) including a check against the adult's barred list or the children's barred list, as appropriate or a valid local equivalent e.g. police certificate if the individual engaged is outside England or Wales.

Where applicable, the Beneficiary shall monitor the level and validity of the checks under this clause I.17.4 for each member of staff or other individual engaged by it to carry out Regulated Activity in connection with the Project.

The beneficiary warrants that at all times whilst this Agreement is in force, it has not, and has no reason to believe that any person who is or will be employed or engaged by the Beneficiary in connection with the Project, is barred from carrying out such employment or engagement.

The beneficiary shall immediately notify Ecorys UK of any information that Ecorys UK reasonably requests to enable Ecorys UK to be satisfied that the obligations of this clause have been met.





The beneficiary shall refer information about any person employed or engaged by it to carry out Regulated Activity in connection with the Project to the Independent Safeguarding Authority (ISA) where it removed permission for such person to carry out the Regulated Activity (or would or might have, if such person had not otherwise ceased to engage in the Regulated Activity), because, in its opinion, such person has harmed or poses a risk of harm to children and/or vulnerable adults.

The beneficiary shall not employ or use the services of any person who is barred from, or whose previous conduct or records indicate that he or she would not be suitable to carry out Regulated Activity or who may otherwise present a risk to children or vulnerable adults.

**Health and Safety**The beneficiary shall take all necessary measures to comply with the requirements of the Health and Safety at Work Act 1974 (or any equivalent legislation in any applicable jurisdiction) and any other acts, orders, regulations and codes of practice (including, without limitation, any approved codes of practice) relating to health and safety, which may apply to the performance of this Agreement.