Project PEGASO – *Fit for Future*
D11.4-3 – Dissemination and Communication Plan

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Executive Summary

This document consists in briefly reporting the communication and dissemination activities of the first, second and third year and in presenting an update version of the dissemination and communication plan for PEGASO, created as a living document, to be updated on a continuous basis depending on the project development with yearly releases.

The document has been defined in order to reach different goals such as having a unique strategy for the dissemination of the project, with a precise definition of targets, directed messages and possible communication channels and tools; having a defined schedule of dissemination activities and having a common document where all partners can insert and suggest possible communication activities.

Of utmost importance, in a long term project such as PEGASO, is to have a consistent scheme, accessible and comprehensible by all consortium members, that easily presents the communication activities for each phase of the project directed to specific audiences to be done or already done through different media channels (direct, indirect, on line, offline etc.) and their related tools.

This scheme is the result of the document and consists in an excel file of four main working sheets (going from a wide / global vision to a more detailed and focus perspective) presenting different aspects of the strategy development: communication activities (definition of project phases, their goals, targets and timing), communication plan (identification of all media channels and communication tools to be use to reach audiences, and scheduling of the activities in the mid-long term), dissemination plan on LifeGate media network (presenting a precise planning of communication activities to be held on a coherent with PEGASO's values media network dedicated to sustainable and healthy lifestyle), tailored messages (identification of specific contents of interest for certain audiences).

Importance is to be given to the consortium member ability in suggesting contents (information, messages) to be delivered throughout the project lifespan.

Table of Content

1 Reconnaissance of first, second and third year activities

1.1 Set up and updates of general communication tools

PEGASO brand identity

Graphic definition of **Logotype** and possible variations (standard logo, logo with payoff, just wings and horizontal logo); identification of Project **colour palette**; guidelines for correct use of corporate identity (how to use the logo over images, with colour backgrounds, with minimal measures etc.); definition of **Typography** to be used; identification of **standards for images** to be used in the project communication (real and natural environment, teens etc.); creation of real **PEGASO banners** and **gadgets** (branded bracelets, headphones and t-shirts) used during specific public events and to use at the beginning of the pilot phase; creation of **PEGASO Certificate of participation** and different **PEGASO cards**; definition of **User Interface Guidelines** for the Apps development in PEGASO ecosystem; creation of **PEGASO packaging** for electronic devices and smart garments; creation of **PEGASO branded cardboard desk** used in conferences, fairs and public events or exibitions.

PEGASO working tools

Creation of the **standard letterhead**, the powerpoint **graphic templates**, the PEGASO **Press Release** and the PEGASO **newsletter template**.

1.2 Deliverable D11.1 – Project Web Portal

PEGASO Web Portal

Creation and continuous update of **pegasof4f.eu**; publication of a first and a second release of **PEGASO website**; definition of main contents and key entries of the portal (key words); development of a main PEGASO image to be used in all digital tools.

Pegasof4f.eu performance in YEAR 3	
4.665 users (71% new visitors)	From RU (26%), IT (19%), UK (10%), ES (7%), USA (6%) and others (32%)
15.800 page views	From desktop (88%), mobile (10%), tablet (2%)
30 users/day	

PEGASO Social Networks

Creation and continuous update of **PEGASO Facebook fan page**, **PEGASO Twitter Account** and **PEGASO YouTube Channel**.

1.3 Deliverable D11.2 – Project Package

Creation of the **PEGASO ID Card**, the **PEGASO official PPT slide presentation**, the **PEGASO WP Poster template** and a **PEGASO Newsletter template** (with the possibility to register to the newsletter on pegasof4f.eu); creation and first release of the **PEGASO Brochure** and the **PEGASO video teaser**; release of a **targeted brochure and a flyer** in 3 languages in order to support the pre-pilot phase; creation of the **PEGASO video promo**; creation of the **PEGASO Apps video demo**;

At M38 n.**15 2-monthly *PEGASO -Fit for Future-* newsletters** have been sent through the PEGASO mailing list and through the communication channels of the PEGASO Consortium partners. The newsletters have been published also on PEGASO website.

1.4 Deliverable D11.3 – Training Modules

One of PEGASO project goal is, in fact, aiming to become a strong training resource to contribute to bring the young generation in contact with the fundamentals of healthy lifestyle and enables them to support their own lifestyle discussing it also with their peer group. That is why during the last phase of year 2 PEGASO delivered a **modular and dynamic training environment** in order to train teenagers and the main project stakeholders at both the usage of the PEGASO solution and the adoption of more healthy and virtuous behaviour.

The training modules platform (accessible through the PEGASO portal has been prepared to support the technological and methodological transfer of the PEGASO system not only to the end users (teenagers) but also to the main project stakeholders (parents, schools/teachers and public and private Institution and Company).

In the *PEGASO -Fit4Future- training modules platform,* during the 2nd year, the following **4 training modules** have been developed:

1. 10 tips for being physically active;
2. Physical activity for younger people;
3. What is considered as a healthy diet?;
4. Why is breakfast so important?

During the 3rd year, **3 new training modules** have been developed and published:

5. The Pegaso Serious game: how to support teenagers in changing their behavior in favour of an healtier one);
6. Serious Games: how to learn from games;
7. The Pegaso serious game: how to use it.

1.5 Dissemination on partners network

Creation of a **set of banners** promoting the PEGASO project and publication on partners' social-media network.

1.6 Scientific publications

As set out in the Consortium Agreement, at the beginning of the project the PEGASO Consortium has defined a publication policy and a publication strategy for maximisation of outputs. Internal Guidelines have been designed to provide guidance for all consortium partners planning academic dissemination via peer-reviewed journal publications and conferences.

The defined publication policy gives guidance for authors on the process for preparing and submitting manuscripts and abstracts for scientific dissemination (particularly peer-reviewed journal papers/conference papers).

However, in addition to the Consortium Publication Policy a publication strategy is needed to ensure strategic publication of materials to target high impact journals/conferences in order to maximize citations and provide the most appropriate level of target audience exposure. Areas of importance are: (I) Ensure strategic and logical ordering of publications to maximize citations. (II) Ensure the targeting of high impact journals/conferences to provide the most appropriate level of target audience exposure. (III) Agree a work team (co-ordinating Partner(s) and contributing Partner(s)) for each publication. (IV) Make explicit the titles, topics, intended journals, planned submission date and authorship teams of planned publications to reflect the contributions of individuals fairly.

A database has been created for internal use by all members of the consortium intending to publish. The database contains full references and abstracts of all peer reviewed journal publications and conference proceedings on the PEGASO system. Authors are encouraged to cite these works when referring to the PEGASO system, or to individual components of it, and as such all authors are encouraged to update the database regularly.

When planning publications and conference submissions authors aimed to submit to the journals and conferences with the highest impact factor in that specialist area. In the case of multidisciplinary inputs to manuscripts and conference abstracts a more generalist publication may be most suitable. In these cases, the lead author identifies these publications and open discussions with the authorship team to reach consensus of the target journal/target conference. International journals with the highest readership and impact factor should be given the highest priority.

The following articles have been published and/or presented at events during the 1st year of project implementation. The material is listed, but not attached directly to the deliverable:

1.6.1 YEAR 1

Type of Publication	Conference paper
Title	**Integrated Architecture for Next-generation m-Health Services (Education, Monitoring and Prevention) in Teenagers**
Author	Marco Mazzola, Pelin Arslan, Gabriela Candea, Ciprian Radu, Massimiliano Azzolini, Cristiana Degano, Giuseppe Andreoni
Journal/Proceedings	Digital Human Modeling. Applications in Health, Safety, Ergonomics and Risk Management Lecture Notes in Computer Science Volume 8529, 2014, pp 403-414
Publisher	Springer International Publishing Switzerland
Place of publication	Switzerland
Year of publication	2014
Abstract	Obesity and other lifestyle-related illness are among the top healthcare challenges in Europe. The rapid development of the ICT, and in particular mobile technologies offers an important opportunity for introducing the possibility of a new technological framework. In this paper, the PEGASO system is presented. It will be based on a mobile, social and networked gaming platform, considered as a powerful tool to actively engage the younger population in activities that will stimulate healthier choices in their daily lives. The PEGASO project will implement the User Centred Design approach by considering our target population (i.e. teenagers) at the centre of the system in a palingenetic process. Smartphone is the first and key sensor system. The mobile device also acts as communication gateway towards the other sensors. Basic services, such as those related to location and basic motion sensors to detect physical activity, are provided through sensors embedded within the smartphone.

Type of Publication	Oral communication
Title	**La tecnología puede ayudar a adquirir hábitos saludables entre los adolescentes?**
Author	C. Carrion, M. Espallargues, C. Castell, A. Lang, S. Atkinson, S. Cobb, M. Mazzola
Journal/Proceedings	XVII Congreso Nacional de Informática de la Salud, Madrid, ES
Publisher	-
Place of publication	Madrid, Spain
Year of publication	2014
Abstract	La obesidad entre los adolescentes y jóvenes europeos es un problema de salud que va creciendo de forma significativa, y puede ser un factor determinante de su calidad de vida en la etapa adulta. Por otro lado, as tecnologías de la información y la comunicación (TIC) en general, y muy en particular las vinculadas a teléfonos móviles, tabletas, brazaletes electrónicos y otros dispositivos empiezan a estar muy extendidos entre la población joven. Constituyen una oportunidad para poder acercarse a

	este colectivo de la población e intentar abordar la mejora de los hábitos saludables de forma creativa e innovadora. La técnica de análisis cualitativo de grupos focales nos ayudará a conocer cuáles son las percepciones de chicos y chicas referentes a las posibilidades que la tecnología nos ofrece para mejorar los hábitos de vida, en términos sobretodo de alimentación y actividad física.

Type of Publication	Oral Communication and Poster
Title	**Can technology help teenagers to have healthier habits?**
Author	C Carrion, M. Espallargues and C. Castell
Journal/Proceedings	V jornades en R+D+i en TIC I SALUT - Innovació en salut i benestar
Publisher	-
Place of publication	Girona, Spain
Year of publication	2014
Abstract	Knowing how to stay healthy is not enough to motivate individuals to adopt healthy lifestyles. Personalised guidance services for optimising lifestyle in teen-agers (PEGASO) project targets teen-agers exploiting technologies and approaches they are familiar with. Gaming strategies, leveraging social networks and communities of interest, integrated in a participatory design methodology can make the difference. A qualitative analysis of teen-agers and their parents and teachers can help us to know to better understand their perceptions and attitudes regarding the possibilities that technology offers to improve lifestyle, especially in terms of diet and physical activity.

Type of Publication	Conference Paper
Title	**PEGASO: Towards a Life Companion**
Author	Stefano Carrino, Maurizio Caon, Omar Abou Khaled, Giuseppe Andreoni, and Elena Mugellini
Journal/Proceedings	Digital Human Modeling. Applications in Health, Safety, Ergonomics and Risk Management Lecture Notes in Computer Science Volume 8529, 2014, pp 325-331
Publisher	Springer International Publishing Switzerland
Place of publication	Switzerland
Year of publication	2014
Abstract	In the frame of the PEGASO European project, we aim at promoting healthier lifestyles focusing on the alimentary education and physical activity. This paper presents the concept of health companion as the main tool to inform and push the user towards a healthier lifestyle. This companion is an advanced interface that assists and entertains the user, providing him an adequate knowledge about alimentary and physical education. The companion is based on a knowledge model of the user and its behavior; it is composed of three main facets: is based on affective

	design, is tailored to the user, and is designed to be a life companion.

Type of Publication	Conference Paper
Title	**Towards Individualised Persuasive Technology for Obesity Prevention in Teenagers**
Author	Claudio L. Lafortuna, Maurizio Caon, Sarah A. Tabozzi, Stefano Carrino, Neil S. Coulson, José C.E. Serrano, Marco Sacco, Omar Abou Khaled, Giovanna Rizzo and Elena Mugellini
Journal/Proceedings	Proceedings of the International Conference on Health Informatics (SUPERHEAL-2014), pages 591-598.
Publisher	SCITEPRESS
Place of publication	Switzerland
Year of publication	2014
Abstract	Obesity is a major clinical problem for individuals and health care systems worldwide, alarmingly fuelled by body mass excess in the juvenile age. In spite of its multi-factorial origin, unhealthy lifestyles relative to alimentary behaviours and physical activity habits play a major causative role. Thus, an important preventive action of this condition can be conducted by fostering motivation of young people towards healthy lifestyles through engagement and inclusion. ICT technologies offer a powerful tool to address effectively this serious medical and societal issue by the development of persuasive strategies based on an accurate modelling of individual's characteristics. PEGASO is a technological multidisciplinary project aimed at promoting healthy lifestyles among teenagers, through assistive technology enhancing motivation to healthy lifestyles, empowered by a virtual individual model (VIM) for user characterisation. The VIM intended for the PEGASO project, including functional, physical and psychosocial aspects profiling young individuals' health status and behaviours relevant in alimentary and physical activity domain, will enable the development of an individualised assistive technology expected to leverage motivation to healthy lifestyles through implicit and explicit interaction.

Type of Publication	Workshop Paper
Title	**A Persuasive System for Obesity Prevention in Teenagers: a Concept**
Author	Maurizio Caon, Stefano Carrino, Renata Guarneri, Giuseppe Andreoni, Claudio L. Lafortuna, Omar Abou Khaled, and Elena Mugellini
Journal/Proceedings	http://ceur-ws.org/Vol-1153/Paper_2.pdf
Publisher	Proceedings of the Second International Workshop on Behavior Change Support Systems (BCSS 2014)
Place of publication	CEUR Workshop Proceedings
Year of publication	2014
Abstract	In the frame of the PEGASO European project, we aim at creating an

	ecosystem that enables teenagers to easily adopt a healthy lifestyle. In this ecosystem, the persuasive ICT system plays a key role in motivating users to build healthy habits. The persuasive system is based on mobile technologies and provides tailored motivational mechanisms based on the information pro-vided by the virtual individual model.

Type of Publication	Conference Paper
Title	**The building of a virtual individual model (VIM): multi domain characterisation of health status in the PEGASO project.**
Author	Lafortuna CL, Serrano JCE, Coulson NS, Sacco M, Tabozzi SA, Rizzo G.
Journal/Proceedings	Book: Advances in Human Aspects of Healthcare, 3, 178.
Publisher	AHFE Conference, 2014
Place of publication	Kraków, Poland
Year of publication	2014
Abstract	The recent European strategies for the improvement of citizens' health status largely rely upon the promotion of technological solutions that empower the individual as a co-producer of his/her health through the management of personal life conditions, with a user-centred approach. The efficacy of this approach is enhanced by a detailed and accurate modelling of knowledge concerning the individual's health requirements. Moreover, the adoption of a Virtual Individual Model (VIM) including biological, cognitive and social aspects in the framework for health status characterisation may lead to a stronger empowerment of the user through a more individualised strategy of health management. Purpose of this work is the presentation of a VIM structure suitable to describe obesity related phenomena in children and adolescents. The model includes physical, physiological and psychological domains which are ruled by specific behaviours and influenced by societal externalities, and ultimately concur to the concept of whole individual's health, defined as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity". It is assumed that health status is primarily settled on elements of physical status of body structure (comprising body size and composition attributes), physiological status (comprising metabolic parameters related to alimentary habits and functional responses to exercise) and psychological status (based on relevant characteristics of personality). Body structure and functionality are influenced by the individual's behaviours in the domains of alimentation and physical activity, which are driven by relevant aspects of motivation. Social status, social behaviour and psychological status (i.e. the psychosocial factors) are considered in the model as important determinants of behavioural skills as well as attitudes and motivation to engage in healthy lifestyle behaviours. In such a context, status and behaviours in the different domains can be

	defined by appropriate profiling including parameters relevant for quantitative characterisation and detection of changes, whereas motivation for healthy lifestyles can be evaluated through changes in alimentary and/or physical activity behaviours. Thus the VIM results to be built on profiles spanning from physical to psychological and social domains and include aspects of different behaviours, each component of the model being modifiable by the other components and determining dynamically the individual's health status. The so defined VIM will be suitable to be handled with ontology-driven tools allowing to outline the semantic relations between the different elements in the biological, cognitive and social domains and dynamically enabling inferences over individual-related parameters spanning through the different domains. Moreover, the use of VIM within the PEGASO project, will facilitate the creation of both the whole multi-dimensional and cross-disciplinary ICT system architecture as well as the development of dedicated reasoners for the inference of the health status and the promotion of alimentary-/exercise-related healthy behaviours, relevant for overweight and obesity prevention in the juvenile age.

Type of Publication	Conference Paper
Title	**Tailoring Motivational Mechanisms to Engage Teenagers in Healthy Life-Style: a Concept**
Author	Maurizio Caon, Stefano Carrino, Claudio L. Lafortuna, José C.E. Serrano, Neil S. Coulson, Marco Sacco, Omar Abou Khaled, and Elena Mugellini
Journal/Proceedings	Book: Advances in Human Aspects of Healthcare, 3, 178.
Publisher	AHFE Conference, 2014
Place of publication	Krakow, Poland
Year of publication	2014
Abstract	Overweight and obesity are the first leading risk related to nutrition for global deaths, in the last few years it outranked the famine. Obesity increases the risk of several debilitating, and deadly diseases, including diabetes, heart disease, and some cancers. Due to the many health risks associated with obesity, the financial burden that the treatment of this disease exercises on the European healthcare system is enormous. For this reason, the best strategy relies in prevention. In particular, the pervasiveness of technology can leverage an important advantage for the promotion of healthy behaviors in the new generations. This paper introduces PEGASO, a technological multidisciplinary project funded by the European Commission that aims at creating an ecosystem that can enable teenagers to adopt healthy habits leading to a healthy life-style. The ICT system plays an important role in the PEGASO ecosystem. This behavior change support system integrates a Virtual Individual Model that allows characterizing the physiological status, physical condition and

	the psychological status for each user. This allows the elaboration of tailored interventions aiming at promoting the adoption of healthy habits by the users. This paper describes this concept introducing the Virtual Individual Model and discusses the possible interventions related to the promotion of physical exercise and of healthy dietary habits. At the end of the paper, some indications about the future development of the PEGASO project are provided.

Type of Publication	Conference Paper
Title	**Engaging teen-agers in the adoption of healthy lifestyles for the prevention of obesity and related co-morbidities: the approach of PEGASO**
Author	Renata Guarneri, Mauro Brivio, Giuseppe Andreoni and Marco Mazzola
Journal/Proceedings	Proceedings of HealthInf2104 - Special Session on Signals and Signs Understanding for Personalized Guidance to Promote Healthy Lifestyles (SUPERHEAL 2014)
Publisher	SCITEPRESS Digital Library
Place of publication	Angers, France
Year of publication	2014
Abstract	Obesity and other lifestyle-related illness are among the top healthcare challenges in Europe. Obesity alone accounts for up to 7% of healthcare costs in the EU, as well as wider economy costs associated with lower productivity, lost output and premature death. Obesity in younger age is an alarming predictor for obesity in adulthood, but also entails short-term health complications in juvenile age along with greater risk of social and psychological problems. Knowing how to stay healthy is not enough to motivate individuals, and especially teen-agers, to adopt healthy lifestyles. In view of this, PEGASO – recently funded by the 7th Framework Programme of the European Union in ICT for Health, will develop a multi-dimensional cross-disciplinary ICT system that will exploit social gaming to motivate behavioural changes towards healthier lifestyles. PEGASO is based on three main features: individual & environmental monitoring; feedback to the user, for alternative lifestyles; social connectivity, encouraging involvement in social network experience sharing and social engagement. For the development of the PEGASO system and in order to ensure engagement of the target population, a user centred approach will be used based on social and networked games and together with online education.

Type of Publication	Conference Paper
Title	**Active prevention by motivating and engaging teenagers in adopting healthier lifestyles: PEGASO strategy in designing future healthcare pillars.**

Author	Renata Guarneri and Giuseppe Andreoni
Journal/Proceedings	Digital Human Modeling. Applications in Health, Safety, Ergonomics and Risk Management Lecture Notes in Computer Science Volume 8529, 2014, pp. 351–360
Publisher	Springer International Publishing Switzerland
Place of publication	-
Year of publication	2014
Abstract	Prevention in Healthcare is a mandatory strategy for the next future. Health system sustainability together with lifestyle quality improvement are strictly related to this strategy. PEGASO is a EU funded research project addressing these goals in young people through an integrated approach and system dealing with: human modeling 2.0, wearable technology, and social serious gaming for promoting the adoption of a healthier and happy lifestyle. Such an approach related to social and happiness factors rather than to constraints and limitations is fundamental to ensure long-term compliance and efficacy for prevention. User requirements will be addressed by the project including a vision that integrates a lifestyle of healthy habits with an environment that promotes healthy living by encouraging exercise and making healthy food affordable and pleasurable.

Type of Publication	Conference Paper
Title	**PEGASO: a Serious Game to Prevent Obesity**
Author	Lucia Pannese, Dalia Morosini, Petros Lameras, Sylvester Arnab, Ian Dunwell, Till Becker
Journal/Proceedings	Digital Human Modeling. Applications in Health, Safety, Ergonomics and Risk Management Lecture Notes in Computer Science Volume 8529, 2014, pp 427-435
Publisher	Springer International Publishing Switzerland
Place of publication	-
Year of publication	2014
Abstract	The problem of obesity in the world has grown considerably in recent years. Between 16% and 33% of children and adolescents are obese. Even if obesity is among one of the easiest medical conditions to recognize, it is one of the most difficult to treat. The issue of individuals' motivation to change is the most significant obstacle in promoting positive health behaviours. Games' ability to reach and engage large number of players for long periods of time pro-vides an opportunity for them to be used as a pedagogical tool. This paper de-scribes how serious games and 'gamified' daily life processes appear to be a suitable means for supporting persuasion towards healthful behaviour within the frame of the PEGASO project that aims to develop a multi-dimensional cross-disciplinary ICT system to prevent overweight and obesity in the younger population.

Type of Publication	Conference Paper
Title	**Towards a teenager tailored ontology: Supporting inference about the obesity-related health status**
Author	Aleksandra Sojic, Walter Terkaj, Giorgia Contini, and Marco Sacco
Journal/Proceedings	Ontologies and Data in Life Sciences (ODLS 2014), edited by Ludger Jansen, Martin Boeker, Heinrich Herre, Frank Loebe.
Publisher	Institut für Medizinische Informatik, Statistik und Epidemiologie (IMISE) Nr. 1/14, Universität Leipzig
Place of publication	Freiburg, Germany
Year of publication	2014
Abstract	In this paper we outline the general framework of the ontology that captures the obesity-related features of teenagers. We present our particular choices regarding the ontology-structure, which should be capable of capturing (1) multiple perspectives used to describe an adolescent and (2) reasoning about the individual changes during the time. In the same line, we address several issues related to the modelling of normative concepts related to obesity and depict how the public health concern impacts classification of teenagers according to their phenotypes. In particular, we present a fragment of the ontology that supports inference about individuals and a personalised assessment of the obesity-related health conditions.

Type of Publication	Conference Paper
Title	**Human Energy Expenditure Models: Beyond State-of-the-art Commercialized Embedded Algorithms**
Author	Ricard Delgado-Gonzalo, Philippe Renevey, Enric Muntane Calvo, Josep Solà, Cees Lanting, Mattia Bertschi, Mathieu Lemay
Journal/Proceedings	Digital Human Modeling. Applications in Health, Safety, Ergonomics and Risk Management Lecture Notes in Computer Science Volume 8529, 2014, pp 3-14
Publisher	Springer International Publishing Switzerland
Place of publication	Switzerland
Year of publication	2014
Abstract	In the present study, we propose three new energy expenditure (EE) methods and evaluate their accuracy against state-of-the-art EE estimation commercialized devices. To this end, we used several sensors on 8 subjects to simultaneously record acceleration forces from wrist-located sensors and bio-potentials estimated from chest-located ECG devices. These subjects followed a protocol that included a wide range of intensities in a given set of activities, ranging from sedentary to vigorous. The results of the proposed human EE models were compared to indirect calorimetry EE estimated values (kcal/kg/h). The speed-based, heart rate-

	based and hybrid-based models are characterized by an RMSE of 1.22 ± 0.34 kcal/min, 1.53 ± 0.48 kcal/min and 1.03 ± 0.35 kcal/min, respectively. Based on the presented results, the proposed models provide a significant improvement over the state-of-the-art.

Type of Publication	Journal Paper
Title	**PEGASO: A personalised and motivational ICT system to empower adolescents towards healthy lifestyles**
Author	Stefano Carrino, Maurizio Caon, Leonardo Angelini, Elena Mugellini, Omar Abou Khaled, Silvia Orte, Eloisa Vargiu, Neil Coulson, José C.E. Serrano, Sarah Tabozzi, Claudio Lafortuna, Giovanna Rizzo
Journal/Proceedings	Studies in Health Technology and Informatics, 2014; 207: 350-359
Publisher	IOS Press
Place of publication	-
Year of publication	2014
Abstract	Unhealthy alimentary behaviours and physical inactivity habits are key risk factors for major non communicable diseases. Several researches demonstrate that juvenile obesity can lead to serious medical conditions, pathologies and have important psycho-social consequences. PEGASO is a multidisciplinary project aimed at promoting healthy lifestyles among teenagers through assistive technology. The core of this project is represented by the ICT system, which allows providing tailored interventions to the users through their smartphones in order to motivate them. The novelty of this approach consists of developing a Virtual Individual Model (VIM) for user characterization, which is based on physical, functional and behavioural parameters opportunely selected by experts. These parameters are digitised and updated thanks to the user monitoring through smartphone; data mining algorithms are applied for the detection of activity and nutrition habits and this information is used to provide personalised feedback. The user interface will be developed using gamified approaches and integrating serious games to effectively promote health literacy and facilitate behaviour change.

The following articles have been published and/or presented at events during the 2nd year of project implementation:

1.6.2 YEAR 2

Type of Publication	Conference paper
Title	**A Mobile Serious Game for Lifestyle Change: Conveying nutritional knowledge and motivation through play**
Author	Dunwell, I., Dixon, R., Morosini, D.
Journal/Proceedings	-
Publisher	IEEE

Place of publication	Greece
Year of publication	2015
Abstract	This paper describes work in progress to create a serious game within the EU-funded project PEGASO (Personalised Guidance Services for Lifestyle in Teenagers through Awareness, Motivation, and Engagement). The game is integrated with an ecosystem of services for recording, analysing, and motivating adolescents towards healthier lifestyles. The design outlines an approach that minimises textual and dialogic content in favour of experiential and abstract elements, reflecting existing evidence alongside the need to provide a motivation for users to engage with the wider suite of PEGASO apps. The design illustrates the use of "freemium" mechanics commonly used to incentivise in-app purchases as a means of instead incentivising the use of services to promote a healthier lifestyle. An additional mechanic sources and applies nutritional information from a large database to create a deck of food "cards", with which the player is challenged to apply their understanding of nutrition to create in-game rewards. Preliminary findings from pre-pilot focus group evaluations with adolescents aged 14-16 (n~10) in Italy and Spain demonstrate enthusiasm for the approach taken to linking real-world behaviour with in-game rewards, as well as potential differences in reception to visual style options between sites and cultures.

Type of Publication	Abstract/Poster presentation
Title	**INDIVIDUAL MODELLING FOR PERSONALISATION IN m-HEALTH INTERVENTIONS FOR OBESITY PREVENTION AMONG ADOLESCENTS**
Author	Tabozzi SA, Caramenti M, Carrino S, Caon M, Abou Khaled O, Mugellini E, Rizzo G, Lafortuna CL
Journal/Proceedings	Proceedings to be published in Obesity Reviews
Publisher	Wiley
Place of publication	-
Year of publication	2016
Abstract	Evidence-based recommendations, with a particular focus on health-related mobile applications, stress the role played by personalisation in augmenting the usability, the acceptance, the motivation of users and, finally, the efficacy of the health interventions devoted to manage specific medical conditions or improving life quality. The EC funded project PEGASO points to the creation of a personalised technological platform for raising adolescents' awareness and motivation towards active life style and healthful nutrition, as a means to prevent obesity and related health risks. To this aim, a "virtual individual" model (the PEGASO VIM), based on users' body attributes, physiological traits and daily behaviours, has been developed to empower the personalisation of the intervention tailored on single individuals' functional needs and

	preferences. The PEGASO VIM can thus identify specific behaviours related to overall physical activity and diet quality, which are set as the individual's target in the PEGASO interaction. In particular, the system tracks user's daily behaviours and provides feedback offering educational contents and multiple behaviour change techniques, via a "Companion" app running on smartphone. The dynamic interaction between the user and the system allows selecting customised target behaviours, upon which the persuasive intervention is exerted To this end, the Companion app implements multiple behaviour change techniques using different means and opportune user interfaces (such as games, gamification, physical activity monitoring, challenges, social networking). A regular update of the user's profile through smartphone and dedicated wearable sensors allows the system to dynamically adapt to individual characteristics, to user changes and also to assess its own effectiveness. The project PEGASO is co-funded by the European Commission under the 7th Framework Programme.

