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GREEN SCENT
SMART CITIZEN EDUCATION FOR A GREEN FUTURE

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D2.3 – Innovative ways for citizen engagement, open innovation

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1. Document Info

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1.3. Document History

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1.9 Executive Summary (or Abstract)

This document provides an overview of the open innovation challenges conducted by Agorize as part of the GreenSCENT consortium. The report focuses on the specific case of the sustainable food challenge aimed at students, with the objective of addressing important dimensions of food sustainability and its alignment with the European project GreenSCENT.

The report begins by introducing Agorize and its role as an open innovation platform. It explores the functionalities and features of the platform, emphasizing its implementation and development to effectively support open innovation activities. Agorize offers a comprehensive set of tools and resources that facilitate collaboration, idea generation, and problem-solving among participants.

Furthermore, the document highlights the strategies deployed by GreenSCENT to attract and engage students in the sustainable food challenge. Recognizing the significance of food sustainability in today's world, the challenge sought to leverage the collective intelligence of students to propose innovative solutions and ideas. Through targeted marketing efforts, effective communication channels, and partnerships with educational institutions, the challenge successfully mobilized a large number of student participants.

The primary goal of the sustainable food challenge was to address key dimensions of food sustainability, such as reducing food waste, promoting sustainable farming practices, and ensuring access to nutritious and affordable food. By aligning the challenge with the European project GreenSCENT, which focuses on advancing sustainability in various sectors, Agorize aimed to foster collaboration and drive innovation for a sustainable future.

The report then proceeds to present the key results and outcomes of the open innovation challenge. It showcases the diverse range of ideas and solutions submitted by the student participants, highlighting their creativity, ingenuity, and understanding of the challenges at hand. The outcomes of the challenge demonstrate the power of open innovation in generating actionable and impactful ideas that contribute to the sustainable food ecosystem.

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In conclusion, this report showcases Agorize.com as an open innovation platform managed by the GreenSCENT consortium and its ability to engage citizens, particularly students, in addressing pressing societal challenges. The sustainable food challenge exemplifies the successful application of open innovation methodologies to promote collaboration, foster creativity, and drive sustainable innovation. The results of the challenge serve as a testament to the potential of open innovation in shaping a better and more sustainable future.

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2. Introduction

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, participatory, experience and learning-by-doing-based, design approach.

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

The GreenSCENT legacy will consist of the Competence Framework (GreenComp), its Methodology, Use Cases, and User Guides; Training kits co-designed for implementing the framework; GreenSCENT box, 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.

This deliverable is produced as part of T2.3 Innovative ways for citizen engagement, open innovation.

D2.3 Innovative ways for citizen engagement, open innovation - This deliverable reports about the Stakeholder survey, developed and implemented for supporting Task 1.1 of WP1, the approach used in setting up the Open Innovation Challenge activities, and the first Open Innovation Challenge already implemented

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3. Open Innovation - The concept

In today's fast-paced and interconnected world, innovation has become a driving force for organizations striving to stay competitive and relevant. However, the traditional approach to innovation, which relied primarily on internal research and development, is being challenged by a more collaborative and inclusive model known as open innovation. Open innovation can be defined as a business strategy that opens up their innovation practice to stakeholders beyond the original team of research & development employees. It is based on the assumption that knowledge, expertise, and ideas can be sourced from external sources, leading to a competitive advantage.

The term "open innovation" was first used in 2003 in a book published by Henry Chesbrough[1]. But the principles on which the concept is based have already proven their worth, long before the start of the 21st century. By appealing to collective intelligence and creating meeting places, the foundations of open innovation were created ages ago. Without knowing it, this opened the door to a new model of innovation, one which is currently booming thanks to the internet and new technologies.

An innovation competition, or innovation challenge, is a hackathon organized by a company to bring forward innovative solutions. The organizer defines clear objectives and problem statements, after which innovators are invited to submit their ideas and solutions. Proposals can come from startups, employees, students, or other talents that are relevant to the topic at hand. Through a process of crowdsourcing and assessing ideas, mentoring participants, and developing solutions, the organization will identify the winning proposals that will be implemented.

3.1 Agorize & Open innovation challenges

3.1.1 What is Agorize?

Agorize is a company that specializes in open innovation and crowdsourcing solutions. Founded in 2011, Agorize provides a digital platform that enables organizations to connect and engage with a global community of innovators, entrepreneurs, students, and professionals. The platform offers a range of services and tools to facilitate challenges, competitions, hackathons, and ideation campaigns, allowing organizations to tap into external talent and ideas.

Agorize's platform acts as a marketplace, connecting companies seeking innovative solutions with a diverse pool of individuals and teams who can contribute their expertise, creativity, and problem-solving skills. Through its platform, Agorize helps organizations leverage collective intelligence and harness the power of external collaboration to tackle complex challenges and drive innovation.

The platform offers a user-friendly interface that allows organizations to define their innovation challenges, set specific objectives, and provide relevant resources to participants. Individuals or teams interested in participating can then submit their ideas, prototypes, or solutions, competing with others to showcase their innovative approaches. Agorize's platform also facilitates the evaluation and selection process, allowing organizations to identify the most promising concepts and provide recognition or rewards to participants.

Agorize has worked with a wide range of industries and organizations, including multinational corporations, startups, government agencies, and academic institutions. Their platform has been utilized for various purposes, such as product development, business model innovation, sustainability initiatives, and digital transformation.

[1] Chesbrough, H. (2003) The New Imperative for Creating and Profiting from Technology

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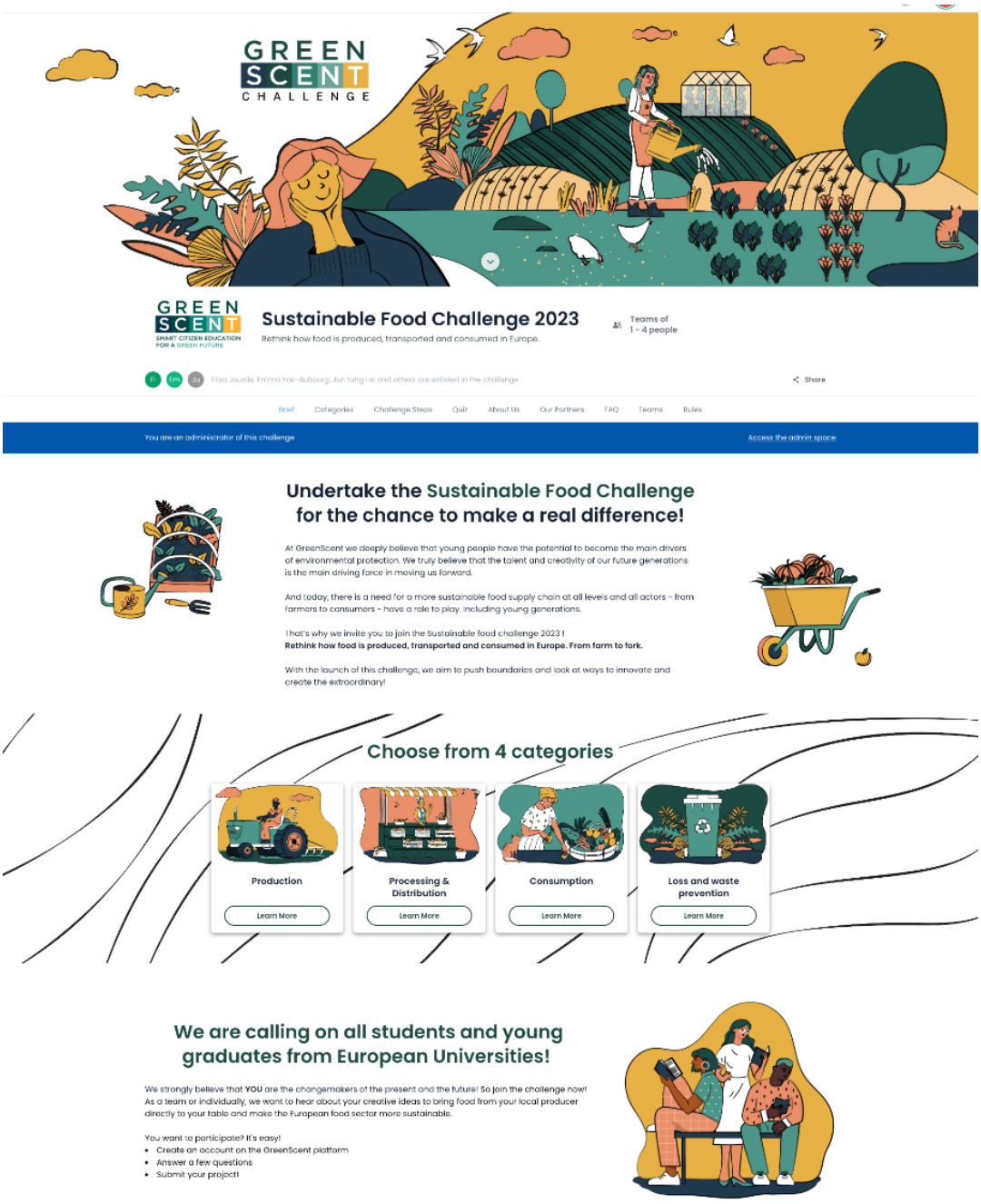

- *Figure 1 - Screenshot of the Platform's landing page*

3.1.2 Our open innovation challenge methodology

As part of the GreenSCENT consortium, we have applied our open innovation methodology in order to design the Sustainable Food Challennge. This methodology is generally constructed following several key elements to drive innovation and collaboration:

- Identifying Challenges: Agorize worked with GreenSCENT consortium to identify specific challenges or innovation needs they want to address. They can come from the public and private sectors, but can also include associations, universities and more. These challenges can be related to product development, business transformation, sustainability, or any other area where innovation is sought.

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- Engaging a Diverse Community: Agorize invites a diverse community of innovators to participate in the challenges. This community may include citizens, entrepreneurs, startups, students, professionals, and experts from various backgrounds and industries.

- Crowdsourcing Solutions: Participants are encouraged to submit their innovative ideas, prototypes, or solutions to address the identified challenges. Agorize's platform facilitates the submission process and provides resources and guidelines to participants.

- Evaluation and Selection: GreenSCENT consortium evaluates the submissions based on predefined criteria. They assess the feasibility, creativity, potential impact, and scalability of the proposed solutions. The most promising submissions are selected for further development or implementation.

- Collaboration and Iteration: Agorize fosters collaboration and knowledge sharing among participants, allowing them to connect, network, and refine their ideas. Participants receive feedback, mentorship, or support from the GreenSCENT consortium experts.

- Recognition and Rewards: GreenSCENT consortium recognizes and rewards participants for their contributions. This can include prizes, funding opportunities, access to resources, or potential partnerships with the partner organization.

- Implementation and Impact: Successful solutions from the challenges may be further developed, piloted, or integrated into the operations of the GreenSCENT consortium. Agorize supports the implementation process and monitors the impact of the solutions over time.

Through this open innovation methodology, Agorize enables organizations to tap into external expertise, diverse perspectives, and collective intelligence. By engaging a global community of innovators, Agorize facilitates the generation of innovative solutions, fosters collaboration, and accelerates the innovation process for GreenSCENT consortium.

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4. The GreenSCENT Initiatives for citizen engagement

GreenSCENT aims at changing and challenging existing stereotypes and sceptic behaviour to explore the best citizen science practices by including society at large, educating and answering the question 'Why to act on climate change/sustainability/environmental protection?'. GreenSCENT want to empower students and citizens to achieve a passion for climate, sustainability, and environmental protection by challenging their knowledge on Green Deal topics and allowing them to learn by experimentation. GreenSCENT places a focus on education supported by technology, open innovation challenges for citizens, and data collection and processing through the crowdsourcing mobile app.

To support those objectives, we have been thinking about the best way to leverage on our Agorize.com innovation platform to disseminate project information and engage young citizens throughout the project and beyond. To do so, we are deploying various communication and social media campaigns to encourage citizens to get engaged in our initiatives. The citizen outreach campaign is bringing awareness to both local, regional and global populations through a challenge that encourages citizens and stakeholders to engage by generating real solutions to locally identified climate challenges. And by leveraging the results and outputs, we will build a social media campaign to bring the excitement and engagement from the challenge to a broader audience of Europeans. We also wanted to leverage on our technology and the first draft of the competence matrix with a bottom-up approach. Our objective was involving citizens across Europe, asking them about their opinions, perceived obstacles, acceptance, and worries about the strategy that lies behind the competence framework.

In the end, we have decided to conduct the following actions in order to engage citizens and promote sustainable behaviours and competences across Europe:

1. A **Stakeholder survey** open to all citizens across Europe
2. A **first Open Innovation challenge** dedicated to young European citizens on Farm to Fork. To increase the impact of this initiative, a dedicated social media campaign has also been launched for the occasion.
3. A **second Open innovation challenge** open to young citizens and entrepreneurs around a concrete, sustainable business case, supported by a partner company and a dedicated social media campaign.

4.1 The Stakeholder survey

4.1.1 The concept

The WP1, with UNINETTUNO as lead beneficiary, created a stakeholder survey to gain insights into pro-environmental behaviours in a professional context. The objective of the survey was to understand various forms of environmentally friendly behaviours, explore the relationships between these behaviours, employee attitudes, and organizational factors that promote sustainability in the workplace. The target of this survey was employees / workers from small, medium, and big companies in Europe.

The main objectives of this activity, strictly linked with Task 1.1 in WP1, were:

- test on the field the GreenSCENT Competence Questionnaire, properly shaped using its modular nature, targeting a non-educational audience in a large scale in terms of number of participants and geographical scope;
- engage stakeholders coming from enterprises (and not from education and research fields);
- understand preliminary elements about what are the main needs and gaps of this potential community trying to understand how to refine GreenSCENT results in order to target also enterprise-related training / talent selection and management;

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The stakeholder survey was composed of 41 closed ended multiple choice questions. For each statement or question, only one answer is allowed. Participants were provided with rating scale answer options from which they have to choose from. Three types of rating scales were used:

- Measuring frequency: 0 = N/A; 1 = Never; 2 = Rarely; 3 = Sometimes; 4 = Often; 5 = Always
- Measuring opinion: 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree
- Measuring characteristics: 1 = very uncharacteristic; 2 = uncharacteristic; 3 = neither one nor the other; 4 = characteristic; 5 = very characteristic

The questions were divided into five main sections based on recent literature and each of them addressing a specific aspect of pro-environmental behaviours:

- Pro-Environmental behaviour (Block et al., 2015) distinguishing between seven categories of green behaviours: Heating, Printing, Drinking, Sustainable shopping, Computer use, Light use and Recycling.
- Intention to act (Block et al., 2015; Wesselink et al., 2017)
- Attitudes towards Pro-Environmental behaviour (Block et al., 2015; Wesselink et al., 2017)
- Institutional support - including Leadership support and perceived organizational support for the environment (Wesselink et al., 2017).
- Environmentally specific charismatic leadership (Tuan, 2019).

Items on the Survey were the following:

- Heating : Please indicate how you use the heating in your office.
    - 1. I check whether thermostats are set correctly in my office.
    - 2. I wear more clothes instead of putting the heating on.
    - 3. I make sure that heating is off or reduced outside working hours.
    - 4. I reduce heating in unused rooms.(no facilities for influencing the heating)
        - Response categories: 0 = N/A (no facilities for influencing the heating); 1 = