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D5.1 – Reports from Demonstrations and Workshops: Instructional Co-Design

Due Date of the Deliverable: 30 June 2023

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Deliverable Coordinator	Manfred Mudelsee (CRA)
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Contents*

* The Appendix contains an own Table of Contents.

Acronyms

Acronym*	Description
EC	European Commission
GA	Grant Agreement
GDPR	General Data Protection Regulation
HEI	Higher Education Institution
KPI	Key Performance Indicator
NA	Not Applicable
WP	Work Package

* For the acronyms of partner organisations, please see the Appendix (p. A-1).

1. Document Information

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* Given are the acronyms; for the full names of partner organisations, please see the Appendix (p. A-1).
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* Given are the acronyms; for the full names of partner organisations, please see the Appendix (p. A-1).

1.4 Document History

Version #	Date	Changes
1	31 March 2023	Initial template erected; internal online site for individual reports established; internal grid table (demonstrator/pilot) built
2	31 May 2023	Deadline for individual reports about held workshops and activities
3	19 June 2023	Draft 01
4	24 June 2023	Draft 02 (on basis of online discussions at monthly GreenSCENT meeting on 22 June 2023)
3	29 June 2023	Draft 03
5	30 June 2023	Final version

1.5 Document Data

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2. Background

2.1   European Green Deal

As the EC [https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en, 19 June 2023] explains, climate change and environmental degradation are an existential threat to Europe and the world. To overcome these challenges, the European Green Deal will transform the EU into a modern, resource-efficient and competitive economy, ensuring:

- no net emissions of greenhouse gases by 2050;

- economic growth decoupled from resource use;

- no person and no place left behind.

The European Green Deal is also our lifeline out of the COVID-19 pandemic. One third of the €1.8 trillion investments from the NextGenerationEU Recovery Plan, and the EU's seven-year budget will finance the European Green Deal.

2.2   GreenSCENT

GreenSCENT – Smart Citizen Education for a Green Future – is a research and innovation project funded by the European Union's Horizon 2020 programme, under Grant Agreement N° 101036480.

GreenSCENT aims at developing a competence framework embracing all the Green Deal focus areas through an iterative, participated, experience and learning-by-doing based design approach.

GreenSCENT activities embrace both experts' and researchers' inputs and advise, citizen participation and stakeholder engagement initiatives; different European regions, different educational levels (from primary schools to higher education), at different engagement levels (from observation to data collection and processing, to contribute to scientific and policy agenda).

GreenSCENT legacy will consist of the Competence Framework (GreenComp), its Methodology, Use Cases, User Guides; Training kits co-designed for implementing the framework; SCENTbox, the set of digital, physical and hybrid demonstrators developed by the project; and ECCEL, a European "driving license" for Climate and Environmental competencies and skills, that will be tested during the project.

GreenSCENT's Work Package WP5 – GreenComp Piloting – has the objective to develop a common piloting framework, and the application of tools and approaches for eight European Green Deal Focus Areas, that can be extended and implemented elsewhere, with the objective of creating genuine European reference piloting environments. The common piloting framework and tools will, through training, enable the involved citizens to become aware of European Green Deal principles. This WP provides input and iteratively co-develops content and activities aimed at enhancing educational, social, technical and cross-cultural impacts.

GreenSCENT's WP5 includes Task 5.1, where the main objective is to provide a common framework for the pilots, which comprise 4 high schools and 3 higher education institutions (HEIs). This includes Subtask 5.1.1, where a series of workshops are conducted in each pilot. Teachers and professors from the partner institutions implementing the pilot locally will be engaged by GreenSCENT experts in co-designing the training activity. Training programs and contents will be packed as a training kit, and published as an open access resource for the EU educational community in the context of WP4. Finally, this activity will lead to the definition of an evaluation instrument assessing the learning performances of students after the preparatory training and the use of GreenSCENT demonstrators.

2.3   This Document

This document reports as part of Subtask 5.1.1 about the content, design and workshops for the various demonstrator activities (Section 3). It shows (Section 4) summary numbers, such as the expected number of participants in the activities as this constitutes an important key performance indicator (KPI). Section 4 also lists the training kits to be developed and considers the various competences addressed by the activities. The assessment basis for that is the GreenSCENT Competence Framework (which has already been released as Deliverable D1.1 in December 2022). We finally give an outlook (Section 5).

3. Demonstrator Activities and Workshops

GreenSCENT comprises 9 demonstrator activities, which cover various educational levels – from pupils and ordinary citizens to high-level experts and HEI researchers – about the European Green Deal. The GreenSCENT website (https://www.green-scent.eu/about/tools-and-activities/, 19 June 2023) briefly describes the activities and the employed tools. Note that the naming of the demonstrator activities has varied across the various project stages (proposal, GA, website, internal communication, etc.) and also among the various involved partners; this is to be seen as an indication that the project is a kind of "living system", a fact that rather constitutes a strength. Hence, the naming employed in this report is by no means the sole binding.

3.1   Description of Demonstrator Activities

There are a number of demonstrator activities in GreenSCENT that employ a high level of digital technologies:

- Environment Monitoring App (#1),
- Citizen Journalism/Greenverse (#2),
- Interactive Documentary (#3),
- Cleanair@schools (#7),
- GreenSCENT Augmented Reality App (#8).

A detailed description of those demonstrators is included in Deliverable D3.1 – GreenSCENT Platform Design and Integration. This report is due by 30 June 2023. The major descriptive elements are as follows:

The **Environmental Monitoring App** (led by ENG), will enable users to reuse their uploaded environmental data and share content that can be used in publications, research, journalism, and school and university programs. The app offers the capability to generate interactive maps linked to geographical areas relevant to the European Green Deal. These maps can feature multiple layers, each representing different topics and definitions. Users will be notified when they are near a place of relevance via a photo or video. Some maps may include an impact section where, for example, users could recommend stores for purchasing sustainable products. Furthermore, the app should also promote walking as a preferable alternative to using personal transport methods, such as cars.

The **Citizen Journalism/Greenverse Interactive Platform** (led by ENG) is a potential tool to stimulate reflective learning and sustainable actions that could positively impact climate change and other focus areas of the European Green Deal. This demonstrator is a digital tool that allows students, teachers, and European citizens to gain knowledge, skills and attitudes necessary to address environmental challenges through an augmented learning system. The platform relies on 360° environments, capable of presenting immersive information and narratives that enhance the user's learning experience. The GreenVerse educational scenario specifically targets educational challenges related to natural, cultural and societal heritage with the objectives to: (1) raise awareness among young people of the importance of our common world heritage; (2) inspire the young generation to actively engage in heritage conservation at both local and global level; and (3) design effective educational strategies and materials by collaborating with educators and heritage conservation experts, aiming to incorporate world heritage education into secondary school curricula worldwide. Closely related to the Citizen Journalism/Greenverse Interactive Platform is the idea to explore the whole process of conception, planning and development of an **Interactive Documentary** (also led by ENG). The methodology aims to determine whether the features of the GreenSCENT platform are accessible and intuitive enough to empower younger users to autonomously upload and assemble multimedia content. This would allow users to create 360° interactive environments, thereby offering an immersive experience linked to sustainability education.

The **Cleanair@schools** app (led by 4S) is an intuitive mobile application designed to facilitate engagement with students on the clean air initiative. The app will be available for both Android and IOS devices, including mobiles and tablets. Initially using a web interface, school tutors, in collaboration with students, will identify locations for air quality measurements. Subsequently, the app will assist in the deployment and collection of passive air quality sensors. The app will allow students to photograph each location, while automatically recording the GPS location and the specific time of sensor deployment and collection. Closely related but led by another partner (BSC), is the **GreenSCENT Augmented Reality App.** This mobile application supports the learning experience surrounding Air Quality concepts. Using storytelling and gamification elements, students will engage with various lessons and evaluate their knowledge in a fun and easy way. Tools such as Augmented Reality will be used to provide immersive learning about the Air Quality maps. The lesson topics range from basic air pollution concepts, the composition of air, the effects of air pollution on health, everyday habits affecting air quality, and methods for measuring air quality. It will also empower students to learn to interpret maps so they can take necessary action to limit their exposure or engage in decision-making processes to protect air quality. While the app will primarily focus on Android to ensure accessibility for resource-limited schools, it will also be available for Apple users, albeit with minor differences.

Then there are a few demonstrator activities in GreenSCENT that deal with citizen science and the young generation:

- Microplastic Citizen Science (#4),
- Open Innovation (#5),
- Youth Design Assemblies (#9).

The **Microplastic Citizen Science** (led by UAB) activity aims primarily to raise students' awareness of microplastics. Students will have the opportunity to participate in scientific research through hands-on experimentation, encouraging them to reflect on the impact their behaviours have on environmental preservation. A key component of the workshops is the development of a comprehensive methodology that partners can replicate at their pilot sites. This methodology will be jointly prepared by l'Institut Arquitecte Manuel Raspall and UAB, and subsequently shared with pilot partners. More details can be found in the Appendix (p. A-2).

The **Open Innovation** (led by AGO) aims to pave innovative ways for citizen engagement. Its primary goal is to establish an "Agorize platform" to engage both young individuals (particularly students from top European schools and universities) and young professionals (especially startup creators). These two demographics will collaboratively work on two-year campaigns and programs on the platform. Students will be encouraged to form multidisciplinary teams with diverse backgrounds to tackle the complexity of issues related to climate change in general and the "Farm to fork" focus area of the European Green Deal in particular. Backgrounds can, for example, include engineering, agronomy, logistics, business, design and arts. A key tool identified in the workshop is the use of the "Agorize platform" to host open innovation challenges, serving as a new way to engage citizens and raise awareness. To participate, students will need to register on the platform and complete a behavioural survey. Following this, they will be able to form teams directly on the platform and submit their proposal under one of four categories (production, distribution, consumption and waste management. A current open activity is the Sustainable Food Challenge [https://www.agorize.com/de/challenges/sustainable-food-challenge-2023, 19 June 2023]. For more details, see the Appendix (p. A-10).

In the **Youth Design Assemblies** (led by DBT), young students will – along with young people from all over Europe – become 'green-experts' and help GreenSCENT to design a European future focused on the environment, the climate and sustainability. As the text on the GreenSCENT website [https://www.green-scent.eu/about/tools-and-activities/youth-assemblies/, 19 June 2023] explains, "It is very important [...] to involve young people directly in the development of the different parts of the project – our pilot activities, teaching materials etc. We want to make sure that we are creating the right solutions. Therefore, we need your input continuously throughout the project – which we will listen to and incorporate into the project. In

other words – you will be our expert panel. By giving feedback and input to specific project materials and activities you will become a Climate Ambassador – and your participation will result in a Climate Ambassador Certificate from the EU project GreenSCENT. You will also meet a lot of young like-minded people from Europe. Both online and during our in-person meetups in the autumn 2023 in Denmark, Spain, Italy and Serbia. This will give you a unique opportunity to network – both with peers and project managers from GreenSCENT."

Finally, there is one demonstrator activity directed at HEI students, experts and researchers of climate change:

- Climathon (#6).