Type of Publication	Abstract/Poster presentation
Title	**Developing the COM-B-Q Self-Assessment Questionnaire to Understand Dietary and Exercise Target Behaviours in European Teenagers within a Personalized ICT Guidance Services for Optimizing Lifestyle through Awareness, Motivation and Engagement (PEGASO)**
Author	Condon L, Coulson NS, Lang A, Atkinson S & Cobb S.
Journal/Proceedings	Proceedings of the Division of Health Psychology Annual Conference 2015
Publisher	British Psychological Society
Place of publication	London, UK
Year of publication	2015
Abstract	Background: Obesity among teenagers represents a rapidly increasing global public health crisis. The EU FP7 PEGASO project is developing a cross-disciplinary ICT system using serious gaming, a multi-media eDiary, embedded clothing sensors and kinematic data bracelets to deliver a personalised interactive behaviour change intervention for 13-16 year olds across Europe. Methods: The Behaviour Change Wheel Framework1 will inform the strategies and techniques for the PEGASO system. The COM-B-Q Self-Assessment Questionnaire2 has been adapted for each dietary and exercise target behaviour of interest and is embedded within the PEGASO system workflow to gain early insight into teenagers' awareness of their own health behaviours. Following development ~400 teenagers from sites across Scotland, England, Spain & Italy will pilot the PEGASO system. Evaluation of usability and acceptance with key stakeholders will assess the impact upon long-term use of the system technology, and upon measures reflecting the COM-B domains. Discussion: Results of the pilot studies will be used to further refine the

	PEGASO system and facilitate wider roll-out across European partner countries, allow cross-cultural exploration of the Behaviour Change Wheel as a tool to characterise and design interventions for dietary & exercise behaviour change in teenagers, and assess the validity of using the COM-B-Q with a European teenage population embedded within an ICT system workflow.

Type of Publication	Abstract/Poster presentation
Title	**Personalized ICT Guidance Service for Optimizing Healthy Lifestyle Behaviour through Awareness, Motivation and Engagement (PEGASO)**
Author	Coulson NS & Condon L
Journal/Proceedings	Proceedings of the Division of Health Psychology Annual Conference 2014
Publisher	British Psychological Society
Place of publication	London, UK
Year of publication	2014
Abstract	Background: Obesity in teenagers is a rapidly increasing global public health crisis. Using serious gaming, multi-media eDiary, and embedded kinematic sensors the PEGASO project (EU FP7 funded) delivers a personalised behaviour change intervention, informed by the Behaviour Change Wheel Framework (BCW), targeting dietary and physical activity behaviours in European teenagers (13-16 years). Methods & Expected Results: Participants (n= 400) will be recruited from sites in Italy, Spain & UK. Adapted versions of a quantitative self-assessment questionnaire (COM-B-Q) embedded within the system will assess teenagers' awareness of their own health behaviours. Qualitative (eDiary) and quantitative data (kinematic sensors) will be analysed and triangulated for measures of overall behaviour change. The study is in Pre-Pilot Phase to evaluate usability and acceptance of the system, assess impact, long-term use of the technology, and suitability of outcome measures reflecting COM-B domains. Discussion: Results will refine the PEGASO system to facilitate wider roll-out across European partner countries (Pilot Phase), and explore validity of the BCW to design interventions for dietary & exercise behaviour change in European teenagers, embedded within an ICT system workflow.

Type of Publication	Abstract/Poster presentation
Title	**Mapping User Needs & BCTs: What European Teenagers Want in a Personalized Guidance Service for Optimizing Healthy Lifestyle Through Awareness, Motivation and Engagement**
Author	Condon L & Coulson NS
Journal/Proceedings	Proceedings of the Division of Health Psychology Annual Conference 2016
Publisher	British Psychological Society
Place of publication	London, UK

Year of publication	2016
Abstract	Aims & Objectives: The PEGASO (EU FP7) project is developing a cross-disciplinary ICT system using smartphone Apps, serious gaming, multi-media diary, kinematic sensors to deliver a tailored, interactive, healthy lifestyle behaviour change intervention for European teenagers (13-16 years). The preliminary phase of the study aims to 1) identify intervention functions for multiple dietary and physical activity target behaviours, and 2) map the appropriate suite of BCTs for delivery across multiple ICT system components that are acceptable and desirable to European teenagers. Hypotheses: European teenagers will desire BCTs corresponding to personalised functions to be delivered via smartphone Apps. Methods: Selection of initial BCTs was informed by a series of systematic literature reviews to identify intervention functions for multiple target behaviours and embedded within the system prototype currently undergoing mixed-methods, iterative, pilot testing in European teenagers (13-16 years, n=120) across pilot sites in Spain, Italy, England & Scotland. Focus groups are analysed at each iteration using inductive thematic analysis, along with observational field notes, and validated quantitative measures of user experience of the prototype. Discussion: Preliminary results show that acceptability and desirability of system features corresponding to selected BCTs are high, particularly for motivation, increased self-efficacy, social support, feedback on outcomes, and information about health consequences embedded within the smartphone Apps. Results from pilot testing iterations will refine the PEGASO system functions and facilitate wider roll-out across European partner countries to allow cross-cultural exploration of the Behaviour Change Wheel and COM-B model as intervention design tools for behaviour change in teenagers across Europe.

Type of Publication	Book Chapter
Title	**Designing And Delivering Interventions For Health Behaviour Change Using Multi-Technology Systems: From Identification Of Target Behaviours To Implementation**
Author	L Condon & NS Coulson
Journal/Proceedings	Behaviour Change Research And Theory, Psychological And Technological Perspectives. L Little, E Sillence & A Joinson (Eds.)
Publisher	Elsevier
Place of publication	-
Year of publication	2016
Abstract	When designing behaviour change interventions it is fundamental to gain an in-depth understanding of both the target behaviour(s) to change, and the issues surrounding the implementation, adherence, and acceptance of the intervention among the target population for which the

	intervention is intended. The following chapter discusses the importance of these design issues in the context of a large EU funded project to develop a personalized ICT guidance service for optimizing healthy dietary and exercise lifestyle behaviours in European teenagers through increasing health awareness, motivation and engagement. Particular attention will be paid to the methods of identifying and understanding the target health behaviours in this teenage population, including the need for triangulated research methodology when building an accurate representation of target behaviour(s). Compiling data from multiple methodologies presents many advantages. It can enrich the content of an intervention by guiding the selection of appropriate behaviour change techniques (BCTs) that are integral to the values, beliefs, and behavioural patterns of this population; help to identify potential avenues for implementation; highlight possible reasons for non-adherence or poor acceptance of the intervention which can subsequently be controlled for in the design stages. Modes of intervention delivery will also be discussed, along with further considerations for designing mHealth behaviour change interventions.

Type of Publication	Book Chapter
Title	**Towards an Engaging Mobile Food Record for Teenagers**
Author	Caon M, Carrino S, Prinelli F, Ciociola V, Adorni F, Lafortuna C, Tabozzi S, Serrano J, Condon L, Abou Khaled O, Mugellini E.
Journal/Proceedings	New Trends in Image Analysis and Processing. Murino V, Puppo E, Sona D, Cristani M, Sansone C, eds. pp.417-424
Publisher	Springer-Verlag, Berlin Heidelberg
Place of publication	Switzerland
Year of publication	2015
Abstract	In the frame of the PEGASO European project, we aim at promoting healthier lifestyles among teenagers focusing on the alimentary education and physical activity. This paper presents a novel concept of mobile food record developed following a multidisciplinary approach to innovate both the monitoring and the user experience. This mobile food record does not count calories but is focused on tracking dietary patterns and support the adoption of target behaviours. Moreover, the introduction of game mechanics developed through participatory design techniques aims at sustaining engagement in the long term.

Type of Publication	Workshop paper and presentation
Title	**Wearable Lifestyle Tracking Devices: Are They Useful for Teenagers?**
Author	Carme Carrion, Maurizio Caon, Stefano Carrino, Liliana Arroyo, Alexandra Lang, Sarah Atkinson, Marco Mazzola, Paolo Perego, Carlo Emilio Standoli, Conxa Castell and Mireia Espallargues

Journal/Proceedings	ACM International Joint Conference on Pervasive and Ubiquitous Computing
Publisher	ACM
Place of publication	Osaka - Japan
Year of publication	2015
Abstract	Behavioural patterns linked to physical activity and nutrition are established during adolescence and people tend to maintain them throughout their whole lives. Wearable life tracking devices might be a useful tool in order to achieve healthy lifestyles among teens. The objective of this study is to investigate what teens think of current wearable devices for fitness tracking, using the results to provide preliminary suggestions for the design of wearable technology aimed at adolescents. Thirty 14-16 teens (sex balanced) divided into 3 groups were asked to trial use commercially available wearables for one week. Each group took part in two focus group sessions, separated by a week. During the trial users experienced some technical problems while using the devices. Monitoring physical activity seems not to be a priority for adolescents but they recognize the important potential in doing it. Recommendations were suggested for the devices to better meet teenage preferences and needs

Type of Publication	Presentation
Title	**The challenges of serious games for behaviour change in teenage health promotion: non serious and non tedious.' (Invited talk with conference fee waived)**
Author	Lang AR, Condon L, Cobb S, Coulson N, Atkinson S
Journal/Proceedings	Invited presentation. Abstract included in Proceedings
Publisher	CBC Conference 2015Harnessing Digital Technology for Health Behaviour Change
Place of publication	London
Year of publication	2015
Abstract	The presentation outlines the work of the EU funded PEGASO project. It provides insight into some of the key challenges of designing technologies for health promotion in teenagers. It then discusses the application of serious gaming for use with this young user population. Describing how gaming can combat some of the challenges, with a view to promoting personal monitoring and awareness and eventual behaviour change through engagement with an mHealth system over time.

Type of Publication	Presentation
Title	**Virtual individual model (VIM): a step forward to the tailoring of health care interventions**
Author	Tabozzi SA, Rizzo G, Lafortuna CL

Journal/Proceedings	La telemedicina: verso uno standard europeo
Publisher	CNR
Place of publication	Italy
Year of publication	2014
Abstract	At-a-distance care is bound to the improvement of both comfort and empowerment of users. It consists in the adoption of technological solutions tailored on therapeutic and logistical needs raised by patients, thus individual becomes a co-producer of his/her health, participating in the management of personal life conditions. Modelling individual's health status maximizes the beneficial effects of user-centred approach. An example of modeling comes from the European project PEGASO, started in December 2013, the framework for the development of the Virtual Individual Model (VIM). PEGASO aims at awareness enhancement and engagement in healthy life styles for the prevention of overweight/obesity in adolescents. PEGASO VIM is particularly suitable to describe obesity related phenomena in children and adolescents, and represents the knowledge empowering personalised intervention, by enhancing the interpretation of biological, cognitive and social aspects which lead to a more individualised strategy for obesity prevention. In details the VIM is the basis for the interpretation of the combination of individual's characteristics, in the form of status and behaviours and, through the use of persuasive methods, it may lead improvement of alimentary and physical activity habits, to finally positively effect health. The setting of health intervention around user characteristic, and the user-system interaction in health domain, conceived in its widest meaning (covering social, psychological and physiological aspects, as well as well-being) can rationally help user empowerment and personal involvement. Purpose of this paper is the description of individual modeling, through the example of the Virtual Individual Model (VIM), which has been implemented within the European project PEGASO, as a framework for health status characterization in adolescence and make further considerations about the challenges in e-care, which can be faced with the adoption of human modeling.

Type of Publication	Workshop organisation and paper publication
Title	**Smart garments and accessories for healthy lifestyles**
Author	Maurizio Caon, Stefano Carrino, Elena Mugellini, Alexandra Rosewall Lang, Sarah Atkinson, Marco Mazzola, Giuseppe Andreoni
Journal/Proceedings	UbiComp/ISWC'15 Adjunct Adjunct Proceedings of the 2015 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2015 ACM International Symposium on Wearable Computers Pages 623-626
Publisher	ACM

Place of publication	-
Year of publication	2015
Abstract	Wearable devices are trying to conquer the market and to enter the users' daily life. However, wearables show their limits when creating long-term engagement, which is crucial for helping the users to build healthy lifestyles that can accompany them during their lives. The main goal of this workshop is to bring together researchers and practitioners that can contribute with their expertise in creating common guidelines for the design of wearable devices.

Type of Publication	Paper and presentation (invited talk at the "Smart, Sustainable and Inclusive Health in a Smart City" mini-symposium at EMBC'15)
Title	**Engaging Community for Participatory Design**
Author	Maurizio Caon
Journal/Proceedings	Digital library of the 37th Annual International Conference of IEEE Engineering in Medicine and Biology Society http://emb.citengine.com/event/embc-2015/details
Publisher	IEEE EMBS
Place of publication	http://emb.citengine.com/event/embc-2015/paper-details?pdID=5919
Year of publication	2015
Abstract	This paper illustrates an overview of the benefits provided by the practice of participatory design with special regard to the engagement of communities in the context of health promotion, as showed with the PEGASO experience.

Type of Publication	Article
Title	**I giochi che insegnano a vivere meglio**
Author	EXPO2015
Journal/Proceedings	Il Sole 24 Ore – EXPO special edition
Publisher	Il Sole 24 Ore
Place of publication	Italy
Year of publication	2015
Abstract	NA

Type of Publication	Presentation
Title	**Patient's Empowerment and Behavior Change: PEGASO Experience and Approach**
Author	M. Decandia, R. Guarneri, L. Piras
Journal/Proceedings	Empowering Patients' through eHealth the European Evidence - PALANTE Project final conference
Publisher	NA
Place of publication	NA
Year of publication	2015

Abstract	NA

The following articles have been published and/or presented at events during the 2nd year of project implementation:

1.6.3 YEAR 3

Type of Publication	Conference Paper
Title	**PEGASO – A serious game to promote healthy lifestyles for teenagers**
Author	Stefano Carrino, Maurizio Caon, Elena Mugellini, and Antonio Ascolese
Journal/Proceedings	Gamification & Serious Games, Symposium 2016
Publisher	HE-Arc, HES-SO
Place of publication	ISBN: 978-2-940387-16-8
Year of publication	2016
Abstract	According to the World Health Organization Childhood obesity is one of the most serious public health challenges of the 21st century. The problem is global and is steadily affecting many low- and middle-income countries, particularly in urban settings. Addressing this global issue presents a continued challenge with respect to both the design and validation of interventions that seek to impact lifestyles towards healthier futures. The PEGASO project aims at exploring and evaluating different novel mobile services towards the goal of stimulating lifestyle changes in adolescents aged 14-16. In this scenario, the objective of the PEGASO serious game is to explore novel intervention possibilities offered by novel mobile and wearable technologies. As described in this paper, the PEGASO serious game rewards are not only provided for the actions that the player performs in the virtual world but also for the completion of healthy tasks in the real world.

Type of Publication	Book Chapter
Title	**Detection and assessment of behaviours associated with the risk of obesity in adolescents**
Author	Filip Velickovski, Silvia Orte, Marc Sola, Sarah A. Tabozzi, and Claudio L. Lafortuna
Journal/Proceedings	eHealth 360°, Volume 181 of the series Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, pp 253-258
Publisher	Springer
Place of publication	-
Year of publication	2017
Abstract	Obesity in younger age groups has been recognized as an alarming key predictor for obesity in adulthood. PEGASO aims to develop a solution involving wearable devices and an mHealth based application running on a smartphone and cloud computing infrastructure, with the

	capability of gradually changing harmful behaviours and encouraging healthy habits in adolescents. We present an assessment strategy in the short and long term to evaluate behaviours associated with the risk of adolescent obesity from scientifically informed indicators.

Type of Publication	Conference Paper
Title	**Designing a Mobile Serious Game to Promote Healthy Lifestyles - Motivating teenagers to adopt healthy habits through play**
Author	Stefano Carrino, Maurizio Caon, Elena Mugellini, Ian Dunwell, and Dalia Morosini
Journal/Proceedings	eTELEMED 2016 : The Eighth International Conference on eHealth, Telemedicine, and Social Medicine (with DIGITAL HEALTHY LIVING 2016 / MATH 2016)
Publisher	Published by IARIA XPS Press
Place of publication	ISBN: 978-1-61208-470-1
Year of publication	2016
Abstract	Behaviours such as diet, sedentariness and how much exercise we do play a major role in influencing health and wellbeing. As a medium, mobile serious games have the potential to educate and foster behaviour change whilst engaging and motivating users. This paper illustrates the user centred design approach used to develop a mobile serious game to promote healthy lifestyles. In particular, this research, developed in the frame of the PEGASO European project, focuses on teenagers and healthy behaviours linked to the prevention of obesity. In this approach, teenagers from different European countries (Italy, Spain, and United Kingdom) participate to the co-design of the serious game. This activity is still ongoing but first findings show encouraging feedback concerning the generic game mechanics and the designed game.

Type of Publication	Conference Paper
Title	**A Mobile Serious Game for Lifestyle Change: Conveying nutritional knowledge and motivation through play".**
Author	Dunwell, I, Dixon, R., Morosini, D.
Journal/Proceedings	IMCL2015: International Conference on Interactive Mobile Communication, Technologies and Learning
Publisher	Published by IARIA XPS Press
Place of publication	ISBN: 978-1-61208-470-1
Year of publication	2015
Abstract	Abstract—This paper describes work in progress to create a serious game integrated with an ecosystem of services towards overall project goals of ethically recording, analysing, and motivating adolescent behaviour towards healthier long-term lifestyle. The design outlines an approach that minimises textual and dialogic content in favour of

	experiential and abstract elements, reflecting existing evidence alongside the need to provide a motivation for users to engage with a wider suite of apps and technologies. Illustrating the use of "freemium" mechanics commonly used to incentivise in-app purchases as a motivator, this paper discusses their use as means towards instead incentivising the use of services to promote a healthier lifestyle. An additional mechanic sources and applies nutritional information from a large database to create a deck of food "cards", with which the player is challenged to apply their understanding of nutrition to create in-game rewards. Preliminary findings from pre-pilot focus group evaluations with adolescents aged 14-16 (n~10) in Italy and Spain demonstrate enthusiasm for the approach taken to linking real-world behaviour with in-game rewards, as well as potential differences in reception to visual style options between sites and cultures.

Type of Publication	Journal Paper
Title	**Modularising Ontology and Designing Inference Patterns to Personalise Health Condition Assessment: the Case of Obesity**
Author	Aleksandra Sojic, Walter Terkaj, Giorgia Contini, and Marco Sacco
Journal/Proceedings	Journal of Biomedical Semantics
Publisher	BioMed Central / Springer
Place of publication	doi: 10.1186/s13326-016-0049-1
Year of publication	2016
Abstract	Abstract Background The public health initiatives for obesity prevention are increasingly exploiting the advantages of smart technologies that can register various kinds of data related to physical, physiological, and behavioural conditions. Since individual features and habits vary among people, the design of appropriate intervention strategies for motivating changes in behavioural patterns towards a healthy lifestyle requires the interpretation and integration of collected information, while considering individual profiles in a personalised manner. The ontology-based modelling is recognised as a promising approach in facing the interoperability and integration of heterogeneous information related to characterisation of personal profiles. Results The presented ontology captures individual profiles across several obesity-related knowledge-domains structured into dedicated modules in order to support inference about health condition, physical features, behavioural habits associated with a person, and relevant changes over time. The modularisation strategy is designed to facilitate ontology development, maintenance, and reuse. The domain-specific modules formalised in the Web Ontology Language (OWL) integrate the domain-specific sets of rules formalised in the Semantic Web Rule Language (SWRL). The inference rules follow a modelling pattern designed to support

	personalised assessment of health condition as age- and gender-specific. The test cases exemplify a personalised assessment of the obesity-related health conditions for the population of teenagers. Conclusion The paper addresses several issues concerning the modelling of normative concepts related to obesity and depicts how the public health concern impacts classification of teenagers according to their phenotypes. The modelling choices regarding the ontology-structure are explained in the context of the modelling goal to integrate multiple knowledge-domains and support reasoning about the individual changes over time. The presented modularisation pattern enhances reusability of the domain-specific modules across various health care domains.

Type of Publication	Conference Paper
Title	**Teenage Perspectives of an Integrated Technology Platform for Health Promotion. In: P. Waterson, E.M. Hubbard and R. Sims (eds), Ergonomics & Human Factors 2016. Daventry, UK, 19-21 April 2016. London: Taylor & Francis.**
Author	AR Lang, L Condon, N Coulson, S Cobb, S Atkinson
Journal/Proceedings	In: P. Waterson, E.M. Hubbard and R. Sims (eds), Ergonomics & Human Factors 2016
Publisher	Taylor and Francis
Place of publication	London, UK
Year of publication	2016
Abstract	This paper presents the findings from a participatory technology development workshop with teenagers. Sixteen teenagers were recruited in the East Midlands region of England to participate in the evaluation and development of the PEGASO multi-technology system. This system is being developed to promote awareness and motivation for healthier behaviours in teenagers. The teenagers critically analysed early prototypes of mobile apps, a serious game and wearable sensors with regards to their appropriateness, acceptability and desirability for teenage users. The results reported here will be utilized in the next design iteration of the PEGASO platform.

Type of Publication	Book Chaper
Title	**Human factors multi-technique approach to teenage engagement in digital technologies health research.**
Author	Lang AR, Craven M, Atkinson S, Simons L, Cobb S, Mazzola M
Journal/Proceedings	Human–Computer Interaction Series, Linda Little et al. (Eds): Perspectives on HCI Research with Teenagers, 978-3-319-33448-6, 328224_1_En, (4)
Publisher	Springer
Place of publication	link.springer.com/chapter

Year of publication	2016
Abstract	This chapter explores the use of multi-techniques for teenage HCI health research. Through four case studies we present information about adolescents as users of healthcare services and technologies, adolescent personal development and the human factors approaches through which teenagers have been involved in healthcare research projects. In each case study; comprising of the design or evaluation of a new digital technology for supporting health or well-being, the techniques used by researchers to involve teenagers are explored and analysed. The case studies examine various aspects of technology design and use including but not limited to usability, acceptability and learnability. The penultimate section of the chapter presents a 'Schema for Multi-technique HCI Health Research with Teenagers' and provides the supporting case for a multi method approach. The conclusions of the chapter reinforce the benefits that are specific to the implementation of multi-technique research with teenager participants. Consideration of the eight factors outlined in the 'Schema' within study designs should serve to unlock the potential of teenagers, ensuring reliable elicitation of their views and needs.

Type of Publication	Conference paper
Title	**Games and Gamification for Healthy Behaviours: The experience of PEGASO Fit 4 Future**
Author	Maria Renata Guarneri, Paolo Perego
Journal/Proceedings	GOWELL, EAI International Conference on Games fOr WELL-being, Budapest 14-15 June 2016
Publisher	EAI
Place of publication	-
Year of publication	2016
Abstract	Challenging teenagers in the context of their own areas of interest, Pegaso Fit 4 Future - aims to promote sustainable behaviours geared towards achieving healthy lifestyles. Behaviour-change techniques are applied as a preventative measure to accomplish positive behavior change outcomes. Pegaso Fit 4 Future is a EU funded project whose objective is the development of a behaviour change platform targeting teenagers in preventing obesity and related comorbidities. The overall approach is based on three main elements: a Smartphone as central element and agent for behaviour change (through a set of coordinated apps); a sensors system for self-monitoring; games and gamified approach to support user engagement and awareness. The paper describes the project focusing on the gaming aspects. Games have been identified as key element in the PEGASO strategy since its conception. After the initial requirements definition phase, a threefold approach to

	gaming has been adopted in order to address in an integrated strategy the following dimensions of behaviour change: motivational, social and educational aspects. This paper describes this aspect with three different mini-game developed under the project.

Type of Publication	Conference paper
Title	**Patient's empowerment and behaviour change: complementary approaches in EU projects PALANTE and PEGASO**
Author	Maria Renata Guarneri, Marco Decandia Brocca, Luca Piras
Journal/Proceedings	PPmH, EAI International Conference on Personal, Pervasive and mobile Health, Budapest 14-15 June 2016
Publisher	EAI
Place of publication	-
Year of publication	2016
Abstract	Patient empowerment is widely considered a key component of an effective Health-care system. Empowerment, by effective communication, information and education and thanks to innovative ICT solutions, enables patients to be more active players in their own health, improving the quality of patient/physician relationship and, as a consequence, helping the physician to be more effective as well. However, a patient cannot be properly empowered unless he wants to. He has to be an active part of the empowerment process. Hence, we can say that empowerment requires the patient to have the right attitude, which, often and for various reasons, it is not the case. Proactive initiatives need to be undertaken to develop the correct attitude towards patient empowerment.

Type of Publication	Journal Paper
Title	**A smart wearable sensors system for counter-fighting overweight in teenagers**
Author	Carlo Emilio Standoli, Maria Renata Guarneri, Paolo Perego, Marco Mazzola, Alessandra Mazzola and Giuseppe Andreoni
Journal/Proceedings	Sensors (ISSN 1424-8220; CODEN: SENSC9) international, peer-reviewed, open access journal on the science and technology of sensors and biosensors
Publisher	MDPI Open Access Journal
Place of publication	Sensors 2016, 16(8), 1220; doi:10.3390/s16081220
Year of publication	2016
Abstract	This paper provides an overview of key concepts in relation to patient empowerment and illustrates the approach of two EU-funded projects tackling empowerment from different perspectives. PALANTE project (http://www.palante-project.eu) has worked extensively on empowerment and many different way of fostering empowerment in

	different kind of patients. PEGASO Fit 4 Future project (www.pegasof4f.eu), on the other side, is working on the development of a Behaviour Change Platform, a system, which may be an effective complement of any empowerment effort.The results of PALANTE have shown that empowerment can only be achieved by developing an attitude of better attention to lifestyle and self-monitoring and care. This can be developed through information and education and with the support of instruments that can foster behaviour change.

Type of Publication	Conference abstract
Title	**Beyond the novelty effect: The role of in-game challenges, rewards and choices for long-term motivation to improve obesity-related health behaviours in adolescents.**
Author	Martin A, Scott G, McCloughan L, Hanley J, Rashid R and McKinstry B
Journal/Proceedings	Frontiers in Public Health
Publisher	Frontiers
Place of publication	doi: 10.3389/conf.FPUBH.2016.01.00049
Year of publication	-
Abstract	Background: The prevalence of adolescent obesity is high in the UK. Engaging adolescent boys and girls in health behaviour related to the prevention of obesity proves to be challenging. Mobile and wireless technology shows promise for increasing knowledge and motivation to increase physical activity and healthy eating by capturing the interest of many adolescents. However, solutions for overcoming the novelty effect to enable habit formation and thus long-lasting behaviour change needs to be explored. Aim: This study aimed to explore Scottish adolescents' perception of the usability and acceptability of a serious mobile game, wearable activity sensors and a smart phone eDiary application (app) for promoting physical activity and healthy eating. Methods: The game, sensors and app are being developed following the COM-B model of the Behaviour Change Wheel. The technology is interlinked in that physical activity tracked by the wearable activity sensors and healthy eating captured by using the eDiary app are central to recover the player's energy levels in the serious game. The player replenishes their in-game energy to progress in the game and to boost abilities. Applying a user-centred approach for developing the technology, 11 adolescents aged 13-16 years (6 boys, 5 girls) participated in semi-structured focus groups. This was the first of three pre-pilot study iterations. Mock-up versions of the serious mobile game, wearable activity sensors and the prototype of the eDiary app were presented. Focus groups were audio-recorded, transcribed and thematically analysed. Results: All adolescents responded positively to the general idea of the game and all were keen to play the actual game once developed. Adolescents understood the

	importance and novelty of the link between player's real-life health behaviours and in-game activities for improving obesity-related health behaviour. It became evident that the adolescents would only be motivated to be more physically active and eat healthily for the benefits of the game and not for improving their health and wellbeing. To increase their interest in the game, adolescents reported that they wanted to receive in-game rewards for engaging in health behaviour. A recurrent topic was the desire for more challenges in the game via introduction of new characters and environments. Another dominant topic was to have options of varying story lines, to reset the game and to unlock secret levels. The adolescents believed that being sufficiently challenged and having choices would increase their interest in the game, keep them interested for longer and so this would encourage them longer to be physically active and eat healthily. Conclusion: Mobile game and wireless technology connecting in-game and real-life activities were perceived to increase physical activity and healthy eating in adolescents. To allow exposure to mechanisms of behaviour change for an adequate amount of time, the novelty effect of new technology needs to be sustained. Age-appropriate in-game challenges, rewards and choices might trigger adolescents' interests in the technology for longer. This in turn might result in long-lasting behaviour changes independently of playing the game.

Type of Publication	Journal Paper
Title	**DEL SMARTPHONE AL HÁBITO: USO DE TECNOLOGÍA MÓVIL PARA FOMENTAR HÁBITOS SALUDABLES ENTRE ADOLESCENTES**
Author	Carme Carrion Ribas(1,2,3), Liliana Arroyo Moliner (4), Conxa Castell (5), Elisa Puigdomènech (6) , Santiago-Felipe Gómez (5,6) , Laia Domingo (3,6) y Mireia Espallargues (3,6)
Journal/Proceedings	Revista Española de Salud Pública
Publisher	Scielo
Place of publication	-
Year of publication	2016
Abstract	Background: The PEGASO Project aims to design a technological system aimed at European adolescents to promote healthy lifestyles. The objective was to explore teenagers and their parents and teachers perceptions with regards to mobile technology use in promoting a healthier lifestyle, in terms of food and physical activity. Methods: Qualitative study based on primary data obtained through four focus groups analysis (three teenager groups between 13 and 15 y and 1 parent/ teacher group). Verbatim transcriptions have been analysed following content analysis perspective. Results: Four different categories were identified: 1: social and cultural context, 2: adolescents and health,

	3: role of technology in teenagers' lives and 4: use of technology to acquire healthier habits. Each category helped to arise various subcategories linked to the relation between teens and health: holistic health concept, health/disease perception directly related with feeling physically fit and social acceptance. With regards to technology, the arisen themes were: feeling connected with others, importance of entertainment/games, omnipresent use of Smartphones and risk of excessive dependence on technology. The difference between teens and adults with regards to health and technology categories were not significant. Conclusions: Both teens and adults think that for technology to be effective in acquiring healthier habits it has to help teens to improve and maintain their self-esteem, in an entertaining way and using their own communication codes, mainly audio-visual ones, always under the umbrella of a holistic and integrated perception of health.

Type of Publication	Conference Paper
Title	**Personalised Guidance Services for Optimising lifestyle in teen-agers through awareness, motivation and engagement – PEGASO: a pilot study protocol.**
Author	Fulvio A, Prinelli F, Crespi C, Puigdomenech E, Gomez SF, Espallargues MC, Castell CA, McKinistry B, Martin A, McCloughan L, Lang AR, Condon L, Atkinson S, Rajeeb R.
Journal/Proceedings	MobiHealth 2016
Publisher	EAI
Place of publication	Milano
Year of publication	2016
Abstract	Adolescence is a vulnerable stage in which the development of certain unhealthy behaviours can occur. The prevalence of overweight and obesity among European teenagers is rapidly increasing and may lead to both short- and long-term health complications. The fast development of the ICT, and in particular mobile technologies, together with their increasing diffusion among the EU populations offers an important opportunity for facing these issues in an innovative manner introducing the possibility of a new technological framework to re-design the healthcare system model. The PEGASO project relies on a mobile-and cloud-based ICT platform to set up a system of new healthcare services targeted to teens for obesity prevention. The present paper describes the protocol of a six-month Pilot Study that will be carried out on 525 adolescents in four different European sites (Italy, Catalonia, England, Scotland), aiming to evaluate the PEGASO system usability and effectiveness in promoting healthy lifestyles.

Type of Publication	Book Chapter

Title	**Promoting Healthy Adolescent Lifestyles through Serious Games:Enacting a Multidisciplinary Approach.**
Author	Dunwell, I, Condon, L. A, Bul, K C M, Dr Alexandra R Lang, A R, Atkinson S , Coulson, N S and Collins, E.
Journal/Proceedings	Ma M & Oikonomou A. Serious Games and Edutainment Applications Vol 2. Springer Intl. http://www.springer.com/gb/book/9783319516431
Publisher	Springer
Place of publication	-
Year of publication	2017
Abstract	Long-term health risks associated with unhealthy lifestyles pre-sent a significant current and future burden for healthcare providers. Adoles-cence represents a critical time for intervention, as habits formed during this period can persist throughout adult life. Given the prevalence of gaming as an entertainment medium amongst adolescents, and subsequent potential for engagement, the use of serious games to promote changes in lifestyle behav-iour offers a potential solution. Creating such games requires a breadth of multidisciplinary expertise, working collaboratively to create research-informed designs which reflect both behavioural theory, and entertainment game design best practices. In this chapter, challenges and benefits associated with multidisciplinary design are identified and discussed, with strategies presented to overcome and avoid potential issues. With reference to a cur-rent project, the perspectives of the theorist, iterative designer, and game de-veloper are contrasted, providing a reference for future projects implement-ing multidisciplinary approaches to serious game design.

Type of Publication	Conference Poster
Title	**Adolescent perspectives of BCTs integrated in a Health Companion App.**
Author	Condon L, Caon M, Carrino S, Lang AR et al
Journal/Proceedings	European Obesity Summit (EOS)
Publisher	-
Place of publication	Gothenburg, Sweden
Year of publication	2016
Abstract	-

Type of Publication	Conference Poster
Title	**Adolescent perspectives of BCT's in a serious game: PEGASO case study**
Author	Lang AR, Condon LA, Atkinson S, Coulson N and Cobb S
Journal/Proceedings	Front. Public Health. 2nd Behaviour Change Conference: Digital Health and Wellbeing (Best Poster Prize Awarded)
Publisher	-

Place of publication	London, UK
Year of publication	2016
Abstract	A two phased iterative and participatory design process explored the utility and acceptance of BCT's used within a serious game developed to raise awareness of healthy behaviours in teenagers. The game play is underpinned by the motivational principles of self determination theory, namely autonomy (responsibility for one's own actions), competence (gaining mastery through achievement), and relatedness (interpersonal connections with others). The game being developed and tested presents a virtual dystopia where a 'zombie virus' is spreading through the human race. The game player needs to use a combination of skills to progress in the game, with those skills supporting the underlying goals of promoting healthy living to the teenage user population. For example, utilising real world activity monitoring to power the game avatar and to achieve specific goals, and through using their personal awareness of healthy and unhealthy diets game players can contribute to the social goal within the game of working towards a 'cure' for the 'zombie virus'.

Type of Publication	Conference Poster
Title	**Integration of BCTs in a Companion App to Support and Motivate Teenagers in the Adoption of Healthy Lifestyle Behaviours**
Author	Condon L, Coulson N, Caon M, Carrino S, Lang AR, Atkinson S and Cobb S
Journal/Proceedings	Front. Public Health. 2nd Behaviour Change Conference: Digital Health and Wellbeing
Publisher	-
Place of publication	London, UK
Year of publication	2016
Abstract	The Health Companion App is being developed as a user interface and "gateway" for teenagers to interact with a multi-technology system comprising wearable sensors, garments, a serious game, and other services, designed to help promote and encourage healthy lifestyle behaviours to prevent obesity in 13-16 year olds across Europe.** The design of Prototype 1 is underpinned by the motivational principles of self-determination theory, namely autonomy (responsibility for one's own actions in achieving the target health behaviour), competence (gaining mastery through achievement), and relatedness (interpersonal connections with others). The multi-technology system as a whole will focus on the healthy lifestyle behaviours that have been identified as priorities for the prevention of overweight and obesity in teenagers by the World Health Organization. A series of systematic reviews were conducted to identify the most effective behaviour change techniques (BCTs) specific to each health behaviour for this target population and in

	the context of overweight and obesity. These BCTs were then operationalised within the suite of functions incorporated within the design of the Health Companion App. The Health Companion App will be accessed via the teenager's smartphone, and will act as 1) a "Personal Digital Friend"; with customisable settings for a single user, 2) a "Daily Life Guide"; accompanying them throughout their daily activities and providing feedback on daily behavioural targets, and 3) a "Coach"; to provide reminders, set behavioural plans, and to motivate and support them through the behavioural changes needed to achieve their health behaviour targets

Type of Publication	Conference Poster
Title	**Human Factors of Technology for Teenage Health Promotion.**
Author	Lang AR, Atkinson S, Wood D
Journal/Proceedings	Association of Young People's Health National Conference: 'A new look at young people's health' (YPHSIG, RCPCH)
Publisher	-
Place of publication	Manchester, UK
Year of publication	2016
Abstract	Using Human Factors and Psychology to understand teenage user requirements of health technologies and medical devices. Involving young people in the development of our methods and research design. Utilising user-centred and participatory approaches with teenagers, clinicians, parents, carers and other users and stakeholders throughout the design and evaluation of medical and healthcare technologies.

1.6.4 Scientific Publications Plan

In order to strengthen PEGASO communication and dissemination activities, and in particular to ensure a greater impact of scientific dissemination, at M34 the Consortium has set up a board for scientific publications. The board, led by Dr. Claudio Lafortuna, consists of one representative from each partner and it has delivered the following plan to implement during the last 6 month of PEGASO -Fit for Future- and also after the project end.

Working title	Description	Target Journal	Contributors	Exp. deadline
PEGASO Pilot protocol	Description of pilot protocol starting from D9.1 and D9.2	BMC protocol / JMIR Research Protocols / EMC Public Health	AQUAS, CNR, UNOTT HFRG, UEDIN	Nov 2016
Association between behaviours and	Association between behaviours and baseline measurements	PLOSE one / pediatric obesity / Journal of Adolescent Health	CNR, AQUAS, UNILLEIDA, UNOTT,	Jan 2017

baseline measurements			UEDIN	
PEGASO system	Technological description of the system that can be used as reference	MDPI Sensors open access journal	HES-SO, POLIMI, ROPARDO, CNR (ITIA), EURECAT	Feb 2017
CoDesign process and prepilot results	-	JMIR mHealth and uHealth / International Journal of Nutrition Education and Behavior / Pediatric Obesity / Implementation Science	AQUAS, UNOTT, HES-SO, CNR, UEDIN, POLIMI	Feb 2017
Scientific background of the Pegaso Behaviours	Background knowledge for the detection, analysis and quantification of behaviours associated with obesity risk and their modification in adolescents	International Journal of Obesity / Journal of Pediatric obesity / International Journal of Behavioral Nutrition and Physical Activity	CNR, UNILLEIDA, UNOTT, EURECAT	Apr 2017
Message Tailoring system	Algortihm for message tailoring and codesign approach for message design	TBD	HES-SO, UNOTT	TBD
Motivational message development and behaviour change techniques	Teenage preferences for motivational text messaging; using a codesign approach for messaging content, preferred behaviour change techniques	TBD	UNOTT, HES-SO, UEDIN	TBD
Behaviour change intervention design and implementation	How starting from the literature review and behaviour change wheel model, the interventions have been designed and then implemented in the apps	TBD	HES-SO, UNOTT Psychology	TBD
User Experience /Engagement and Behaviour Adherence in the PEGASO pilots	Analysis of User Experience /Engagement and its correlation to the Target Behaviour Adherence in Catalunia, Lombardy and England	Applied ergonomics	HES-SO, UNOTT, AQUAS, CNR	May 2017
Community engagement in Scottish pilot	Community engagement in research from a local perspective in Scotland	TBD	UEDIN, HES-SO	May 2017
User Experience /Engagement	Analysis of User Experience/Engagement and its	TBD	COVUNI, IMA, UNOTT, HES-	May 2017

and Behaviour Adherence: deatils on Serious Game	correlation to the Target Behaviour Adherence for the serious game		SO	
Validity of technological approach	Analysis of data collected through apps and wearables vs. with outputs of questionnaires and other baseline anthropometric measurements	TBD	CNR (ITIA&IBFM)	TBD
Obesity, physical activity and nutrition: representing and intervening	Biological background and ontological formalisation of PEGASO Virtual Individual Model	Philosophical Transaction Royal Society	UNILLEIDA, CNR (ITB&ITIA)	TBD
Engagement and baseline variation	Analysis of engagement in the platform and its correlation to the baseline measurements	TBD	AQUAS, CNR, UNOTT, UEDIN, HES-SO	TBD
Validation of the knowledge questionnaire	The aim of this study is to adapt and validate a lifestyle knowledge questionnaire for European teenagers aged 13-16 years.	TBD	AQUAS, CNR-ITB, UNOTT HFRG, UEDIN	TBD
Association between App related BCTs and behaviour change	-	TBD	UNOTT, HES-SO	TBD
Results of the intervention	Analysis of the measurements between control group and intervention group for effectiveness and analysis of the most important sub-parts /features of the system	TBD	POLIMI, All	TBD
Intelligent Assistive Environment for promoting a healthy life among teens	Portal architecture, ZivaCare agregator, Pegaso Teens Portal	Petra 2017 petrae.org	ROPARDO	Jun 2017
PEGASO book	Brief book with Springer	Springer	POLIMI, All	Nov 2017

1.7 External events

The following external events have been organized, participated and/or attended during the project implementation:

Event Name	Event Type	Date	Location	Attended by	Purpose of attendance
1st YEAR PROJECT					
InMed: Innovation in Medicine and Healthcare 2014	Conference	9-11/7/2014	San Sebastián (ES)	BDIGITAL	Paper presentation
V jornades en R+D+i en TIC I SALUT - Innovació en salut i benestar	Conference	5-6/6/2014	Girona (ES)	AQuAS	Speech, poster
XVII Congreso Nacional de Informática de la Salud, Madrid, ES	Conference	11-13/3/2014	Madrid (ES)	AQuAS	Speech
HCII 2014	Conference	25-27/6/2014	Heraklion (GR)	HES-SO, POLIMI, CSEM, COVUNI	Paper presentation (5)
ReCrate Workshop "Gamification"	Workshop	30/6/2014	Karlsruhe, (DE)	BTB	Speech
HEALTHINF 2014	Conference	03-06/03/2014	Angers, (FR)	HES-SO POLIMI, CNR	Paper presentation (2)
Second International Workshop on Behavior Change Support Systems (BCSS) @ Persuasive Technology 2014	Workshop and Conference	21-23/05/2014	Padova, (IT)	HES-SO	Paper presentation
AHFE 2014	Conference	19-23/07/2014	Krakow (PL)	CNR	Paper presentation
British Psychological Society, Division of Health Psychology Annual Condference	Conference	10-12/09/2014	York (UK)	UNott	Poster presentation
World Usability Day	Event	13/11/2014	Torino (IT)	HES-SO	Poster presentation
Ontologies and Data in Life Sciences (ODLS 2014)	Workshop	7-8/10/2014	Freiburg (DE)	CNR	Paper presentation
2nd YEAR PROJECT					
Segamed 2014	Fair	6/12/2014	Nizza (FR)	IMA	Stand and presentation
University College London Centre for Behaviour Change: Digital Health Conference	Conference	26-28/02/2015	London (UK)	UNott	Presentation

CEBIT	Exhibition	14-18/03/2015	Hannover (DE)	IMA	Presentation
Webinar from Seoul hosted by Prof YoungSung Lee and attended by remote participants in Chungbuk and SNUST on Gamification, wearable technologies and childhood obesity.	Webinar	14/04/2015		IMA	Presentation
eHealth Week	Conference	11-14/05/2015	Riga (Latvia)	POLIMI	Presentation at EU Stand
Ospedale Bambin Gesù	Meeting	18/05/2015	Roma (IT)	IMA	Presentation, demo
ForIT AAL	Forum	20/05/2015	Lecco (IT)	IMA	Presentation
WiredNextFest	Fair	22-24/05/2015	Milano (IT)	POLIMI, IMA, NEOS	Stand
Connected Health	Congress	10/06/2015	Monaco (DE)	IMA	Presentation
Medilink Innovation Day	Conference	10/06/2015	Nottingham (UK)	IMA	Presentation
Gaminomics Event	Forum	11/06/2015	London(UK)	IMA	Presentation
2nd Italian Digital Health Summit	Conference	16/06/2015	Milano (IT)	IMA	Presentation and demo interactive session
PALANTE Final Conference	Conference	23/06/2015	Brussels (BE)	LISPA	Presentation
Workshop on Patient Empowerment	Workshop	30/06/2015	Milano (IT)	POLIMI/FPM, LISPA	PEGASO/PALANTE Event for stakeholders in health sector
Ernst & Young "LIFE SCIENCES EXECUTIVE INFORMATION DINNER: APPLIED INTERACTIVE TECHNOLOGIES"	Event	14/07/2015	Frankfurt (DE)	IMA	Presentation
Serious Games Conference Singapore	Conference	14-16/08/2015	Singapore	IMA	Presentation
37th Annual International Conference of IEEE Engineering in Medicine and Biology Society	Conference	28/08/2015	Milano (IT)	HES-SO	Presentation
Young Food Ambassadors	Workshop	1/09/2015	Milano - Expo 2015	POLIMI, SIGLA, LGATE	Workshop

NHS TEST	Event	03/09/2015	Manchester (UK)	IMA	Presentation
European Health Psychology Society Annual Conference	Conference	1-5/09/2015	Cyprus	UNott	Presentation
IED Immersive Education conference	Conference	7-10/09/2015	Paris (FR)	IMA	Presentation
International Workshop on Multimedia Assisted Dietary Management (MADiMa) at 18th International Conference on Image Analysis and Processing	Workshop	08/09/2015	Genova (IT)	HES-SO	Presentation
ASGA4Health Workshop (Atelier of Smart Garments and Accessories for Healthy Lifestyles) - workshop held in conjunction with UniComp2015 and ISWC2015	Workshop	08/09/2015	Osaka (JP)	HES-SO	Workshop
8th Fribourg Obesity Research Conference	Conference	10/09/2015	Fribourg (CH)	CNR, HES-SO	Presentation
Reha@Home Final Project Event	Event	15/09/2015	Milano (IT)	IMA	Showcase
British Psychological Society Division of Health Psychology Annual Conference	Conference	16-18/09/2015	London (UK)	UNott	Presentation
#Sgames 2015 - 5th EAI International Conference on Serious Games, Interaction and Simulation	Conference	16;18/09/2015	Novedrate (IT)	IMA	Presentation
La Notte dei ricercatori	Fair	25/09/2015	Genova (IT)	SIGLA	Stand, presentation, demonstration and lab
V workshop neuroinformatica. Neuroimaging, neurorobotica, neuroriabilitazione, neurorigenerazione	Conference	30.09.2015	Milano (IT)	IMA	Presentation of game
"TeleMediCare 2015. Tele-Medicine & Tele-Care for elderly and disability	Conference	1-2/10/2015	Desio (IT)	IMA	Presentation of game

People V - International Conference and Exposition IX - Italian National Workshop"					
PEGASO exhibition at iTAG 2015	Conference	23-24/10/2015	Nottingham (UK)	IMA	Presentation demonstration
3rd YEAR PROJECT					
Technology, knowledge and society conference	Conference	18-19/02/2016	Buenos Aires (Argentina)	IMA	Presentation of game
2nd Behaviour Change Conference: Digital Health and Wellbeing	Conference	24-25/02/2016	UCL, London, UK	UNott, UEdin	Poster presentation, Presentation
AYPH Adolescent Health Conference	Conference	25 Feb 2016	Manchester, UK	UNott	Poster presentation
Medicon 2016- XIV MEDITERRANEAN CONFERENCE ON MEDICAL AND BIOLOGICAL ENGINEERING AND COMPUTING	Conference	31/03-02/04/2016	Paphos (Cyprus)	IMA	Presentation of game
EHF 2016 (Ergonomics and Human Factors Conference of the CIEHF)	Conference	19-21 April 2016	Staverton Park, Daventry,UK	UNott	Project presentation
Asia Pacific Healthcare Simulation Conference	Conference	21-22/04/2016	Kuala Lumpur (Malaysia)	IMA	Presentation of game
DIGITAL HEALTHY LIVING 2016	Conference	24-28/04/2016	Venice (Italy)	HES-SO, POLIMI	Papers presentation
Bangkok International Digital Content Festival	Festival	25-26/04/2016	Bangkok (Thailand)	IMA	Presentation
UPSI Gamification Day'	Seminar	06/05/2016	Tangjong Malim, Perak (Malaysia)	IMA	Presentation of game
European Obesity Summit (EOS 2016)	Conference	1-5 June 2016	Gothenburg, Sweden	UNott & UEdin & Lothian & HES-SO	Poster presentation, Speech
All-Ireland Obesity Action Forum	Conference	13-14/06/2016	Belfast (NI)	UNott	Speech
mHealth Conference	Conference	16/06/2016	Galway (Ireland)	UNott	Poster presentation
6th Annual Digital Medicine Academic Meeting of Chinese Medical Association and the 1st International	Conference	17-19/06/2016	Nanjing (China)	IMA	Presentation

Conference of Digital Medicine & Medical 3D Printing					
X Encuentro e-Salud y Telemedicina TIC para servicios de salud en cronicidad: la persona y su entorno	Course/Conference	29/06/2016-01/07/2016	Santander (Spain)	AQuAS	Presentation
GSGS 2016 - Gamification & serious Game Symposium	Symposioun	4-5/07/2016	Neuchâtel (Switzerland)	HES-SO	Paper presentation
Healthwear 2016 - EAI International Conference on Wearables in Healthcare	Conference	14-15/06/2016	Budapest (Hungry)	EURECAT, POLIMI	Papers presentation
G4H_UK	Seminar	21/07/2016	Coventry (UK)	IMA	Presentation
Science Insight	Public Engagement Event for Teenagers	25/07/2016	Edinburgh, UK	UEdin	Presentation
Congreso Iberoamericano de Investigación Cualitativa en Salud	Congress	5-7/09/2016	Barcelona (Spain)	AQuAS	Round-table presentation
Jornades R+D+I TIC Salut i Social	Congress	29-30/09/2016	Vic (Spain)	Eurecat, AQuAS, ASPCAT, U de Lleida	Project presentation
European Conference on Game-Based Learning (ECGBL)	Conference and Game Competition	6-7/10/2016	Paisley (UK)	COVUNI	Game competition
Ada Lovelace Celebration Day	STEM event for schools	12/10/2016	Nottingham (UK)	UNott	Poster presentation
Maker Faire Rome	Faire	14-16/10/2016	Roma (Italy)	POLIMI, HES-SO	Stand and project presentation
11th International Workshop on Semantic Media Adaptation and Personalisation	Conference	21-22/10/2016	Thessaloniki (Greece)	COVUNI	Paper Presentation
Digital Awards AboutPharma 2016	Competition	25/10/2016	Milano, (Italy)	IMA	Presentation of the Zombie Attack mobile Game
MobiHealth 2016	Congress	14-16/11/2016	Milano (Italy)	POLIMI, FPM, CNR, AQuAS/ASPCA,	Papers presentation

				Unnott, UEDIN, HES-SO	
MEDICA 2016	Fair	13-17/11/2016	Dusseldorf, (Germany)	IMA, CSEM	Stand, Boot, Demo sessions, Project/game presentation
MobiHealth 2016 - EU e-Health projects' dedicated Round Table	Round Table	17/11/2016	Milano (Italy)	POLIMI, FPM, CNR	Presentations
MobiHealth 2016 - interactive workshop about games for health: e-Health: the 21st Century Games Revolution	Workshop	17/11/2016	Milano (Italy)	IMA, POLIMI	Workshop
WTT – Wearable Tech Torino 2016	Fair	18-19/11/2016	Torino (Italy)	POLIMI, NEOS, FPM	Stand, Boot, Demo sessions, Project/game presentation

*In addition to the described external events, regarding the engagement of testimonials in order to increase the teen-agers awareness about healthy lifestyle, on November 2016 *Diego Parassole*, a famous Italian comedian, performed an extract of his show "Che bio ce la mandi buona" in one of the pilot school in Milan. The performance was highly appreciated both from students and teachers who considered this a great opportunity to communicate in an engaging way the importance of having healthy habits.

2 Communication Activities

2.1 Communication Phases and Timing

The first file sheet of the document presents, from a wide perspective, a vision of PEGASO communication strategy and analyses a range of elements that will be afterward assembled together in order to build up the communication plan.
The foundation of the document is based on the definition of three main activity phases, that go on throughout the project, and the setting of their impact on the project lifespan (period of duration for each activity):

Informational communication
Considered as the first stage of the project, where it is essential to inform all stakeholders and possibly to involve potential partners (industrial or institutions) for the exploitation phase about the concept and main objectives of PEGASO. This phase started on Month 01 and was completed by Month 30.

Contamination and testing
The second stage of the project relates to the possibility of offering visibility to the product and involving the end user to test it and give feedbacks. This phase corresponds to the period of prototype testing, it started at Month 18 with the beginning of the trial version and it will be finishedat Month 39, before the last months of the project that should focus on the exploitation of the product itself.

Dissemination of the product
Third and last phase considered, it faces the necessity of communicating the project final results and the exploitation of the developed product. It started at Month 30 with the finish of the pre-pilot phase and it will end at Month 42 with the end of the project.

2.2 Communication Goals and Targets

Once defined the communication phases roles and their duration within the project, an analysis of possible main objectives was done, considered as main goals, in order to understand what the meaning of the communication activity would be and which stakeholder to involve in these three communication phases.

The most relevant goals for the communication activities developed during phase 1 “Informational communication” have been defined as:

- Giving awareness of the projects concept and objectives;
- Informing people who wants to know and needs to know about the project;
- Stimulate the interaction between different stakeholders;
- Develop engagement of the targets to better identify their needs.

Analysing these objectives gave the possibility of defining who the involved stakeholder of the communication activity should be, in order to direct a carefully crafted message and better engage the community.

Teen Agers: most important target and final end user of the product.
Families/Parents: indirect end user, very relevant since they will be those deciding and purchasing for their children.

Schools: indirect target, teachers and school institutions are an exploitable target since they can promote and give importance to the topics expressed by the project and engage teenagers in participating in the project and using the product.
Academic/research communities: innovation and technology research are key elements of PEGASO; therefore an essential audience to direct the message is composed by university and academic research communities.
Institutions: as the previous stakeholder, institutions have to be considered since both the food related healthy problems and the project impact on the teen ager community are aspects of utter importance for institutions.
Business Partners: PEGASO aims to become a real product, produced and used by the end user, therefore it is important since the first phase of the project to interact with possible business partners that may be interested in investing in the project.
Press: sectorial media (nutrition, healthy lifestyle, physical activity etc.), journalists and editors should present the project addressing to the readers, in the easiest and most comprehensible way.
European Commission: it should be kept updated with precise information on the project development.

The most relevant goals for the communication activities developed during phase 2 "Contamination and testing " have been defined as:

- Engagement of the end users to test (giving information and contents in order to manage an effective engagement of the user).
- Receiving feedbacks on the trial version (being sure that the trial version is well monitored in order to be able to readjust or review aspects that have not been well developed).

Main stakeholders of the second communication phase have been defined as:
Teen Agers: key targets of the trial/testing period will be those using and interacting with the prototype giving useful input and feedbacks about the functionalities.
Families/Parents: parents and relatives will need to be informed on the prototype functionalities and goals, they have to be part of the project by stimulating and engaging their children in using it and control possible changing in their lifestyle activity.
Schools: education environments are places where teen agers spend most of their time, assuming information, emulating what their classmate do or wear; therefore, to make PEGASO as attractive as possible for teens, the entire school environment (professors, teachers, personnel etc.) are involved and engaged in making the project successful.

The most relevant goals for the communication activities developed during phase 3 "Dissemination of the Product " have been defined as:

- Offer visibility to the product (promoting and presenting the final product to the target audience);
- Inform all targets on the result of the project (explaining the impact of end users and the technological / functional features);

- Involve potential partners / companies for the exploitation phase (present the product characteristics to companies interested in producing the product);
- Promote the product to the end users (give tips on the products features and attractive aspects for teen agers that will use it)
- Communicate the final result of the project (explaining what the conclusion of the project are, its future involvement and development)

Stakeholders to direct the information during the third communication phase are the entire ecosystem of the audiences: Teen Agers, Families/Parents, Schools, Academic/research communities, Institutions, Business Partners, Press, European Commission.

2.3 Recapitulatory scheme

All the strategy described in point 1.1 and 1.2 has been summarised in the first sheet of the working document presented in the following page.

Table 1 - recapitulatory scheme – Communication activities

D11.4 Dissemination and Communication Plan				YEAR 1												YEAR 2												YEAR 3												YEAR 4					
				M 01	M 02	M 03	M 04	M 05	M 06	M 07	M 08	M 09	M 10	M 11	M 12	M 13	M 14	M 15	M 16	M 17	M 18	M 19	M 20	M 21	M 22	M 23	M 24	M 25	M 26	M 27	M 28	M 29	M 30	M 31	M 32	M 33	M 34	M 35	M 36	M 37	M 38	M 39	M 40	M 41	M 42
MAIN ACTIVITIES	**Goals**	**Involved Targets**	**Timing**																																											
1. INFORMATIONAL COMMUNICATION			M01 - M30																																										
	Awareness of the projects concept and objectives	Teen Agers, Families, Schools, Academic/research communities, Institutions, Business Partners, Press, European Commission																																											
	Informing people who wants to know and needs to know about the project																																												
	Stimulate the interaction between different stakeholders																																												
	Engagement of the targets to better identify their needs																																												
2. CONTAMINATION AND TESTING			M18 - M39																																											
	Engagement the end users to test	Teen Agers, Families, Schools																																												
	Feedback on the trial version																																												
3. DISSEMINATION OF THE PRODUCT			M30 - M42																																										
	Offer visibility to the product	Teen Agers, Families, Schools, Academic/research communities, Institutions, Business Partners, Press, European Commission																																											
	Inform all targets on the result of the project																																												
	Involve potential partners / companies for the exploitation phase																																												
	Promote the product to the end users																																												
	Communicate the final result of the project																																												

3 Communication Plan

3.1 Channels and tools

Once defined the activities, their timing and related involved target group it was necessary to analyse all possible ways of spreading the contents and messages, firstly by defining the available communication channels such as PEGASO corporate ones, consortium member ones and external ones, and secondly identifying for each channel all instruments and tools to be used to communicate and disseminate the project during the three communication phases.

During the first communication phase (described in the previous chapter) "Informational Communication" PEGASO has been promoted and presented through two main channels: PEGASO corporate channel (defined as the official channel of the project, a network of tools made and presented by PEGASO itself, that consider all the institutional instruments created especially for the project) and PEGASO partner channels (considered as all possible networks/ways of communication own by the consortium members to be used as an amplifier to the corporate activities, able to reach wider and differentiated targets considering their different goals).
For the last two phases of the project, and for the last months of the first phase, a third channel has been added, as the "external channels" considered as all sectorial media (health, nutrition, activity, teenagers, mothers etc.) and events where to promote the product and the project development.

Once understood which channels to exploit in order to create an impactful communication plan, a list of dissemination and marketing tools and instruments was identified:

PEGASO corporate channels
Web Portal: official project website containing all information on the project for the external audience (summary of the project, consortium members etc.), all public documents related to PEGASO (documents, papers, deliverables, communication materials) and a private area containing sharing documents between partners and European Commission. New released of the website during year 2 made possible the development of a and forum area and a specific training modules platform (as described in 1.4)
Journalistic description of the project: official description of the project especially made for press and journalists, explaining goals, timing, partners, fields of action.
Project ID: an easy to read and simple to understand document to present the project to any kind of audience (form the teen ager to the academic researcher); it outlines the project main objectives, the added values, the activities and the expected outcomes.
Poster: a simple instrument that each partner can use to present its activity related to a specific WP when participating in conferences, workshop or other sort of events.

Press release: a specific yearly updated document to be spread through all national and international main press and media companies in order to have a powerful impact by publishing articles in sectorial magazines.
Project Presentation: a very powerful tool able to present and promote the project (sending it or use it for public presentations) is a slide show presentation outlining in a easy way all aspect of the project.
Twitter account: of utter importance is the activation of social media pages and accounts. Being the new way of easy communication, twitter and Facebook are two essential networks to use in order to present last minute events, activities, developments and images in a user-friendly way, linking to more specific and detailed contents.
Facebook fan page: the most common social network used by all generations, it is a perfect way to reach different targets directing the messages. It is important to build a strong community of follower in the first years of the project lifespan so to get to the end of the project with a huge number of profiled contacts and direct specific crafted messages.
Bi-monthly newsletters: it has been considered as an obsolete way of promoting or presenting a project, but on the other way it is still one of the most used tool to easily present short contents related to different aspects of the project giving awareness to PEGASO. An important action has been done, such as creating a specific registration form within PEGASO website where to subscribe to the newsletters. This registration area allows building up a profiled community (the registration form permits to profile the user in relation to their interests and target group) of PEGASO lovers.
Brochure: a standard but always impactful way to give awareness of the project, to be used physically (printed version) during specific events, and electronically to be sent to interested targets.
Specific leaflet: an easy to read printable tool to be developed in order to answer specific necessities. A first version was created for the pre pilot phase where to present to the schools PEGASO Platform implementations.
Video: a viral online tool that permits to easily understand key messages of the project (different video will be made starting with a first teaser video –M06 that gives suggestions and awareness of PEGASO, and going to more detailed versions that will present specific aspects and messages).
Audio materials: specific interviews on given topics of the project can be registered and edited so to be broadcasted through PEGASO website or social media pages.
Press Conference: giving visibility to the project to the sectorial media is important in order to have publications of articles about PEGASO. Therefore press meeting and conferences will be organized so to amplify the message.
Workshop and Training seminars: events dedicated to training sessions to support the technology transfer of PEGASO.
Events banners: promotional banners to present PEGASO participation at specific event or workshops.
Workshop for Scientific community: special courses directed to the academic and scientific research community have to be considered in order to share opinions, and receive feedbacks on the technology and functionality of the product.

PEGASO Partner channels

Digital ADV: a set of promotional advertising banner has been created so that each member of the consortium could publish them on their own digital channels (such as institutional website, internal or external newsletters etc.).

DEM: promotional Direct Email Marketing have been thought so that each member could spread specific messages through their own mailing list / contacts.

Facebook: consortium member Facebook pages can be used as a promotional channel to spread contents related to the community interests.

Twitter: consortium members twitter accounts can be used as a promotional channel to spread contents related to the community interests.

Newsletters: possibility of insertion of specific news related to PEGASO development into consortium member's own external or internal newsletter.

Press releases: within consortium member institutional press releases, it is important to insert specific references to the partner participation in PEGASO.

Brochures: inserting references on PEGASO inside partners' corporate or project leaflet or brochures is another way of improving awareness on the project.

Workshops: Each partner participates in events, conferences, workshop throughout the project lifespan, therefore it is of utter importance to present / giving information on PEGASO in those occasions (handing PEGASO printed brochures, showing PEGASO website etc.).

LifeGate media network: one of the consortium members has got a national major media network to be used as amplifier (see chapter 3 for more details on the activities).

External channels

Media campaigns: advertising campaigns on specific sectorial media (nutrition, teens, physical activity, mothers etc.) presenting the product or the final results of the project will be considered.

Third parts events: participating at certain external sectorial fairs/conferences/events promoting the final results and the product will surely be a way of finding business partners interested in financing the product. (for example, during year 2 an important promotion was done on the European Union website related to its participation at Milan EXPO 2015)-

Endorsement of celebrities: an innovative approach in order to get the attention and active involvement of the young end users, for example with the endorsement of famous rockstars, sport stars or actors that are willing to use their image for social issues.

3.2 Scheduling of activities

A precise scheduling of the communication activities, through the identified tools, has been defined for year 1, year 2 and year 32 (already done activities have been inserted within the document) on the other hand, a more flexible timing for the dissemination actions related to phase 3 (dissemination of the product) was set so to identify key moments where to organize and produce suitable activities for the targets.

Following a pragmatic approach understanding what the right moments for each activity would have been, a communication plan on a 3 an half year basis was produced, indicating those who are activities implemented once but with continuous effects, and those that have a continual dissemination.

3.3 Recapitulatory scheme

The strategy described in point 2.1 and 2.2 has been summarised in the second sheet of the working document presented in the next pages (table 2, 3 and 4).

Table 2 - recapitulatory scheme – Communication plan “Informational Communication” phase

D11.4-2 Dissemination and Communication Plan						YEAR 1												YEAR 2												YEAR 3												YEAR 4					
						M 01	M 02	M 03	M 04	M 05	M 06	M 07	M 08	M 09	M 10	M 11	M 12	M 13	M 14	M 15	M 16	M 17	M 18	M 19	M 20	M 21	M 22	M 23	M 24	M 25	M 26	M 27	M 28	M 29	M 30	M 31	M 32	M 33	M 34	M 35	M 36	M 37	M 38	M 39	M 40	M 41	M 42
Activities	**Period of Activity**	**Goals**	**Involved Targets**	**Tools**																																											
1. INFORMATIONAL COMMUNICATION	M01 - M30	Awareness of the projects concept and objectives Informing people who wants to know and needs to know about the project Stimulate the interaction between different targets Engagement of the targets to better identify their needs	Teen Agers, Families, Schools, Academic/research communities, Institutions, Business Partners, Press, European Commission	Pegaso Channels	Web Portal																																									
					Journalistic description of the project			>																																								
					Project ID						>																																				
					Poster						>																																			
					Twitter account (activation + updating)																																										
					Press release (launch)																																										
					Project Presentation					>																																					
					Facebook fan page (activation + updating)																																										
					2monthly newsletters																																										
					Brochure					>											>																									
					Video					>																																				
					Audio materials											>																														
					Workshop and Training seminars							>																																		
					Workshop for Scientific community							>																																		
				Partners Channels	Digital ADV (banner)																																									
					DEM (digital adv sent to contacts)																>																									
					Facebook (post, images)																																										
					Twitter (tweet, images)																																										
					Newsletters (articles, news)																																										
					Press releases (content insertion within partner' press release)					>																																					
					Brochures (references on Pegaso)					>																																					
					Workshops																																										
					LGATE media network (see 'dissemination plan on LGATE')																																										

Table 3 - recapitulatory scheme – Communication plan “Contamination and Testing” phase

D11.4-2 Dissemination and Communication Plan					
Activities	**Period of Activity**	**Goals**	**Involved Targets**	**Tools**	
2. CONTAMINATION AND TESTING	M18 - M39	Engagement the end users to test Feedback on the trial version	Teen Agers, Families, Schools	Pegaso Channels	Website Platform (updated)
					Training modules platform
					Twitter account (updating)
					Press release (about pre pilot)
					Project - Testing Presentation
					Facebook fan page (updating)
					Youtube channel (updating)
					2monthly newsletters
					Brochures (updating)
					Leaflet on pre pilot
					Video (updating)
					Audio materials (updating)
					Press Conference
					Press Release (Result)
					Workshop for Scientific community
					Workshop and Training seminars
					Result Website update
					Video to make the project understandable to the public
					Photos of end users working with the product
					Final Report to inform potential partners for the exploitation
				Partners Channels	Digital ADV (banner)
					DEM (digital adv sent to contacts)
					Facebook (post, images)
					Twitter (tweet, images)
					Newsletters (articles, news)
					Press releases (content insertion within partner' press release
					Brochures (references on Pegaso)
					Workshops
					LGATE media network (see 'dissemination plan on LGATE')
				External Channel	Media campaigns
					Third parts events
					Endorsement of celebrities

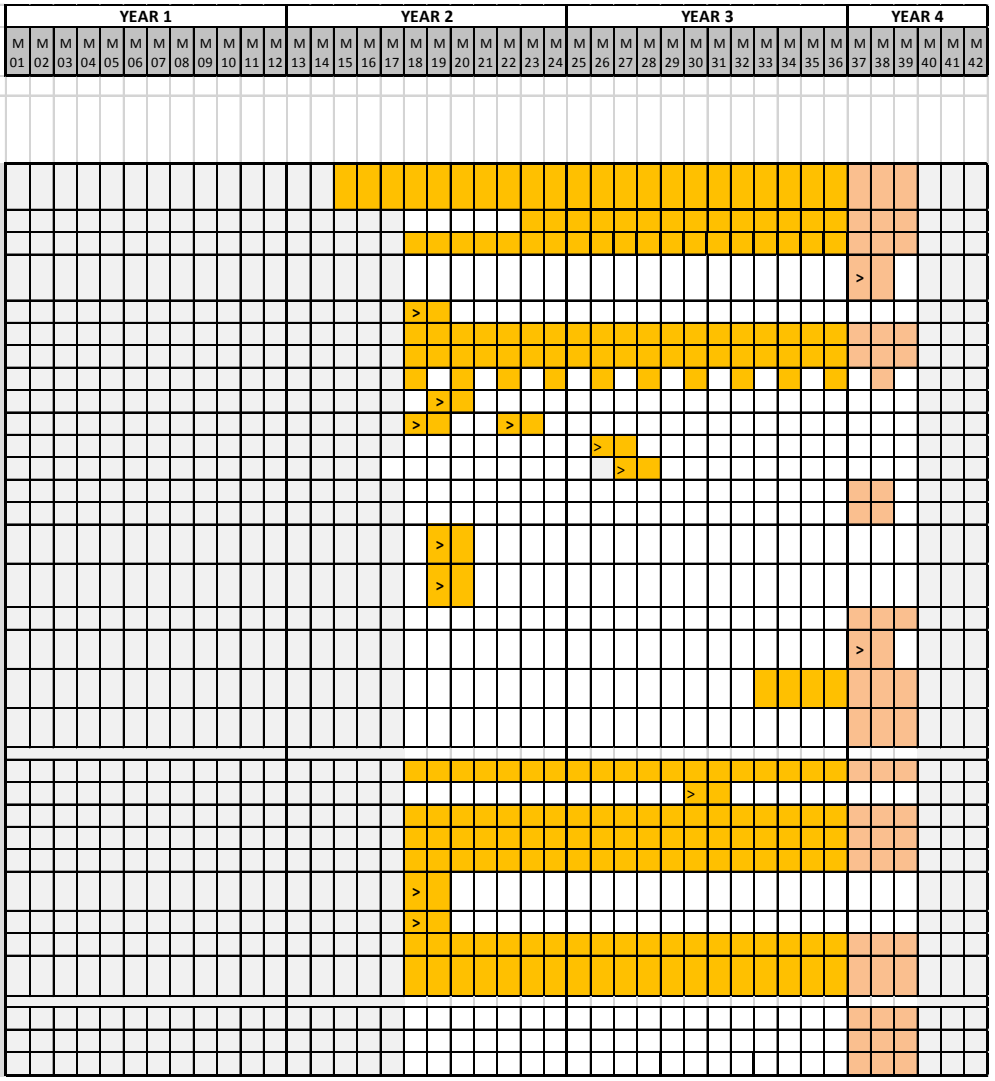


Table 4 - recapitulatory scheme – Communication plan “Dissemination of the Product” phase

D11.4-2 Dissemination and Communication Plan						YEAR 1												YEAR 2												YEAR 3												YEAR 4					
						M 01	M 02	M 03	M 04	M 05	M 06	M 07	M 08	M 09	M 10	M 11	M 12	M 13	M 14	M 15	M 16	M 17	M 18	M 19	M 20	M 21	M 22	M 23	M 24	M 25	M 26	M 27	M 28	M 29	M 30	M 31	M 32	M 33	M 34	M 35	M 36	M 37	M 38	M 39	M 40	M 41	M 42
Activities	**Period of Activity**	**Goals**	**Involved Targets**		**Tools**																																										
3. DISSEMINATION OF THE PRODUCT	M30- M42	Offer visibility to the product Inform all targets on the result of the project Involve potential partners / companies for the exploitation phase Promote the product to the end users Communicate the final result of the project	Teen Agers, Families, Schools, Academic/research communities, Institutions, Business Partners, Press, European Commission	Pegaso Channels	Website (updating)																																									
					Twitter account (updating)																																										
					Press release (product)																																						>					
					Project - Product Presentation																																						>					
					Facebook fan page (updating)																																											
					Youtube channel (updating)																																										
					2monthly newsletters																																										
					Brochures (updating)																														>												
					Video (updating)																														>												
					Audio materials (updating)																														>												
					Workshop and Training seminars																																										
					Workshop for Scientific community																																										
					Final Event in Brussels																																										
					Photos of end users working with the product																																										
					Final Report to inform potential partners for the exploitation																																										
				Partners Channels	Digital ADV (banner)																																										
					DEM (digital adv sent to contacts)																																							>					
					Facebook (post, images)																																											
					Twitter (tweet, images)																																										
					Newsletters (articles, news)																																										
					Press releases (content insertion within partner' press release																														>												
					Brochures (references on Pegaso)																														>												
					Workshops																																										
					LGATE media network (see 'dissemination plan on LGATE')																																										
				External Channel	Media campaigns																																										
					Third parts events																																										
					Endorsement of celebrities																																										

4 Dissemination Plan on LifeGate media network

4.1 Actions on the network

LifeGate, one of the consortium member engaged mainly in WP11 work, was born aiming to promote a new lifestyle to people and a new way of doing business to companies, with more awareness and responsibility, introducing sustainable values in everyday life. Since 2000, LifeGate became the Italian benchmark for the eco-cultural world, offering a media network promoting sustainable lifestyle and a consultancy service for sustainable development to business.

Its media network talks daily to a community of people (more than 5 million people) concerned in the definition of a new sustainable lifestyle. The community and media network are essential to involve and get feedback from a specific target of audience perfectly aligned with the goal of PEGASO. The exchange with this community helps to understand the end-user needs but also finding potential partners for the exploitation phase in fact school teachers and mothers are two categories that are well represented in its community and that could play and active role.

A defined communication plan on this network has been created (see Table 5, indicating all the activities done in year 1, year 2 and year 3 and those to be done in the last part of the project) firstly identifying all the network channels and related tools explaining powerful actions to direct a communication coherent with PEGASO main objectives.

- LifeGate.it and LifeGate.com/ People: and editorial content website on sustainable lifestyle with 5.5 million yearly unique visitors, divided into 6 sustainable categories (food, mobility, energy, health, living and tourism).
  Within this channel, a series of communication activities have been identified:
  - Editorial Article - Article informing on the project development with images and link to PEGASO website;
  - Advertising Banner - Promotional banner informing on the project and linking to PEGASO website;
  - Category Advertising - Sponsoring of the "Food" Category within the website;
  - Category Advertising - Sponsoring of the "Health" Category within the website;
  - Promotion on I Feel Food - Promotion of PEGASO within I Feel Food initiative (healthy and sustainable nutrition)

- LifeGate.it LifeGate.com/ Business: Editorial Content website on sustainable solutions targeted to business company with 5.5 million yearly unique visitors.
  Within this channel, a series of communication activities have been identified:
  - Editorial Article - Article informing on the product development with images and link to the PEGASO website for the exploitation phase;
  - Advertising Banner - Promotional banner informing on the product and linking to the PEGASO website;

  - Promotion on I Feel Food - Promotion of PEGASO within I Feel Food initiative (healthy and sustainable nutrition).

- Facebook: Social network community of more than 505.000 fans:
  - Post and image gallery - Sharing of editorial contents related to the project.
- Twitter: Social network community of more than 21.600 followers
  - Tweet - Sharing of editorial contents related to the project.
- LinkedIn: Social network community of more than 3.500 followers
  - Post + Image - Sharing of editorial contents related to the project/product in order to disseminate the final product to the business community.
- Newsletter People: Weekly newsletter on sustainable lifestyle sent to more than 50.000 profiled contacts.
  - News and Image - Editorial contents related to the project linking to the PEGASO website;
  - Advertising Banner- Promotional banner informing on the project and linking to the PEGASO website.
- Newsletter Business: Monthly newsletter on sustainable solution for companies sent to more than 10.000 profiled business contacts.
  - News and Images - Editorial contents related to the project/product linking to PEGASO website;
  - Advertising Banner - Promotional banner informing on the project/product and linking to the PEGASO website.
- LifeGate and Sound (FM): Broadcast radio channel with more than 330.000 listeners on FM
  - Interview - 3 minutes interviews to the project coordinators informing on PEGASO;
  - Advertising announcement - Promotional advertising (30 sec) on the project/product.
- LifeGate and Sound (app + streaming): On line broadcast radio channel 300.000 listeners in streaming and 10.000 app users
  - Advertising Banner - Promotional banner linking to PEGASO website.

Part of the activities above listed (mostly those referring to the non business target audience) have been already done during year 1, year 2 and; a more flexible idea of possible communication action for year 4 has been set (please see Table 5).

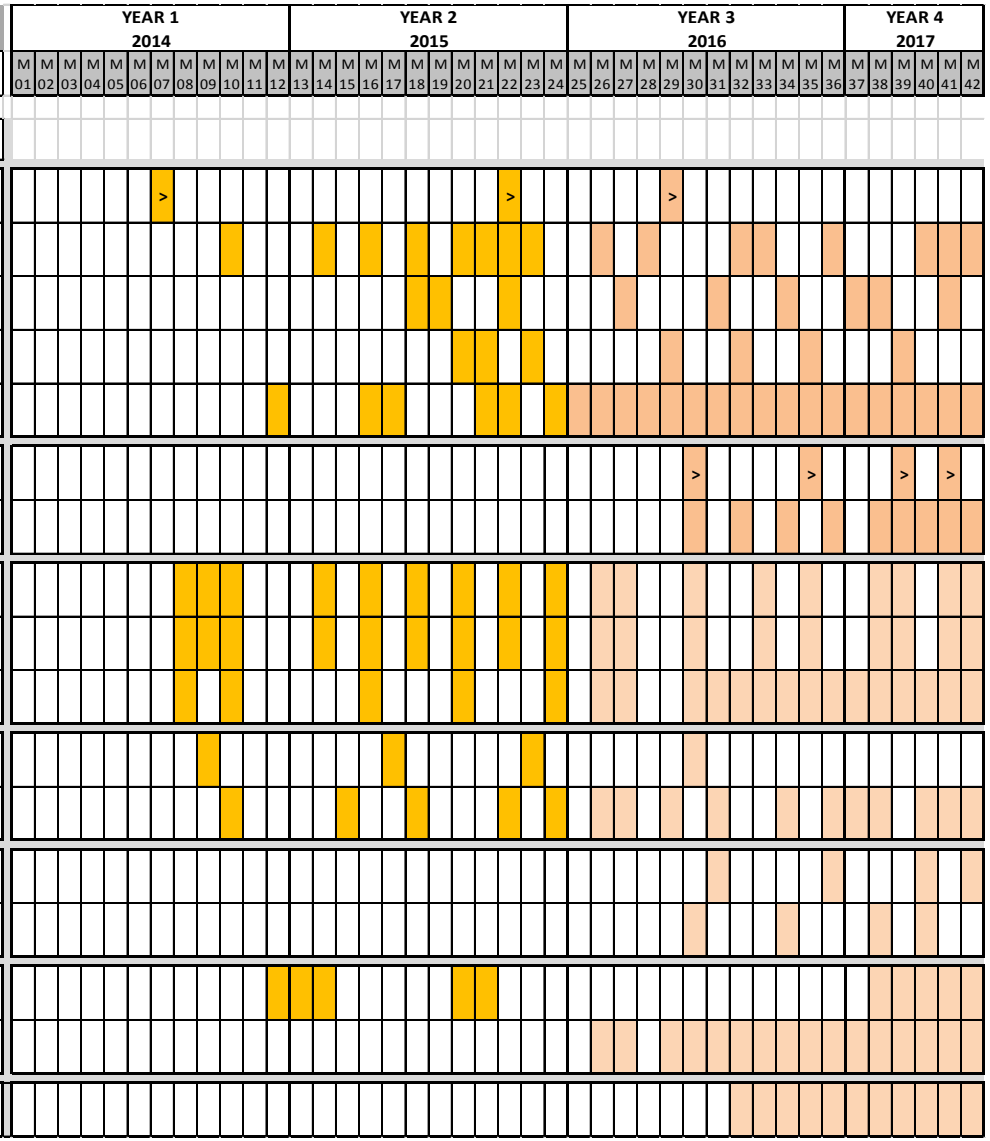
4.2 Recapitulatory scheme

The communication actions described in point 3.1 has been summarised in the third sheet of the working document presented in the next page (table 5).

D11.4-2
Dissemination and Communication Plan

LGATE MEDIA NETWORK DISSEMINATION PLAN

Media Channel	*Description of Channel*	Communication Tool	*Description of tool*
LifeGate.it and LifeGate.com / People	*Editorial Content website on sustainable lifestyle with 5.5 million yearly unique visitors*	Editorial Article	*Article informing on the project development with images and link to the Pegaso website*
		Advertising Banner	*Promotional banner informing on the project and linking to the Pegaso website*
		Category Advertising	*Sponsoring of the "Food" Category within the website*
		Category Advertising	*Sponsoring of the "Health" Category within the website*
		Promotion on I Feel Food	*Promotion of Pegaso within I Feel Food initiative (healthy and sustainable nutrition)*
LifeGate.it and LifeGate.com / Business	*Editorial Content targeted to business company website with 5.5 million yearly unique visitors*	Editorial Article	*Article informing on the product with images and link to the Pegaso website*
		Advertising Banner	*Promotional banner informing on the product and linking to the Pegaso website*
Facebook	*Social network community of more than 370.000 fans*	Post + Image	*Sharing of editorial contents related to the project*
Twitter	*Social network community of more than 19400 followers*	Tweet	*Sharing of editorial contents related to the project*
Linkedin	*Social network community of more than 3500 followers*	Post + Image	*Sharing of editorial contents related to the project*
Newsletter People	*Weekly newsletter sent to more than 50.000 contacts*	News + Image	*Editorial contents related to the project linking to the Pegaso website*
		Advertising Banner	*Promotional banner informing on the project and linking to the Pegaso website*
Newsletter Business	*Monthly newsletter sent to more than 10.000 business contacts*	News + Image	*Editorial contents related to the project linking to the Pegaso website*
		Advertising Banner	*Promotional banner informing on the project and linking to the Pegaso website*
LifeGate and Sound (FM)	*Broadcast radio channel with more than 330.000 listeners on FM*	Interview	*3 minutes interviews to the project coordinators informing on Pegaso*
		Advertising announcement	*Promotional advertising (30 sec) on the project*
LifeGate and Sound (app +	*On line broadcast radio channel 300.000 listeners in streaming + 10.000 app users*	Advertising Banner	*Promotional banner linking to the Pegaso website*



5 Tailored messages

In order to build a successful communication plan suitable to the different target audiences addressed by the project in order to formulate tailored messages, it was necessary to start defining what the key messages / possible contents of each communication phase are and which target may be interested in those informations.

Together with other consortium member working in WP11, a first list of topics and messages to be disseminated has been set defining for each content which specific target group could be interested in knowing about it. The main objective of this section of the communication plan, presented here below in Table 6, is to have a structure of messages and topics to be used in the communication activities depending on the target of the activity (e.g. a precise message during the informational communication phase should be direct only to teenagers through specific tools that easily reach the target.)

This is a work in progress activity, to be implemented with the suggestions and help of all other partners involved in the project considering PEGASO developments and possible changings.

5.1 Recapitulatory scheme

The definition of key messages for involved targets described here above, has been summarised in the fourth sheet of the working document presented in the next page (table 6).

Table 6 - recapitulatory scheme – Tailored messages for involved target

D11.4-2 Dissemination and Communication Plan								
KEY MESSAGES PHASE 1: INFORMATIONAL COMMUNICATION - M01 - M30								
	Involved Targets							
	Teen Agers	Families	Schools	Academic/research communities	Institutions	Business Partners	Press	European Commission
Key Messages								
Project concept and goals	Not of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest
Main target of the project	Not of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest
Lifetime of the project	Not of interest	Not of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest
Partners of the project	Not of interest	Not of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest
4 Key words and meaning	Not of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest
Values of good nutrition	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest
Importance of gaming and sensibilization	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest
Application of behaviour change techniques (BCTs)in ICT	Not of interest	Not of interest	Not of interest	Of interest	Of interest	Of interest	Not of interest	Not of interest
BCW Framework and it's application to healthy eating and exercise behaviour in teenagers	Not of interest	Not of interest	Not of interest	Of interest	Of interest	Not of interest	Not of interest	Not of interest
European teenagers for healthy eating and exercise behaviour	Not of interest	Not of interest	Not of interest	Of interest	Of interest	Not of interest	Not of interest	Not of interest
Tips on nutrition / well being / physical activity	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest
…								
KEY MESSAGES PHASE 2: CONTAMINATION AND TESTING - M18 - M39								
	Involved Targets							
	Teen Agers	Families	Schools					
Key Messages								
Pegaso companion accessibility	Of interest	Of interest	Of interest					
Pegaso companion interfunctionality	Of interest	Of interest	Of interest					
Feedbacks on game and device (try it and tell us)	Of interest	Of interest	Of interest					
Gamification of the tool (device + game)	Of interest	Of interest	Of interest					
Feedbacks on each single application and their relation with the others	Of interest	Of interest	Of interest					
Functionalities of the device and realtion with the game	Of interest	Of interest	Of interest					
Elearning / Training modules	Of interest	Of interest	Of interest					
Ethics/ privacy issues regarding usage of datas	Not of interest	Of interest	Of interest					
Tips to engage users to participate in trial	Not of interest	Of interest	Of interest					
…								
KEY MESSAGES PHASE 3: DISSEMINATION OF THE PRODUCT - M30- M42								
	Involved Targets							
	Teen Agers	Families	Schools	Academic/research communities	Institutions	Business Partners	Press	European Commission
Key Messages								
Results of the project	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest
Specific datas on the product	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest
Future outlook of the product	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest
Definition of the specific target group that uses the product	Not of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest	Of interest
…								

6 Conclusions

The final produced document presenting PEGASO dissemination and communication plan, is a fundamental point for the WP11 entire strategy and for the whole project, since it gives a precise status of the activities done or to be done defining all specific actions.

Considering its necessary implementations and updates during the project lifespan (project development, possible changing etc.), it is a living document to be published on the private partner area of PEGASO website so that each consortium member could suggests and insert (through a validation by the WP11 leader) activities/participation in events done by itself or by its own partners.

Starting with year 4 the dissemination activities will be mainly focused on the commercialisation of the product (PEGASO companion) in order to prepare a coherent communication strategy for the exploitation of the product during year 4 (possible activities could be: creating a specific brand, video presentation, jingle presenting the product, gadget to be given with the product etc.).
In any case the most demanding effort during the remaining months of PEGASO project regards on one side the key partners in communication and dissemination activities that are in charge for the organization of the PEGASO – Fit for Future final event, expected in the end of June 2017 in Brussels. On the other side the academic and research partners will be active in the implementation of the provided Scientific Dissemination Plan.