The **Climathon** (led by CRA) primarily aims to equip HEI participants with theoretical knowledge, statistical methodology and practical skills to perform climate data analyses. These analyses will contribute to a better quantification of climate change, a more effective assessment of climate impacts (especially climate extremes), and a more informed evaluation of possible climate actions. The Climathon also aims to deliver training to school students (EA, RGSMART), enhancing their awareness of the quantitative aspects of climate change within the context of the European Green Deal. However, theoretical statistics and mathematical formulas may pose a challenge, with concerns that students and possibly some experts, who may not be sufficiently trained, could struggle to keep pace with this demonstrator and educational activity. To mitigate this, a key strategy identified in the workshop is the preparation of a detailed registration form for Climathon participants by CRA. This form will collect (1) feedback on participants' previous statistical and other relevant training, and (2) indications about expectations for the course in terms of mathematical level and duration. School students participating in the Climathon should also complete the registration form, particularly in relation to the training they have received so far in quantitative sciences (mathematics, statistics). For more details, see the Appendix (p. A-18 and especially p. A-27).

Table 1. GreenSCENT WP5 grid (demonstrators versus pilot sites) – dates of planned activities. A filled entry indicates the time period the activity will be (or has been) implemented. These activities will be described in a later report (Deliverables D5.2 and D5.3). NA, not applicable since the instructional co-design workshop will be performed only when the required tool will be available (which is not the case for the deadline of this report). * Demonstrator activity #9 to be held in-person, with online activity versions held additionally before or thereafter). † Demonstrator activities #7 and #9 to be held jointly. ‡ UAB will for the Microplastic Citizen Science demonstrator activity (#4) be supported by two researchers from l'Institut Arquitecte Manuel Raspall (Barcelona, Spain).

Pilot Sites	Demonstrators								
	Environment Monitoring App #1 ENG Alessandra Aurelio, Silvia Boi, Vladimiro Scotto di Carlo, Angelo Manfredi, Francesco Nucci	Citizen Journalism/ Greenverse #2 ENG Alessandra Aurelio, Silvia Boi, Vladimiro Scotto di Carlo, Angelo Manfredi, Francesco Nucci	Interactive Documentary #3 ENG Alessandra Aurelio, Silvia Boi, Vladimiro Scotto di Carlo, Angelo Manfredi, Francesco Nucci	Microplastic Citizen Science #4 UAB Pilar Orero, Sarah McDonagh, Marina Pujadas	Open Innovation #5 AGO Solène Delarue	Climathon #6 CRA Manfred Mudelsee	Cleanair @schools #7 4S Jaume Targa, Lorena Banyuls	GreenSCENT Augmented Reality App #8 BSC Diana Urquiza	Youth Design Assemblies #9 DBT Ditte Burmeister, Ida Skov Nielsen
BSC Diana Urquiza						Sep–Oct 2023			Sep 2023*
EA Sofoklis Sotiriou Loukas Katikas	NA	NA	NA	Feb–May 2023		Sep–Oct 2023	Sep 2023–Jan 2024†	NA	Oct 2022–Jan 2024†
MAYK Elisa Mehtälä Nora Pircklen	NA						Sep 2023–Jan 2024	NA	
VTT Teuvo Uusitalo					July 2023				
RST Anda Badita Joe Berwick	NA	NA	NA		July 2023			NA	Oct 2022–Jan 2024
RGSMART Jelina Desnica, Katarina Dimitrijevic, Aleksandar Radisic	NA	NA	NA			Sep–Oct 2023		NA	Oct 2023*
UNINETTUNO Alesandro Caforio, Alessandro Pollini, Marinella Paciello, Barbara Sani, Andrea Tomassi, Andrea Falegnami	NA	NA	NA		July 2023	Sep–Oct 2023	Sep 2023*		Sep 2023*†
UAB Pilar Orero, Sarah McDonagh, Marina Pujadas, Manuel Aznar,‡ Carla Fibla‡	NA	NA	NA	May 2023			Sep 2023	NA	Sep 2023
UNSPMF Miroslav Vujičić, Biljana Basarin			NA	before May 2023		Sep–Oct 2023	Oct 2023*		Oct 2023*
Citizens (EU)	NA	NA		Jan 2023					since Oct 2022

3.2   Description of Instructional Co-Design Workshops

The complete internal grid table shows demonstrator activities alongside piloting sites (Table 1). It details the demonstrators by number and name; the acronyms of lead partner and names of responsible individuals; and the individual grid cells provide information about planned activities' dates with piloting partners.

Note that some activities require the final completion of a technical tool, which may occur after the deadline of this Deliverable D5.1. For example, the Environment Monitoring App (#1) requires the technical tool to be fully developed by ENG, with a delivery deadline set for 30 June 2023. Therefore, some of the instructional co-design workshops can only take place at a later project stage. The workshops that have already been conducted and reported on involve the following demonstration activities and pilots:

● Microplastic Citizen Science (#4); by UAB (Demonstrator); l'Institut Arquitecte Manuel Raspall (Pilot);

● Open Innovation (#5), by AGO (Demonstrator); RST, VTT, UNINETTUNO (Pilots);

● Climathon (#6), by CRA (Demonstrator); BSC, EA, RGSMART, UNINETTUNO, UAB, UNSPMF (Pilots);

● Cleanair@schools (#7), combined with Youth Design Assemblies (#9), by 4S, DBT (Demonstrators); EA, MAYK, UNSPMF (Pilots).

These workshops took place either online or in-person between January 2023 and May 2023. The following section (Section 4) describes summary numbers and addressed competences. The Appendix documents the internal workshops reports received by the deliverable leader.

4. GreenSCENT Pilot definition

In GreenSCENT, pilot activities are multi-purpose, incorporate results from various aspects, involve diverse expertise, and provide answers and feedback to different research questions. **The pilots, along with the people and institutions behind them, offer invaluable assistance in improving the various educational products to be created by GreenSCENT.**

The most evident objective of the pilot is **to field-test the Competence Framework** in its 1st release (Deliverable D1.1). Feedback gathered through pilot activities will provide valuable information, insights, and suggestions for refining the Competence Framework towards its final version, due in October 2024.

In educational pilots (as opposed to beyond-education pilots, such as Youth Assemblies and Open Innovation Challenges), early interactions with teachers, professors or educators will **produce educational formats** that will be reported in WP4 and included in documents complementing the final version of the Competence Framework (Training Kits, Use cases)

In most pilots – certainly in those carried out within the GreenSCENT consortium – participants will use one or more demonstrators. The design of some of them, like the Environment Monitoring App or GreenSCENT Augmented Reality App, was participatory and involved users. Pilot activities can function as a co-design iteration, providing **feedback for the revision and finalization of demonstrators' technologies.** However, this only applies to technologies designed or developed within the project and not existing ones "adopted" by the project or beyond-education activities. Therefore, this dimension does not apply to Open Innovation (#5), Climathon (#6), Cleanair@schools (#7) or Youth Design Assemblies (#9), unless there is expressed interest from the owner of the demonstrator in collecting design or usability feedback, or participants' opinions on the activity implementation.

Finally, one of the primary research hypotheses in GreenSCENT posits that experiential, experimental, engaging education or even beyond-education activities, stimulate behavioural change in participants. Consequently, the pilots aim to collect data about behavioural shifts and implicit attitudes before and after the pilot activities.

4.1. GreenSCENT Pilot Formats

In GreenSCENT we can identify 4 different cases, with slightly different requirements, in terms of pilot design.

The first one (Educational pilot designed and implemented in GreenSCENT consortium's educational institutions) is the more complex, involving all the dimensions and outputs expected. The more simple is the last one, that we can consider the **minimum requirement for an activity to be considered a GreenSCENT pilot (paragraph 2.4).**

Format A): Educational pilot, implemented by GreenSCENT consortium

Case: A University or a School part of GreenSCENT project is implementing a pilot activity.

Step	Description	Tools to be used	Facilitator	To be reported in/by
1a	Interaction with teachers educators, course designer; Presentation of GreenSCENT Competence Framework; exploration, selection of KSAs/Competences, and mapping of the activity against the framework	Knowledge Graph (URL)	UNINETTUNO	D4.2 (UNINETTUNO) D5.3 (CRA)
1b	Co-revision of the Competence Framework Statements (feedback collection from teachers/educators on the contents of the Competence Framework)	Skill cards	ECQA/CRSC	D4.1 (ECQA) D4.4 (ECQA)
1c	Presentation and selection of the proper demonstrators	Powerpoint presentation about the project, design documents (D3.1)	UNINETTUNO	D4.2 (UNINETTUNO)
1d	Finalization of the activity design and reporting	Template for learning experience design (here)	UNINETTUNO	D4.2 (UNINETTUNO) D5.3 (CRA)
1e	Definition of the learning assessment protocol/logic	*In development*	UNSPMF CRA	D5.3 (CRA)

2	Pre-pilot survey on behavioural attitudes of pilot participants	GreenSCENT Competence Questionnaire (described in D1.7; to be setup for each administration)	UNINETTUNO	Methodology: D4.3 (UNINETTUNO) Results: D5.4 (UNSPMF)
3	Implementation of the activity	*In development*	*Demonstrators' owners*	D5.3 (CRA) D1.4 (UNSPMF)
4a	Post-pilot survey on behavioural attitudes of pilot participants	GreenSCENT Competence Questionnaire (described in D1.7; to be setup for each administration)	UNINETTUNO	Methodology: D4.3 (UNINETTUNO) Results: D5.4 (UNSPMF)
4b	Usability/Accessibility/UX survey?	*In development*	UAB + demonstrators' owners	D3.7 (UAB)
4c	Impact assessment	Students/Teachers' surveys	VTT	D6.6

Format B): Beyond-Education pilot, implemented by GreenSCENT consortium

This applies to Youth Assemblies and Open Innovation Challenges

Step	Description	Tools to be used	Facilitator	To be reported in/by
1a	Interaction with teachers educators, course designer; Presentation of GreenSCENT Competence Framework; exploration, selection of KSAs/Competences, and mapping of the activity against the framework	Knowledge Graph (URL)	UNINETTUNO	D4.2 (UNINETTUNO) – Template available here D5.3 (CRA)
2	Pre-pilot survey on behavioural attitudes of pilot participants	GreenSCENT Competence Questionnaire (described in D1.7; to be setup for each administration)	UNINETTUNO	Methodology: D4.3 (UNINETTUNO) Results: D5.4 (UNSPMF)

3	Implementation of the activity	*In development*	*Demonstrators' owners*	Youth Assemblies: D2.2 (DBT) Open Innovation Challenges: D2.3 (AGO) Final OIC results: D2.4 (VTT)
4a	Post-pilot survey on behavioural attitudes of pilot participants	GreenSCENT Competence Questionnaire (described in D1.7; to be setup for each administration)	UNINETTUNO	Methodology: D4.3 (UNINETTUNO) Results: D5.4 (UNSPMF)
4c	Impact assessment	Students/Teachers' surveys	VTT	D6.6 (to be checked for potential overlaps with GreenSCENT competence questionnaire)

Format C): External pilots: Interaction with other Educational institutions

This applies when other schools or universities are interested in "adopting" GreenSCENT Competence Framework **and one or more demonstrators** as a didactic activity within their classes. In this case, the same model of 2.1 is replicated, but **several steps are purely optional.**

Step	Description	Tools to be used	Facilitator	To be reported in/by
1a	Interaction with teachers educators, course designer; Presentation of GreenSCENT Competence Framework; exploration, selection of KSAs/Competences, and mapping of the activity against the framework	Knowledge Graph (URL)	UNINETTUNO	D4.2 (UNINETTUNO) – Template available here D5.3 (CRA)
1b	**[optional]** Co-revision of the Competence Framework Statements (feedback collection from teachers/educators on the contents of the Competence Framework)	Skill cards	ECQA/CRSC	D4.1 (ECQA) D4.4 (ECQA)
1c	Presentation and selection of the proper demonstrators	Powerpoint presentation about the project, design documents (D3.1)	UNINETTUNO	D4.2 (UNINETTUNO)
1d	Finalization of the activity design and reporting	Template for learning experience	UNINETTUNO	D4.2 (UNINETTUNO) D5.3 (CRA)

		design		
1e	**[optional]** Definition of the learning assessment protocol/logic	*In development*	UNSPMF? CRA?	D5.3 (CRA)
2	Pre-pilot survey on behavioural attitudes of pilot participants	GreenSCENT Competence Questionnaire (described in D1.7; to be setup for each administration)	UNINETTUNO	Methodology: D4.3 (UNINETTUNO) Results: D5.4 (UNSPMF)
3	Implementation of the activity	*In development*	*Demonstrators' owners*	D5.3 (CRA) D1.4 (UNSPMF)
4a	Post-pilot survey on behavioural attitudes of pilot participants	GreenSCENT Competence Questionnaire (described in D1.7; to be setup for each administration)	UNINETTUNO	Methodology: D4.3 (UNINETTUNO) Results: D5.4 (UNSPMF)
4b	**[optional]** Usability/Accessibility/UX survey?	*In development*	UAB, ENG + demonstrators' owners	D3.7 (UAB)
4c	**[optional]** Impact assessment	Students/Teachers' surveys	VTT	D6.6 (to be checked for potential overlaps with GreenSCENT competence questionnaire)

Format D): External pilots: Interaction with other projects

This applies when interacting with other funded projects that are implementing sustainable education / citizen science activities, connected with Green Deal topics.

Step	Description	Tools to be used	Facilitator	To be reported in/by
1a	Interaction with teachers educators, course designer; Presentation of GreenSCENT Competence Framework; exploration, selection of KSAs/Competences, and mapping of the activity against the framework	Knowledge Graph (URL)	UNINETTUNO	D4.2 (UNINETTUNO) – Template available here D5.3 (CRA)

2	Pre-pilot survey on behavioural attitudes of pilot participants	GreenSCENT Competence Questionnaire (described in D1.7; to be setup for each administration)	UNINETTUNO	Methodology: D4.3 (UNINETTUNO) Results: D5.4 (UNSPMF)
4a	Post-pilot survey on behavioural attitudes of pilot participants	GreenSCENT Competence Questionnaire (described in D1.7; to be setup for each administration)	UNINETTUNO	Methodology: D4.3 (UNINETTUNO) Results: D5.4 (UNSPMF)

5. Summary Numbers and Details

The **expected number of participants** (Table 2) shows the sums of participants in a certain demonstrator activity across all pilots. These figures range from a few tens (such as for activity #6, Climathon) to a few hundred (such as for #4, Microplastic Citizen Science). The sizes of these numbers somewhat reflect the reduction of participants as one moves from basic education in schools up to HEI. It is essential to emphasize the word **expected** since the ultimate measure of the demonstrator activities' success will be the actual number of participants, which will be reported later (Deliverables D5.2 and D5.3). These later figures will then be the basis for comparison with the numbers given in the GA (Section 1.1.1 therein) as KPIs.

The **training kits** per demonstrator activity (Table 3) are not displayed against the various pilot sites since each pilot is assumed to have available the same kit owing to the close cooperation with the responsible demonstrator partners (Table 1). Instead, the list of training kits is broadly divided into:

- computer software;
- computer hardware;
- other hardware.

It is interesting to note that some items in Table 3 are shared by many demonstrators (such as PDF files or internet access), while other kits are quite specific (such as the set of Microplastic Kit for activity #4). In total, based on the knowledge received so far within WP5, it appears that the hardware costs are relatively small (a few laptops or mobile phones). Meanwhile, the bulk of investment costs (for EC) is due to personnel involved at the partner sites in the development of GreenSCENT-specific software (such as the Cleanair@schools platform for activity #7).

The **competences** per demonstrator activity (Table 4) are also shown just against the demonstrator activities. The GreenSCENT Competence Framework (Deliverable D1.1) defines a large number of various competences – 119 total – which cover the eight focus areas of the European Green Deal. So far, the GreenSCENT project addresses five of these focus areas:

- Climate Change;
- Circular Economy;
- Smart Mobility;
- From Farm to Fork;
- Zero Pollution.

It is not surprising that some sets of addressed competences are strongly correlated with specific demonstrator activities. For example, the Climathon (#6) is entirely devoted to competences from the Climate Change focus area. So far, a significant fraction of specific competences (32 out of 119) has been addressed.

Table 2. GreenSCENT WP5 grid (demonstrators versus pilot sites) – number of expected participants per activity. A filled entry indicates the time period the activity will be (or has been) implemented. Note that table integrates over various types of participants (partner or chapter members, general public, etc.), which may intriduce additional uncertainty. [†] UAB will for the Microplastic Citizen Science demonstrator activity (#4) be supported by two researchers from l'Institut Arquitecte Manuel Raspall (Barcelona, Spain).

Pilot Sites	Demonstrators								
	Environment Monitoring App #1 ENG Alessandra Aurelio, Silvia Boi, Vladimiro Scotto di Carlo, Angelo Manfredi, Francesco Nucci	Citizen Journalism/ Greenverse #2 ENG Alessandra Aurelio, Silvia Boi, Vladimiro Scotto di Carlo, Angelo Manfredi, Francesco Nucci	Interactive Documentary #3 ENG Alessandra Aurelio, Silvia Boi, Vladimiro Scotto di Carlo, Angelo Manfredi, Francesco Nucci	Microplastic Citizen Science #4 UAB Pilar Orero, Sarah McDonagh, Marina Pujadas	Open Innovation #5 AGO Solène Delarue	Climathon #6 CRA Manfred Mudelsee	Cleanair @schools #7 4S Jaume Targa, Lorena Banyuls	GreenSCENT Augmented Reality App #8 BSC Diana Urquiza	Youth Design Assemblies #9 DBT Ditte Burmeister, Ida Skov Nielsen
BSC Diana Urquiza						5			14
EA Sofoklis Sotiriou Loukas Katikas				150–160		5	180–210		14
MAYK Elisa Mehtälä Nora Pircklen							40		
VTT Teuvo Uusitalo					60				
RST Anda Badita Joe Berwick					60				8
RGSMART Jelina Desnica, Katarina Dimitrijevic, Aleksandar Radisic						5			14
UNINETTUNO Alesandro Caforio, Alessandro Pollini, Marinella Paciello, Barbara Sani, Andrea Tomassi, Andrea Falegnami					60	5	14		
UAB Pilar Orero, Sarah McDonagh, Marina Pujadas, Manuel Aznar,[†] Carla Fibla[†]				90–100			14		
UNSPMF Miroslav Vujičić, Biljana Basarin				50–70		5	14		14
Citizens (EU)					60				1000

Table 3. GreenSCENT WP5 – training kits per demonstration activity.

Training Kits	Demonstrators								
	Environment Monitoring App	Citizen Journalism/ Greenverse	Interactive Documentary	Microplastic Citizen Science	Open Innovation	Climathon	Cleanair @schools	GreenSCENT Augmented Reality App	Youth Design Assemblies
	#1	#2	#3	#4	#5	#6	#7	#8	#9
	ENG	ENG	ENG	UAB	AGO	CRA	4S	BSC	DBT
	Alessandra Aurelio, etc.	Alessandra Aurelio, etc.	Alessandra Aurelio, etc.	Pilar Orero, Sarah McDonagh, Marina Pujadas	Solène Delarue	Manfred Mudelsee	Jaume Targa, Lorena Banyuls	Diana Urquiza	Ditte Burmeister, Ida Skov Nielsen
Computer Software PDF Files				slides, activity instructions, reading material		course slides, reading material	activity instructions		activity instructions
Computer Software Excel Spreadsheet				X					
Computer Software Powerpoint Files					voter guide, mentor guide		slides		slides
Computer Software Video				video editing		video editing			
Computer Software Data Files						analysis data			
Computer Software Executable Programs, Mobile Apps						statistical software	cleanair @schools app		passive sampler
Computer Software URL Links						video links, chat links (Webex)			chat links (Zoom)
Computer Software Online Platform						course platform	cleanair @schools platform		
Computer Hardware Laptop				X		X			
Computer Hardware Tablet				X					
Computer Hardware Mobile Phone				X			X		X
Computer Hardware Internet Access				X		X	X		X
Other Hardware Camera				X		X			
Other Hardware Microplastics Kit				sand container, spatula, shovel, broom, bag, marker, trays, sieves, scales, paper, magnifying glass, jars, scissors, ruler, tape, container					
Other Hardware Poster/Mural				paper, crayons, etc.					white board, markers

Table 4. GreenSCENT WP5 – competences per demonstration activity. For the definition and naming of competence areas, see GreenSCENT Competence Framework.

Competences	Demonstrators								
	Environment Monitoring App #1 ENG Alessandra Aurelio, etc.	Citizen Journalism/ Greenverse #2 ENG Alessandra Aurelio, etc.	Interactive Document-ary #3 ENG Alessandra Aurelio, etc.	Microplastic Citizen Science #4 UAB Pilar Orero, Sarah McDonagh, Marina Pujadas	Open Innovation #5 AGO Solène Delarue	Climathon #6 CRA Manfred Mudelsee	Cleanair @schools #7 4S Jaume Targa, Lorena Banyuls	GreenSCENT Augmented Reality App #8 BSC Diana Urquiza	Youth Design Assemblies #9 DBT Ditte Burmeister, Ida Skov Nielsen
Climate Change 1.1 Climate Change Scientific Literacy						X			
Climate Change 1.3 Know-How Problem Solving					X	X			X
Climate Change 4.3 Risk Management Vulnerability and Impact Analysis						X			
Climate Change 6.2 Monitoring the Speed of Phenomena and Their Adaptation						X			
Circular Economy 1.4 Awareness of Losses and Waste					X				
Circular Economy 3.2 New Business Model					X				
Circular Economy 3.3 Fostering New Opportunities					X				
Circular Economy 5.1 Circular Systems Thinking					X				
Smart Mobility 1.2 Promoting Health							X		X
Smart Mobility 2.2 System Thinking							X		X
Smart Mobility 2.3 Critical Thinking							X		X
Smart Mobility 2.4 Sustainable Models Identification							X		X
Smart Mobility 2.5 Monitoring							X		X
Smart Mobility 2.6 Learning							X		X
Smart Mobility 3.1 Individual Initiative							X		X
Smart Mobility 3.2 Collective Initiative							X		X
Smart Mobility 3.4 Anticipating Risk							X		X
From Farm to Fork 1. Sustainable Food Production					X				
From Farm to Fork 2. Sustainable Food Processing & Distribution					X				
From Farm to Fork 3. Sustainable Food Consumption					X				
From Farm to Fork 4. Food Loss and Waste Prevention					X				
Zero Pollution 1.1 Critical Thinking				X	X		X		X
Zero Pollution 1.2 Personal Collaboration				X			X		X
Zero Pollution 1.3 System Thinking				X			X		X
Zero Pollution 1.4 Transdisciplinary					X				X
Zero Pollution 1.5 Development of sustainable paradigms and awareness				X					X
Zero Pollution 2.1 Responsible Production, Distribution and Consumption				X			X		X
Zero Pollution 2.2 Waste Management				X					
Zero Pollution 2.4 Climate Action							X		X
Zero Pollution 2.5 Ocean and Marine Life				X					
Zero Pollution 2.7 Clean Water				X					
Zero Pollution 2.8 Clean Air							X		X

6. Summary and Outlook

The background information about GreenSCENT (Section 2.2) indicates that this project "aims at developing a competence framework embracing all the Green Deal focus areas through an **iterative,** participated, experience and learning-by-doing based design approach" (emphasis added by the Deliverable Leader). The project, and therefore WP5, evolves and improves through iteration, including its stages concerning the **GreenComp Piloting.** Consequently, the current report, delivered as D5.1, is not final. For example, at this project stage (project month 18 out of 36), we can only predict the **expected** number of participants in the demonstrator activities. Essentially, just as GreenSCENT is an iterative project, so too are the reports about WP5, which are viewed as **living documents.**

WP5 **closely integrates** with other WPs in GreenSCENT. This close integration allows for effective cooperation with involved partners, leading to an improved demonstrator product. The GreenSCENT **Pilots Initial Requirements Report** (WP1, D1.3) greatly assists the commencement of our work in WP5, as it contains protocols and evaluation methodologies. The detailed set of competences developed in the GreenSCENT **Competence Framework** (WP1, D1.1) equips WP5 with a comprehensive tool to evaluate the progress participants will make concerning the European Green Deal's focus areas in the future of the project. WP2 adds valuable elements of **citizen science** to be utilised in the demonstrator activities, especially in activities #4, #5 and #9 (Table 1). WP3 is responsible for the development of **digital technologies,** particularly the GreenSCENT Platform (Deliverable D3.1, due along with this report on 30 June 2023), to be used by participants in multiple demonstrator activities (e.g., #1, #2, #3, #8). The continuing development of **assessment and evaluation technologies** in WP4 (Deliverable D4.3) will enhance the assessment of participants' progress. Reciprocally, the work conducted in WP5 will influence (WP6) others' work on educating participants in Green Deal areas. Notable final reports in this regard include the **Dissemination and Communication Report** (D6.3), the **Exploitation Report** (D6.4) and the **Socioeconomic Impact Assessment** (D6.7). It is also vital to remember ethics (WP8), which will ensure that GreenSCENT's journey towards European Green Deal targets adheres to human values (especially with regard to GDPR).

To summarize, we believe GreenSCENT possesses a functional and manageable WP structure that will facilitate learning from the diverse experiences and feedback from citizens and users. We anticipate the forthcoming reports by WP5 – the operational plan (D5.2) and the pilot implementation and validation report (D5.3) – will document this learning process. We aim to focus on the European Green Deal areas, which can be expanded and implemented elsewhere, with the goal of creating authentic European reference piloting environments.

Appendix

Appendix

The Appendix documents the individual internal workshop and demonstration reports about the various demonstrator activities.

Contents

* Given are the full name(s) and acronym(s).
[†] l'Institut Arquitecte Manuel Raspall (Barcelona, Spain) is not in the consortium of GreenSCENT; it is rather a partner in piloting the Microplastic Citizen Science demonstrator activity led by UAB.

GREEN SCENT
SMART CITIZEN EDUCATION FOR A GREEN FUTURE

Project Start Date: 1 January 2022 | Duration: 36 months

Preliminary Instructional Co-Design Workshop, Internal Report – Microplastics (l'Institut Arquitecte Manuel Raspall; UAB)

Due date of the submission of the internal report: 31 May 2023

Submission format: Word document or PDF

Internal, confidential submission folder:

https://drive.google.com/drive/folders/1KyEdMesCUzsa1TvHvgyg5HnwdfNcpBOR

Project	GreenSCENT – Smart Citizen Education for a Green Future
Call ID	H2020-LC-GD-2020-3-2020
Work Package (Leader)	WP5 – GreenComp Piloting (UNSPMF)

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Task (Leader)	Task 5.1: GreenSCENT Demonstrator Framework & Principles (UNSPMF)
Subtask (Leader)	Subtask 5.1.1: Instructional Co-Design Workshops (CRA)
Report Dissemination Level	Internal (i.e., Task and Subtask Leaders can use the report's content for, or put this report into the appendix of, own internal or external reports)
Version	1.0

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0. Preliminary

The main aim of the Instructional Co-Design Workshops (Subtask 5.1.1) is to lay the foundations and arrange details for the Preparatory Workshops with participants (Subtask 5.1.2) and also for the Experimental Workshops (Subtask 5.1.3). An Instructional Co-Design Workshop should (1) identify details (names, dates, modes, etc.) as far as possible, (2) describe the training kits to be used and (3) formulate the measures to determine progress towards the learning objectives or behavioural changes of participants within the GreenSCENT competence framework. A report about an Instructional Co-Design Workshop should be submitted latest on 31 May 2023. Updates of the content of the report may be added online via the confidential Demonstrator–Pilot table (see this report, Section 4).

1. Document Information

1.1 Partner Organisations

Partner organisation	Described role in this report (demonstrator/pilot)
l'Institut Arquitecte Manuel Raspall	Demonstrator
UAB	Demonstrator
EA	Pilot Site
UN	Pilot Site

1.2 Authors

Author name	Partner organisation	Email
Sarah McDonagh	UAB	sarahanne.mcdonagh@uab.cat
Marina Pujadas Farreras	UAB	marina.pujadas@uab.cat
Manuel Aznar Salvador	l'Institut Arquitecte Manuel Raspall	manuelaznar@raspall.cat
Carla Fibla	l'Institut Arquitecte Manuel Raspall	cfibla3@xtec.cat
Loukas Katikas	EA	lkatikas@ea.gr

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2. Workshop Information

2.1 Participants

Participant Name	Partner Organisation
Manuel Aznar Salvador	l'Institut Arquitecte Manuel Raspall
Carla Fibla	l'Institut Arquitecte Manuel Raspall
Sarah McDonagh	UAB
Marina Pujadas Farreras	UAB

2.2 Date(s) of Workshop

12 April 2023.

2.3 Mode of Workshop (online, offline or hybrid)

Offline.

3. Summary

Please summarize the piloting activity (as discussed during the Instructional Co-Design Workshop) with the participants that is planned for Subtask 5.1.2 (Preparatory Training Workshops). This summary may go unedited into Deliverable 5.1 (Reports from demonstrations and workshops) by CRA. Please be concise and try to keep the summary short (i.e., half a page maximum).

(A) What is the major goal of the piloting activity?

(B) What did the Instructional Co-Design Workshop identify as key tool(s) to implement that major goal?

(A) The main goal of the microplastics is to raise awareness of microplastics with students who will have the opportunity to participate in scientific research through experimentation. This will lead students to reflect on the importance that their behaviours have on preserving the environment.

(B) The aim of this document is to provide the methodology and practical information to carry out the microplastics activity.

(C) The key tool identified is the preparation of a detailed methodology for partners to replicate in their pilot sites. This methodology will be prepared by l'Institut Arquitecte Manuel Raspall and UAB and later shared with pilot partners.

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4. Details

Please provide details about the piloting activity (as discussed during the Instructional Co-Design Workshop) with the participants that is planned for Subtask 5.1.2 (Preparatory Training Workshops).

Please note that you can update content online via the confidential Demonstrator–Pilot table at https://docs.google.com/document/d/1n1z2LU4rVAO9ZpnuCOmfzYfxpgB2ug4I.)

4.1 Date(s), Duration and Mode of Piloting Activity

Date: 2nd part of May or early June 2023.

Duration: 11 hours (11 sessions of one hour) but hours can be adjusted to each partner.

Mode: Offline, in-person

4.2 Demonstrator Partner(s)

Partner Organisation	Name	Email
l'Institut Arquitecte Manuel Raspall	Manuel Aznar Salvador	manuelaznar@raspall.cat maznar24@xtec.cat
l'Institut Arquitecte Manuel Raspall	Carla Fibla	cfibla@xtec.cat

4.3 Pilot Partner(s)

Please note that (1) the piloting activity may include more partner organisations or names than those participating in the Instructional Co-Design Workshop; (2) you may also give here names of persons(i.e., teachers) that will support the piloting activity of a partner, although they are not formally hired by that pilot partner organisation.

Partner Organisation	Name	Email
EA	Loukas Katikas	lkatikas@ea.gr
UNSPMF	Miroslav Vujicic	miroslav.vujicic@dgt.uns.ac.rs

4.4 Expected Number of Participants per Partner

Please note that also a rough estimate helps the assessment and our project. Please consider the numbers already given as KPIs in the GA (Section 1.1.1 therein).

Partner Organisation	Number
l'Institut Arquitecte Manuel Raspall	90–100 students (12-16 secondary level) Can be adapted to primary school

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Instructional Co-Design Workshop, Internal Report – Climathon (CRA; UAB & BSC), Page 6

GREEN
SCENT
SMART CITIZEN EDUCATION
FOR A GREEN FUTURE

This project has received funding from the European Union's Horizon Europe
research and innovation programme under Grant Agreement No 101036480.

	1 teacher (with relevant scientific experience) per 25 students in classroom 2 teachers per 20 students during outdoor activity.
EA	150 – 160 students (12-16 secondary level, Grades 7 or 8 or 9) Can be adapted to primary school (we can discuss with the primary school principals if they are interested in pilot testing the activity as well) 1 school principal (activity planning), 1 science educator (activity planning and training), 3 natural sciences teachers (training and pilot testing)
UNSPMF	50 – 70 university students (3 level cycles (BSc, MSc, PhD)) Can be adapted to primary school (we can discuss with the primary school principals if they are interested in pilot testing the activity as well) 1 university educational manager (activity planning), 1 Departmental science manager (activity planning and training), 3 university professors (training and pilot testing)

4.5   Training Kit

Please note that the training kits can take various formats since GreenSCENT is a rather wide project, targeting various educational levels about the Green Deal. Therefore, feel free how to best document and describe your training kit within this report. Please also note that your training kit will contribute to help teachers contextualizing and implementing GreenSCENT demonstrator-based pedagogies in their classes (GA, Section 1.3.6.1).

Partner Organisation	Kit Name	Kit Format	Description
l'Institut Arquitecte Manuel Raspall	Slides	Electronic, PDF	Available in microplastics folder
l'Institut Arquitecte Manuel Raspall	Activity instructions	Electronic, PDF	Available in microplastics folder
l'Institut Arquitecte Manuel Raspall	Reading Material	Electronic, PDF	Available in microplastics folder
l'Institut Arquitecte Manuel Raspall	Excel spreadsheet	Laptop, Internet, Excel	Available in microplastics folder
l'Institut Arquitecte Manuel Raspall	Microplastics kit	Sand container, big spatula or small shovel, small whisk broom, small container or bag (preferably not plastic), marker, trays, mesh sieves of varying sizes (2 mm, 1 mm, 0.5 mm, 0.063 mm), scales, paper, magnifying glass, labels, scissors,	See instructions on how to use each item in the microplastics' folder. In Unit 3, Unit 6, Unit 8.

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		ruler, tape, 5L container, blotting paper, jars	
l'Institut Arquitecte Manuel Raspall	Plastic containers	Plastic containers	Plastics containers will be analysed in Unit 9.
l'Institut Arquitecte Manuel Raspall	Laptop, tablet & Internet	Laptop & Wifi connection	Required to use Excel and create Google Form for beach survey (see Unit 7).
l'Institut Arquitecte Manuel Raspall	Mobile phone	Mobile phone	Optional if using Citizen Journalism app.
l'Institut Arquitecte Manuel Raspall	Video	Laptop, camera, video editing software, mobile phone (optional)	Conceived as an output of this activity.
l'Institut Arquitecte Manuel Raspall	Poster	Materials to make poster (i.e. paper, crayons, pains etc.)	Conceived as an output of this activity. (See Unit 10).

4.6 Evaluation of learning performance and behavioural change of participants within the GreenSCENT Competence Framework

We identify here which of the competences — that is, knowledge, skills and attitudes — described in the GreenSCENT Competence Framework (1st release) (Deliverable D1.1) will be addressed by our educational activity.

Competence 8.1.1: Zero Pollution (Critical Thinking)

Competence 8.1.2: Zero Pollution (Personal Collaboration)

Competence 8.1.3: Zero Pollution (System thinking)

Competence 8.1.5: Zero Pollution (Development of sustainable paradigms and awareness)

Competence: 8.2.1: Zero Pollution (Responsible Production, Distribution and Consumption)

Competence 8.2.2: Zero Pollution (Waste Management)

Competence 8.2.5: Zero Pollution (Ocean and Marine Life)

Competence 8.2.7: Zero Pollution (Clean Water)

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Instructional Co-Design Workshop, Internal Report – Climathon (CRA; UAB & BSC), Page 8

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Project Start Date: 1 January 2022 | Duration: 36 months

Co-Design Workshop, Internal Report – Innovative ways for citizen engagement, open innovation (AGO)

Due date of the submission of the internal report: 31 May 2023

Submission format: Word document or PDF

Internal, confidential submission folder:

https://drive.google.com/drive/folders/1KyEdMesCUzsa1TvHvgyq5HnwdfNcpBOR

Project	GreenSCENT – Smart Citizen Education for a Green Future
Call ID	H2020-LC-GD-2020-3-2020
Work Package (Leader)	WP5 – GreenComp Piloting (UNSPMF)
Task (Leader)	Task 5.1: GreenSCENT Demonstrator Framework & Principles (UNSPMF)
Subtask (Leader)	Subtask 5.1.1: Instructional Co-Design Workshops (CRA)
Report Dissemination Level	Internal (i.e., Task and Subtask Leaders can use the report's content for,

GreenSCENT – Smart Citizen Education for a Green Future, Instructional Co-Design Workshop
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	or put this report into the appendix of, own internal or external reports)
Version	1.0

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0. Preliminary

The major goal of the Instructional Co-Design Workshops (Subtask 5.1.1) is to lay the foundations and arrange details for the Preparatory Workshops with participants (Subtask 5.1.2) and also for the Experimental Workshops (Subtask 5.1.3). An Instructional Co-Design Workshop should (1) identify details (names, dates, modes, etc.) as far as possible, (2) describe the training kits to be used and (3) formulate the measures to determine progress towards the learning objectives or behavioural changes of participants within the GreenSCENT competence framework. A report about an Instructional Co-Design Workshop should be submitted latest on 31 May 2023. Updates of the content of the report may be added online via the confidential Demonstrator–Pilot table (see this report, Section 4).

1. Document Information

1.1 Partner Organisations

Partner organisation	Described role in this report (demonstrator/pilot)
AGO	Demonstrator

1.2 Authors

Author name	Partner organisation	Email
Solène Delarue	AGO	solene.delarue@agorize.com
Nora Aline	AGO	nora.aline@agorize.com

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2. Workshop Information

2.1 Participants

Participant Name	Partner Organisation	
Solène Delarue	AGO	solene.delarue@agorize.com
Nora Aline	AGO	nora.aline@agorize.com
Alesandro Caforio	IT	alessandro.caforio@uninettunouniversity.net
Andrea Tomassi	IT	andrea.falegnami@uninettunouniversity.net
Andrea Falegnam	IT	andrea.tomassi@uninettunouniversity.net

2.2 Date(s) of Workshop

03 May 2023

2.3 Mode of Workshop (online, offline or hybrid)

Online

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3.   Summary

Please summarize the piloting activity (as discussed during the Instructional Co-Design Workshop) with the participants that is planned for Subtask 5.1.2 (Preparatory Training Workshops). This summary may go unedited into Deliverable 5.1 (Reports from demonstrations and workshops) by CRA. Please be concise and try to keep the summary short (i.e., half a page maximum).

(A) What is the major goal of the piloting activity?

(B) What did the Instructional Co-Design Workshop identify as key tool(s) to implement that major goal?

(A) The major goal of the Agorize platform is to reach out to both young people (in particular, students from the best European schools and universities*) and young professionals (startup creators in particular). These two audiences will work collaboratively on the Agorize platform on two yearly campaigns and programs (youth and young professionals). Students will be allowed to build multidisciplinary teams with complementary backgrounds to tackle the complexity of the issues at stake around climate change and the "Farm to fork" area. Background will for example include engineering, agronomy, logistics, business, design, arts etc...

(B) The key tool identified is using the Agorize platform to host open innovation challenges, as new ways to engage citizens and raise awareness on Farm to Fork pillars. In order to participate, students will have to register on the platform and fill in the behavioral survey. Then they will be able to form teams directly on the platform and upload their proposal on one of the 4 categories: production, distribution, consumption and waste management.

4.   Details

Please provide details about the piloting activity (as discussed during the Instructional Co-Design Workshop) with the participants that is planned for Subtask 5.1.2 (Preparatory Training Workshops).

Please note that you can update content online via the confidential Demonstrator–Pilot table at https://docs.google.com/document/d/1n1z2LU4rVAO9ZpnuCOmfzYfxpgB2ug4I.)

4.1   Date(s), Duration and Mode of Piloting Activity

Dates: 16 February 2023 to first week of July Note: The final event will take place in Paris with the finalist offline.

Duration: 20 weeks

Mode: Hybrid: on-line, in person

4.2   Demonstrator Partner(s)

Partner Organisation	Name	Email
CRA	Manfred Mudelsee	mudelsee@climate-risk-analysis.com

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Internal Report – Climathon (CRA; EA & RGSMART & UNINETTUNO & UNSPMF), Submission Date: 31 March 2023,   Page 5

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CSRC	Martin Neureiter	Martin.neureiter@csr-company.com
CSRC	Patrick Neureiter	patrick.neureiter@csr-company.com
4S	Cristina Carnerero	cristina.carnerero@4sfera.com
4S	Lorena Banyuls	lorena.banyuls@4sfera.com
4S	Jaume Targa	jaume.targa@4sfera.com
DBT	Ditte Burmeister	db@tekno.dk
DBT	Skov Nielsen Ida	isn@tekno.dk

4.3   Pilot Partner(s)

Please note that (1) the piloting activity may include more partner organisations or names than those participating in the Instructional Co-Design Workshop; (2) you may also give here names of persons(i.e., teachers) that will support the piloting activity of a partner, although they are not formally hired by that pilot partner organisation.

Partner Organisation	Name	Email
UNINETTUNO	Alessandro Caforio	alessandro.caforio@uninettunouniversity.net
UNINETTUNO	Andrea Falegnami	andrea.falegnami@uninettunouniversity.net
UNINETTUNO	Andrea Tomassi	andrea.tomassi@uninettunouniversity.net
VTT	Teuvo Uusitalo	teuvo.uusitalo@vtt.fi
RST	Prisacariu	tyear4@royalschool.ro

4.4   Expected Number of Participants per Partner

Please note that also a rough estimate helps the assessment and our project. Please consider the numbers already given as KPIs in the GA (Section 1.1.1 therein).

Partner Organisation	Number
CRA	1 jury member for the first selection round of the Sustainable Food Challenge
CSRC	2 jury member for the first selection round of the Sustainable Food Challenge 2 mentor of the finalists of the Sustainable Food Challenge
4S	3 jury member for the first selection round of the Sustainable Food Challenge

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DBT	2 mentor of the finalists of the Sustainable Food Challenge
UNINETTUNO	3 jury member for the first selection round of the Sustainable Food Challenge
VTT	1 jury member for the first selection round of the Sustainable Food Challenge
RST	1 jury member for the first selection round of the Sustainable Food Challenge

4.5 Training Kit

Please note that the training kits can take various formats since GreenSCENT is a rather wide project, targeting various educational levels about the Green Deal. Therefore, feel free how to best document and describe your training kit within this report. Please also note that your training kit will contribute to help teachers contextualizing and implementing GreenSCENT demonstrator-based pedagogies in their classes (GA, Section 1.3.6.1).

Partner Organisation	Kit Name	Kit Format	Description
CRA	Voter Guide	Slide ppt	Step-by-step description of the voting process on the platform
CSRC	Voter Guide Mentor guide	Slide ppt	Step-by-step description of the voting process on the platform
DBT	Mentor guide	Slide ppt	Step-by-step description of the voting process on the platform
4S	Voter Guide	Slide ppt	Step-by-step description of the voting process on the platform
UNINETTUNO	Voter Guide	Slide ppt	Step-by-step description of the voting process on the platform
VTT	Voter Guide	Slide ppt	Step-by-step description of the voting process on the platform
RST	Voter Guide	Slide ppt	Step-by-step description of the voting process on the platform

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4.6 Evaluation of learning performance and behavioural change of participants within the GreenSCENT Competence Framework (Deliverable D1.1)

The learning performance and the behavioural change will be measured by means of the scale developed and validated by UNINETTUNO (Alessandro Pollini and Marinella Paciello).

The relevant people for hosting the piloting activity — that means, those listed in Sections 4.2 and 4.3 plus possibly a number of additional teachers — should be mobilized and available to organize a joint session (possibly online) for collecting information about the instructional design/definition of the educational activities that will frame the use of one or more of the demonstrators at the piloting site. Ideally, such a post-activity session should be help rather close upon a certain activity.

● All participants of the Sustainable Food challenge hosted on Agorize will receive a link to a Typeform survey. This Typeform survey is a light version of the behavioral change survey. The survey is accessible directly on the challenge page and reminders will be sent to the students for them to fill in the survey.

4.6.1 Competences addressed

We identify here which of the competences — that is, knowledge, skills and attitudes — described in the GreenSCENT Competence Framework (1st release) (Deliverable D1.1) will be addressed by our educational activity.

Competence Farm to Fork :

- From farm to fork 1. Sustainable food production
- From farm to fork 2. Sustainable food processing & distribution
- From farm to fork 3. Sustainable food consumption
- From farm to fork 4. Food loss and waste prevention

Transversal competences:

● 1.3. Know - how problem-solving
● 5.1. Circular systems thinking in designing products
● Circular Economy 3.2. New business model
● Circular Economy 3.3. Fostering new opportunities
● Zero Pollution 1.1 Critical thinking
● Zero Pollution 1.4 Transdisciplinary
● Circular Economy 1.4. Awareness of losses and waste

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GREEN SCENT

SMART CITIZEN EDUCATION FOR A GREEN FUTURE

Project Start Date: 1 January 2022 | Duration: 36 months

Instructional Co-Design Workshop, Internal Report – Climathon (CRA; UAB & BSC)

Due date of the submission of the internal report: 31 May 2023

Submission format: Word document or PDF

Internal, confidential submission folder:

https://drive.google.com/drive/folders/1KyEdMesCUzsa1TvHvgyg5HnwdfNcpBOR

Project	GreenSCENT – Smart Citizen Education for a Green Future
Call ID	H2020-LC-GD-2020-3-2020
Work Package (Leader)	WP5 – GreenComp Piloting (UNSPMF)
Task (Leader)	Task 5.1: GreenSCENT Demonstrator Framework & Principles (UNSPMF)
Subtask (Leader)	Subtask 5.1.1: Instructional Co-Design Workshops (CRA)

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Instructional Co-Design Workshop, Internal Report – Climathon (CRA; UAB & BSC), Page 1

Report Dissemination Level	Internal (i.e., Task and Subtask Leaders can use the report's content for, or put this report into the appendix of, own internal or external reports)
Version	1.0

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Instructional Co-Design Workshop, Internal Report – Climathon (CRA; UAB & BSC), Page 2

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0. Preliminary

The major goal of the Instructional Co-Design Workshops (Subtask 5.1.1) is to lay the foundations and arrange details for the Preparatory Workshops with participants (Subtask 5.1.2) and also for the Experimental Workshops (Subtask 5.1.3). An Instructional Co-Design Workshop should (1) identify details (names, dates, modes, etc.) as far as possible, (2) describe the training kits to be used and (3) formulate the measures to determine progress towards the learning objectives or behavioural changes of participants within the GreenSCENT competence framework. A report about an Instructional Co-Design Workshop should be submitted latest on 31 May 2023. Updates of the content of the report may be added online via the confidential Demonstrator–Pilot table (see this report, Section 4).

1. Document Information

1.1 Partner Organisations

Partner organisation	Described role in this report (demonstrator/pilot)
CRA	Demonstrator
UAB	Pilot
BSC	Pilot

1.2 Authors

Author name	Partner organisation	Email
Manfred Mudelsee	CRA	mudelsee@climate-risk-analysis.com
Sarah McDonagh	UAB	sarahanne.mcdonagh@uab.cat
Diana Urquiza	BSC	diana.urquiza@bsc.es

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2. Workshop Information

2.1 Participants

Participant Name	Partner Organisation
Manfred Mudelsee	CRA
Sarah McDonagh	UAB
Diana Urquiza	BSC

2.2 Date(s) of Workshop

27 January 2023

2.3 Mode of Workshop (online, offline or hybrid)

Online

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Instructional Co-Design Workshop, Internal Report – Climathon (CRA; UAB & BSC), Page 4

GreenSCENT   **Deliverable D5.1**   **Page A-21**

3. Summary

Please summarize the piloting activity (as discussed during the Instructional Co-Design Workshop) with the participants that is planned for Subtask 5.1.2 (Preparatory Training Workshops). This summary may go unedited into Deliverable 5.1 (Reports from demonstrations and workshops) by CRA. Please be concise and try to keep the summary short (i.e., half a page maximum).

(A) What is the major goal of the piloting activity?

(B) What did the Instructional Co-Design Workshop identify as key tool(s) to implement that major goal?

(A) The major goal of the Climathon is to equip participants (students and researchers) with theoretical knowledge, statistical methodology and practical ability to perform climate data analyses that will contribute to better quantify climate change, to better assess climate impacts (especially climate extremes) and to better evaluate possible climate actions.

(B) The key tool identified is the preparation of a detailed registration form for the participants of the Climathon by CRA. This form will provide (1) feedback on previous statistical and other relevant training of participants and also (2) an indication about the expectations to the course in terms of mathematical level and duration.

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4. Details

Please provide details about the piloting activity (as discussed during the Instructional Co-Design Workshop) with the participants that is planned for Subtask 5.1.2 (Preparatory Training Workshops).

Please note that you can update content online via the confidential Demonstrator–Pilot table at https://docs.google.com/document/d/1n1z2LU4rVAO9ZpnuCOmfzYfxpgB2ug4I.)

4.1   Date(s), Duration and Mode of Piloting Activity

Date: September or October 2023. (Will be updated online.)

Duration: a few (eight, five or three) days. (Depends on the feedback received from the registrations. Will be updated online.)

Mode: Online. (Possibly augmented by offline event(s). Will be updated online.)

4.2   Demonstrator Partner(s)

Partner Organisation	Name	Email
CRA	Manfred Mudelsee	mudelsee@climate-risk-analysis.com

4.3   Pilot Partner(s)

Please note that (1) the piloting activity may include more partner organisations or names than those participating in the Instructional Co-Design Workshop; (2) you may also give here names of persons(i.e., teachers) that will support the piloting activity of a partner, although they are not formally hired by that pilot partner organisation.

Partner Organisation	Name	Email
UAB	Sarah McDonagh	sarahanne.mcdonagh@uab.cat
BSC	Diana Urquiza	diana.urquiza@bsc.es
EA		
RGSMART		

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UNINETTUNO		
UNSPMF		

4.4   Expected Number of Participants per Partner

Please note that also a rough estimate helps the assessment and our project. Please consider the numbers already given as KPIs in the GA (Section 1.1.1 therein).

Partner Organisation	Number
UAB	5
BSC	5
EA	
RGSMART	
UNINETTUNO	
UNSPMF	

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Instructional Co-Design Workshop, Internal Report – Climathon (CRA; UAB & BSC), Page 7

4.5 Training Kit

Please note that the training kits can take various formats since GreenSCENT is a rather wide project, targeting various educational levels about the Green Deal. Therefore, feel free how to best document and describe your training kit within this report. Please also note that your training kit will contribute to help teachers contextualizing and implementing GreenSCENT demonstrator-based pedagogies in their classes (GA, Section 1.3.6.1).

Partner Organisation	Kit Name	Kit Format	Description
CRA	Slides	Electronic, PDF	Climathon course slides (lectures and computer tutorials)
	Data	Electronic, compressed	Data for computer tutorials
	Software	Electronic, compressed	Software for computer tutorials
	Reading Material	Electronic, PDF	Course book and homework
	Video Links	Electronic, URLs	Climathon video modules, explaining course slides
	Chat Links	Electronic, URLs	Climathon, online discussions about videos, lectures and tutorials; also joint data analyses "on the fly" are possible
UNSPMF			
UAB	(None)		
BSC	(None)		
EA			
RGSMART			
UNINETTUNO			
UNSPMF			

4.6 Evaluation of learning performance and behavioural change of participants within the GreenSCENT Competence Framework

Sarah McDonagh, Diana Urquiza, Allesandro Pollini, Biljana Basarin, Miroslav Vujicic:

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The learning performance and the behavioural change will be measured by means of the scale developed and validated by UNINETTUNO (Alessandro Pollini and Marinella Paciello).

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GREEN
SCENT
SMART CITIZEN EDUCATION
FOR A GREEN FUTURE

Project Start Date: 1 January 2022 | Duration: 36 months

Instructional Co-Design Workshop, Internal Report – Climathon (CRA; EA, RGSMART, UNINETTUNO, UNSPMF)

Due date of the submission of the internal report: 31 May 2023

Submission format: Word document or PDF

Internal, confidential submission folder:

https://drive.google.com/drive/folders/1KyEdMesCUzsa1TvHvgyg5HnwdfNcpBOR

Project	GreenSCENT – Smart Citizen Education for a Green Future
Call ID	H2020-LC-GD-2020-3-2020
Work Package (Leader)	WP5 – GreenComp Piloting (UNSPMF)
Task (Leader)	Task 5.1: GreenSCENT Demonstrator Framework & Principles (UNSPMF)
Subtask (Leader)	Subtask 5.1.1: Instructional Co-Design Workshops (CRA)
Report Dissemination Level	Internal (i.e., Task and Subtask Leaders can use the report's content for, or put this report into the appendix of, own internal or external reports)
Version	1.0

GreenSCENT – Smart Citizen Education for a Green Future, Instructional Co-Design Workshop
Internal Report – Climathon (CRA; EA & RGSMART & UNINETTUNO & UNSPMF), Submission Date: 31 March 2023,   Page 1

GreenSCENT   **Deliverable D5.1**   **Page A-27**

0. Preliminary

The major goal of the Instructional Co-Design Workshops (Subtask 5.1.1) is to lay the foundations and arrange details for the Preparatory Workshops with participants (Subtask 5.1.2) and also for the Experimental Workshops (Subtask 5.1.3). An Instructional Co-Design Workshop should (1) identify details (names, dates, modes, etc.) as far as possible, (2) describe the training kits to be used and (3) formulate the measures to determine progress towards the learning objectives or behavioural changes of participants within the GreenSCENT competence framework. A report about an Instructional Co-Design Workshop should be submitted latest on 31 May 2023. Updates of the content of the report may be added online via the confidential Demonstrator–Pilot table (see this report, Section 4).

1. Document Information

1.1 Partner Organisations

Partner organisation	Described role in this report (demonstrator/pilot)
CRA	Demonstrator
EA	Pilot
RGSMART	Pilot
UNINETTUNO	Pilot
UNSPMF	Pilot

1.2 Authors

Author name	Partner organisation	Email
Manfred Mudelsee	CRA	mudelsee@climate-risk-analysis.com
Loukas Katikas	EA	lkatikas@ea.gr
Jelena Desnica	RGSMART	jelena.desnica@smart.edu.rs
Andrea Tomassi	UNINETTUNO	andrea.tomassi@uninettunouniversity.net
Biljana Basarin	UNSPMF	biljana.basarin@dgt.uns.ac.rs

GreenSCENT – Smart Citizen Education for a Green Future, Instructional Co-Design Workshop
Internal Report – Climathon (CRA; EA & RGSMART & UNINETTUNO & UNSPMF), Submission Date: 31 March 2023, Page 2

GreenSCENT **Deliverable D5.1** **Page A-28**

2. Workshop Information

2.1 Participants

Participant Name	Partner Organisation
Manfred Mudelsee	CRA
Loukas Katikas	EA
Jelene Desnica	RGSMART
Andrea Tomassi	UNINETTUNO
Biljana Basarin	UNSPMF

2.2 Date(s) of Workshop

14 March 2023, 20 March 2023

2.3 Mode of Workshop (online, offline or hybrid)

Online

GreenSCENT – Smart Citizen Education for a Green Future, Instructional Co-Design Workshop
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GreenSCENT   **Deliverable D5.1**   **Page A-29**

3. Summary

Please summarize the piloting activity (as discussed during the Instructional Co-Design Workshop) with the participants that is planned for Subtask 5.1.2 (Preparatory Training Workshops). This summary may go unedited into Deliverable 5.1 (Reports from demonstrations and workshops) by CRA. Please be concise and try to keep the summary short (i.e., half a page maximum).

(A) What is the major goal of the piloting activity?

(B) What did the Instructional Co-Design Workshop identify as key tool(s) to implement that major goal?

(A) The major goal of the Climathon is to equip participants (students and researchers) with theoretical knowledge, statistical methodology and practical ability to perform climate data analyses that will contribute to better quantify climate change, to better assess climate impacts (especially climate extremes) and to better evaluate possible climate actions. The Climathon should also deliver training for students at schools (EA, RGSMART) and make them aware of the quantitative aspects of climate change within the context of the Green Deal.

(B) The key tool identified is the preparation of a detailed registration form for the participants of the Climathon by CRA. This form will provide (1) feedback on previous statistical and other relevant training of participants and also (2) an indication about the expectations to the course in terms of mathematical level and duration. The registration form should also be completed by participating students from the schools, especially as regards the training received so far in quantitative sciences (mathematics, statistics).

GreenSCENT – Smart Citizen Education for a Green Future, Instructional Co-Design Workshop
Internal Report – Climathon (CRA; EA & RGSMART & UNINETTUNO & UNSPMF), Submission Date: 31 March 2023,   Page 4

GreenSCENT   **Deliverable D5.1**   **Page A-30**

4. Details

Please provide details about the piloting activity (as discussed during the Instructional Co-Design Workshop) with the participants that is planned for Subtask 5.1.2 (Preparatory Training Workshops).

Please note that you can update content online via the confidential Demonstrator–Pilot table at https://docs.google.com/document/d/1n1z2LU4rVAO9ZpnuCOmfzYfxpgB2ug4l.)

4.1   Date(s), Duration and Mode of Piloting Activity

Dates: week 37 (11 to 17 September 2023) and week 41 (9 to 14 October 2023). Note: in week 37, the focus will be on students at schools, while in week 41, it will be on experienced rtesearchers. However, both groups can participate at any week, also twofold.

Duration: three days per week. Which days exactly will be decided by the outcome of the online poll.

Mode: Online.

4.2   Demonstrator Partner(s)

Partner Organisation	Name	Email
CRA	Manfred Mudelsee	mudelsee@climate-risk-analysis.com

4.3   Pilot Partner(s)

Please note that (1) the piloting activity may include more partner organisations or names than those participating in the Instructional Co-Design Workshop; (2) you may also give here names of persons(i.e., teachers) that will support the piloting activity of a partner, although they are not formally hired by that pilot partner organisation.

Partner Organisation	Name	Email
EA	Loukas Katikas	lkatikas@ea.gr
RGSMART	Jelena Desnica	jelena.desnica@smart.edu.rs
UNINETTUNO	Andrea Tomassi	andrea.tomassi@uninettunouniversity.net
UNSPMF	Biljana Basarin	biljana.basarin@dgt.uns.ac.rs

GreenSCENT – Smart Citizen Education for a Green Future, Instructional Co-Design Workshop
Internal Report – Climathon (CRA; EA & RGSMART & UNINETTUNO & UNSPMF), Submission Date: 31 March 2023,   Page 5

4.4 Expected Number of Participants per Partner

Please note that also a rough estimate helps the assessment and our project. Please consider the numbers already given as KPIs in the GA (Section 1.1.1 therein).

Partner Organisation	Number
UAB	5
BSC	5
EA	5
RGSMART	5
UNINETTUNO	5
UNSPMF	5

4.5 Training Kit

Please note that the training kits can take various formats since GreenSCENT is a rather wide project, targeting various educational levels about the Green Deal. Therefore, feel free how to best document and describe your training kit within this report. Please also note that your training kit will contribute to help teachers contextualizing and implementing GreenSCENT demonstrator-based pedagogies in their classes (GA, Section 1.3.6.1).

GREEN SCENT
SMART CITIZEN EDUCATION
FOR A GREEN FUTURE

This project has received funding from the European Union's Horizon Europe research and innovation programme under Grant Agreement No 101036480.

Partner Organisation	Kit Name	Kit Format	Description
CRA	Slides	Electronic, PDF	Climathon course slides (lectures and computer tutorials)
	Data	Electronic, compressed	Data for computer tutorials
	Software	Electronic, compressed	Software for computer tutorials
	Reading Material	Electronic, PDF	Course book and homework
	Video Links	Electronic, URLs	Climathon video modules, explaining course slides
	Chat Links	Electronic, URLs	Climathon, online discussions about videos, lectures and tutorials; also joint data analyses "on the fly" are possible
UNSPMF			
UAB	(None)		
BSC	(None)		
EA	(None)		
RGSMART	(None)		
UNINETTUNO	(None)		
UNSPMF	(None)		

4.6 Evaluation of learning performance and behavioural change of participants within the GreenSCENT Competence Framework (Deliverable D1.1)

The learning performance and the behavioural change will be measured by means of the scale developed and validated by UNINETTUNO (Alessandro Pollini and Marinella Paciello).

The relevant people for hosting the piloting activity — that means, those listed in Sections 4.2 and 4.3 plus possibly a number of additional teachers — should be mobilized and available to organize a joint session (possibly online) for collecting information about the instructional design/definition of the educational activities that will frame the use of one or more of the demonstrators at the piloting site. Ideally, such a post-activity session should be help rather close upon a certain activity.

GreenSCENT – Smart Citizen Education for a Green Future, Instructional Co-Design Workshop
Internal Report – Climathon (CRA; EA & RGSMART & UNINETTUNO & UNSPMF), Submission Date: 31 March 2023,   Page 7

GreenSCENT   **Deliverable D5.1**   **Page A-33**

4.6.1   Competences addressed

We identify here which of the competences — that is, knowledge, skills and attitudes — described in the GreenSCENT Competence Framework (1st release) (Deliverable D1.1) will be addressed by our educational activity.

Competence 1.1 Climate Change scientific literacy

Competence 1.3 Know-how problem solving

Competence 4.3 Risk management vulnerability and impact analysis

Competence 6.2 Monitoring the speed of phenomena and their adaptation.

The Climathron course itself requires that participants become knowledgeable of the peer-reviewed literature on the science of climate change. Besides theoretical foundations of the statistical and time-series analytical frameworks, it is a cornerstone of the course to supply participants with hands-on exercises, so that they increase their problem-solving abilities. The Climathron course for GreenSCENT puts emphasis on climate extremes (which are taught within Chapter 6 of the course book, Mudelsee M, 2014, Climate Time Series Analysis, 2nd edition, Springer, 454 pp) since this aspect has a strong socioeconomic relevance. Finally, within Chapter 4 of the course book, we deal with trends and assessments of slopes of climate change, that is, the estimation of the speed of climate change, with uncertainty measures.

GreenSCENT – Smart Citizen Education for a Green Future, Instructional Co-Design Workshop
Internal Report – Climathon (CRA; EA & RGSMART & UNINETTUNO & UNSPMF), Submission Date: 31 March 2023,   Page 8

GreenSCENT   **Deliverable D5.1**   **Page A-34**

GREEN SCENT
SMART CITIZEN EDUCATION FOR A GREEN FUTURE

Project Start Date: 1 January 2022 | Duration: 36 months

Preliminary Instructional Co-Design Workshop, Internal Report – Cleanair @schools (4sfera; EA)

Due date of the submission of the internal report: 31 May 2023

Submission format: Word document or PDF

Internal, confidential submission folder:

https://drive.google.com/drive/folders/1KyEdMesCUzsa1TvHvgyq5HnwdfNcpBOR

Project	GreenSCENT – Smart Citizen Education for a Green Future
Call ID	H2020-LC-GD-2020-3-2020
Work Package (Leader)	WP5 – GreenComp Piloting (UNSPMF)
Task (Leader)	Task 5.1: GreenSCENT Demonstrator Framework & Principles (UNSPMF)

GreenSCENT – Smart Citizen Education for a Green Future
Instructional Co-Design Workshop, Internal Report – Cleanair@schools (4sfera, EA), Page 1

Subtask (Leader)	Subtask 5.1.1: Instructional Co-Design Workshops (CRA)
Report Dissemination Level	Internal (i.e., Task and Subtask Leaders can use the report's content for, or put this report into the appendix of, own internal or external reports)
Version	1.0

GreenSCENT – Smart Citizen Education for a Green Future
Instructional Co-Design Workshop, Internal Report – Cleanair@schools (4sfera, EA), Page 2

GreenSCENT **Deliverable D5.1** **Page A-36**

0. Preliminary

The main aim of the Instructional Co-Design Workshops (Subtask 5.1.1) is to lay the foundations and arrange details for the Preparatory Workshops with participants (Subtask 5.1.2) and also for the Experimental Workshops (Subtask 5.1.3). An Instructional Co-Design Workshop should (1) identify details (names, dates, modes, etc.) as far as possible, (2) describe the training kits to be used and (3) formulate the measures to determine progress towards the learning objectives or behavioural changes of participants within the GreenSCENT competence framework. A report about an Instructional Co-Design Workshop should be submitted latest on 31 May 2023. Updates of the content of the report may be added online via the confidential Demonstrator–Pilot table (see this report, Section 4).

1. Document Information

1.1 Partner Organisations

Partner organisation	Described role in this report (demonstrator/pilot)
4sfera	Demonstrator
EA	Pilot Site
MAYK	Pilot Site
UNSPMF	Pilot Site

1.2 Authors

Author name	Partner organisation	Email
Jaume Targa	4sfera	jaume.targa@4sfera.com
Lorena Banyuls	4sfera	lorena.banyuls@4sfera.com
Cristina Carnerero	4sfera	cristina.carnerero@4sfera.com
Loukas Katikas	EA	lkatikas@ea.gr

GreenSCENT – Smart Citizen Education for a Green Future
Instructional Co-Design Workshop, Internal Report – Cleanair@schools (4sfera, EA), Page 3

GreenSCENT   **Deliverable D5.1**   **Page A-37**

2. Workshop Information

2.1 Participants

Participant Name	Partner Organisation
Jaume Targa	4sfera
Lorena Banyuls	4sfera
Loukas Katikas	EA (Researcher)
Primary school teacher	EA
Primary school teacher	EA
Primary school teacher	EA

2.2 Date(s) of Workshop

18th Μαy 2023.

2.3 Mode of Workshop (online, offline or hybrid)

Online.

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Instructional Co-Design Workshop, Internal Report – Cleanair@schools (4sfera, EA), Page 4

GreenSCENT   **Deliverable D5.1**   **Page A-38**

3. Summary

Please summarise the piloting activity (as discussed during the Instructional Co-Design Workshop) with the participants that is planned for Subtask 5.1.2 (Preparatory Training Workshops). This summary may go unedited into Deliverable 5.1 (Reports from demonstrations and workshops) by CRA. Please be concise and try to keep the summary short (i.e., half a page maximum).

(A) What is the major goal of the piloting activity?

(B) What did the Instructional Co-Design Workshop identify as key tool(s) to implement that major goal?

(A) The main goal of the Cleanair@schools demonstrator is to raise awareness of air pollution with students who will have the opportunity to participate in scientific research through experimentation. Empower children to monitor air quality around their school to raise awareness of the links between air pollution and health.

This will lead students to reflect on the importance that their behaviours have on clean air and preserving the environment.

(B) The aim of this document is to provide the methodology and practical information to carry out the Cleanair@schools activity. The key tool identified is the preparation of a detailed methodology for partners to replicate partially or in full in their pilot sites. This methodology will be prepared by 4sfera and later shared with pilot partners.

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Instructional Co-Design Workshop, Internal Report – Cleanair@schools (4sfera, EA), Page 5

GreenSCENT   **Deliverable D5.1**   **Page A-39**

4. Details

Please provide details about the piloting activity (as discussed during the Instructional Co-Design Workshop) with the participants that is planned for Subtask 5.1.2 (Preparatory Training Workshops).

Please note that you can update content online via the confidential Demonstrator–Pilot table at https://docs.google.com/document/d/1n1z2LU4rVAO9ZpnuCOmfzYfxpgB2ug4I.)

4.1 Date(s), Duration and Mode of Piloting Activity

Date: October - December 2023 and January 2024.

Duration: 2 hours preparation, 2 hours deployment, 2 hours collection and optional 2/3 hours data analysis (per student or per group).

Mode: Offline, in-person

4.2 Demonstrator Partner(s)

Partner Organisation	Name	Email
Jaume Targa	4sfera	jaume.targa@4sfera.com
Lorena Banyuls	4sfera	lorena.banyuls@4sfera.com
Cristina Carnerero	4sfera	cristina.carnerero@4sfera.com

4.3 Pilot Partner(s)

Please note that (1) the piloting activity may include more partner organisations or names than those participating in the Instructional Co-Design Workshop; (2) you may also give here names of persons(i.e., teachers) that will support the piloting activity of a partner, although they are not formally hired by that pilot partner organisation.

Partner Organisation	Name	Email
EA	Loukas Katikas	lkatikas@ea.gr

4.4 Expected Number of Participants per Partner

Please note that also a rough estimate helps the assessment and our project. Please consider the numbers already given as KPIs in the GA (Section 1.1.1 therein).

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Partner Organisation	Number
EA	150 – 160 students (11-12 primary level, Grade 5) 30 – 50 students (13-15 secondary level, Grades 7 - 9) Can be adapted to secondary school (we can discuss with the secondary school principals if they are interested in pilot testing the activity at a smaller scale during the skills labs or sustainable development clubs – extracurricular activities) 2 school principals (activity planning), 4 science educators (activity planning and training and pilot testing)

4.5   Training Kit

Please note that the training kits can take various formats since GreenSCENT is a rather wide project, targeting various educational levels about the Green Deal. Therefore, feel free how to best document and describe your training kit within this report. Please also note that your training kit will contribute to help teachers contextualising and implementing GreenSCENT demonstrator-based pedagogies in their classes (GA, Section 1.3.6.1).

Partner Organisation	Kit Name	Kit Format	Description
4sfera	Slides	Electronic, ppt	Introductory presentation of CAS activity https://docs.google.com/presentation/d/1Pw2yvjTWbJk85TEssZFhHKnZ26_ja78_/edit?usp=share_link&ouid=116405143459072592178&rtpof=true&sd=true
4sfera	Slides	Electronic, ppt	Presentation of activity and introduction to Air Pollution monitoring and impact
4sfera	Activity instructions	Electronic, PDF	Instructions for activity
4sfera	Cleanair@schools Toolkit		
4sfera	Cleanair@schools platform	Online platform	
4sfera	Cleanair@schools app	Mobile app	Mobile app to

4.6   Evaluation of learning performance and behavioural change of participants within the GreenSCENT Competence Framework

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We identify here which of the competences — that is, knowledge, skills and attitudes — described in the GreenSCENT Competence Framework (1st release) (Deliverable D1.1) will be addressed by our educational activity.

Competence Zero Pollution:

- 1.1 Critical thinking
- 1.2 Personal Collaboration
- 1.3 System Thinking
- 2.1 Responsible contribution, distribution and consumption
- 2.4 Climate Action
- 2.8 Clean Air

Competence Smart Mobility:

- 1.2 Promoting health
- 2.2 System thinking
- 2.3 Critical thinking
- 2.4 Sustainable models identification
- 2.5 Monitoring
- 2.6 Learning
- 3.1 Individual initiative
- 3.2 Collective initiative
- 3.4 Anticipating risk

Project Start Date: 1 January 2022 | Duration: 36 months

Preliminary Instructional Co-Design Workshop, Internal Report – CleanAir@Schools Youth Assemblies (4sfera; DBT; EA)

Due date of the submission of the internal report: 31 May 2023

Submission format: Word document or PDF

Internal, confidential submission folder:

https://drive.google.com/drive/folders/1KyEdMesCUzsa1TvHvgyq5HnwdfNcpBOR

Project	GreenSCENT – Smart Citizen Education for a Green Future
Call ID	H2020-LC-GD-2020-3-2020

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Work Package (Leader)	WP5 – GreenComp Piloting (UNSPMF)
Task (Leader)	Task 5.1: GreenSCENT Demonstrator Framework & Principles (UNSPMF)
Subtask (Leader)	Subtask 5.1.1: Instructional Co-Design Workshops (CRA)
Report Dissemination Level	Internal (i.e., Task and Subtask Leaders can use the report's content for, or put this report into the appendix of, own internal or external reports)
Version	1.0

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0. Preliminary

The main aim of the Instructional Co-Design Workshops (Subtask 5.1.1) is to lay the foundations and arrange details for the Preparatory Workshops with participants (Subtask 5.1.2) and also for the Experimental Workshops (Subtask 5.1.3). An Instructional Co-Design Workshop should (1) identify details (names, dates, modes, etc.) as far as possible, (2) describe the training kits to be used and (3) formulate the measures to determine progress towards the learning objectives or behavioural changes of participants within the GreenSCENT competence framework. A report about an Instructional Co-Design Workshop should be submitted latest on 31 May 2023. Updates of the content of the report may be added online via the confidential Demonstrator–Pilot table (see this report, Section 4).

1. Document Information

1.1 Partner Organisations

Partner organisation	Described role in this report (demonstrator/pilot)
4sfera	Demonstrator
DBT	Demonstrator
EA	Pilot Site
…	…

1.2 Authors

Author name	Partner organisation	Email
Jaume Targa	4sfera	jaume.targa@4sfera.com
Lorena Banyuls	4sfera	lorena.banyuls@4sfera.com
Ida Skov Nielsen	DBT	isn@tekno.dk
Loukas Katikas	EA	lkatikas@ea.gr

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2. Workshop Information

2.1 Participants

Participant Name	Partner Organisation
Jaume Targa	4sfera
Lorena Banyuls	4sfera
Cristina Carnerero	4sfera
Ida Skov Nielsen	DBT
Ditte Burmeister	DBT
Loukas Katikas	EA

2.2 Date(s) of Workshop

3rd and 4th May 2023

2.3 Mode of Workshop (online, offline or hybrid)

Online

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3. Summary

Please summarise the piloting activity (as discussed during the Instructional Co-Design Workshop) with the participants that is planned for Subtask 5.1.2 (Preparatory Training Workshops). This summary may go unedited into Deliverable 5.1 (Reports from demonstrations and workshops) by CRA. Please be concise and try to keep the summary short (i.e., half a page maximum).

(A) What is the major goal of the piloting activity?

(B) What did the Instructional Co-Design Workshop identify as key tool(s) to implement that major goal?

(A) The main goal of the CleanAir@Schools activity is to raise awareness of the air quality and the impact of pollution on health and the environment. Under the Youth Assembly meeting, the participants have the opportunity to participate in a simulation of CleanAir@Schools activity using the educational material and the Passive Sampler app to test. This activity provides ideas and insights on how to use CleanAir@School in an educational setting, and how to improve the app and the resources surrounding the app.

Innovation and new personal Skills: The Youth Assembly participants will get to work with different methodologies that develop their skills, knowledge and practical experience on innovation, design-thinking and prototyping at the meeting, thus strengthening their critical and independent thinking on themes such as pollution and clean air.

Scientific research through experimentation. This will lead students to reflect on the importance that their behaviours have on preserving the environment.

(B) The aim of this document is to provide the methodology and practical information to carry out

(C) The key tool identified is the preparation of a detailed methodology for partners to replicate in their pilot sites. The feedback given on the use of the application will help on the details and usability of the new CleanAir@Schools mobile application. This methodology will be prepared by 4sfera and later shared with pilot partners.

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4. Details

Please provide details about the piloting activity (as discussed during the Instructional Co-Design Workshop) with the participants that is planned for Subtask 5.1.2 (Preparatory Training Workshops).

Please note that you can update content online via the confidential Demonstrator–Pilot table at https://docs.google.com/document/d/1n1z2LU4rVAO9ZpnuCOmfzYfxpgB2ug4I.)

4.1 Date(s), Duration and Mode of Piloting Activity

Date: The piloting activity will be held during the dates settled for the in-person Youth Assemblies in each city.

Copenhagen - 1st September 2023

Barcelona - 9th September 2023

Rome - 22nd September 2023

Novi Sad - 6th October 2023

Duration: hours (4 sessions of one hour) but hours can be adjusted to each in-person YA

Mode: Offline, in-person

4.2 Demonstrator Partner(s)

Partner Organisation	Name	Email
4sfera	Jaume Targa	jaume.targa@4sfera.com
4sfera	Lorena Banyuls	lorena.banyuls@4sfera.com
4sfera	TBC	
DBT	Ida Skov Nielsen	isn@tekno.dk
DBT	Ditte Burmeister	db@tekno.dk

4.3 Pilot Partner(s)

Please note that (1) the piloting activity may include more partner organisations or names than those participating in the Instructional Co-Design Workshop; (2) you may also give here names of persons(i.e., teachers) that will support the piloting activity of a partner, although they are not formally hired by that pilot partner organisation.

Partner Organisation	Name	Email
EA	Loukas Katikas	lkatikas@ea.gr

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4.4 Expected Number of Participants per Partner

Please note that also a rough estimate helps the assessment and our project. Please consider the numbers already given as KPIs in the GA (Section 1.1.1 therein).

Partner Organisation	Number
DBT	56 (38 participated in online workshop in May 3. and 4.)
DBT	14 participants on the in-person meeting September 1st
DBT	14 participants on the in-person meeting September 9th
DBT	14 participants on the in-person meeting September 22nd
DBT	14 participants on the in-person meeting October 6st

4.5 Training Kit

Please note that the training kits can take various formats since GreenSCENT is a rather wide project, targeting various educational levels about the Green Deal. Therefore, feel free how to best document and describe your training kit within this report. Please also note that your training kit will contribute to help teachers contextualising and implementing GreenSCENT demonstrator-based pedagogies in their classes (GA, Section 1.3.6.1).

Partner Organisation	Kit Name	Kit Format	Description
4sfera	Slides	Electronic; PPT	What is air pollution and how to monitor it? Available in Cleanair@schools folder
4sfera	Slides	Electronic; PPT	CleanAir@school simulation Monitoring air pollution around your school. Available in Cleanair@schools folder
4sfera	Passive Sampler app	Mobile App	Available to download for iOs and Android
4sfera	Slides	Electronic; PPT	Brainstorming - how to use the results for educational purposes Available in Cleanair@schools folder
DBT	Mural	Online	Interactive meeting white board, where the participants collaborate and provide their ideas/insights
DBT	Zoom	Online	Plenum and break out groups to ensure interactive participation, collaboration and dialogue between participants and experts

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DBT	Brainstorm and prototyping kit designed for the in-person workshop.	Offline	Practical competences to design-thinking, innovation and brainstorming

4.6 Evaluation of learning performance and behavioural change of participants within the GreenSCENT Competence Framework

On the meetings, the participants will work with and develop competences from the following GreenCOMP competences:

Competence Zero Pollution:

- 1.1 Critical thinking
- 1.2 Personal Collaboration
- 1.3 System Thinking
- 1.4 Transdisciplinary
- 1.5 Development of sustainable paradigms and awareness
- 2.1 Responsible contribution, distribution and consumption
- 2.4 Climate Action
- 2.8 Clean Air

Competence Smart Mobility:

- 1.2 Promoting health
- 2.2 System thinking
- 2.3 Critical thinking
- 2.4 Sustainable models identification
- 2.5 Monitoring
- 2.6 Learning
- 3.1 Individual initiative
- 3.2 Collective initiative
- 3.4 Anticipating risk

Competence Climate change:

- 1.3 Know-how problem solving

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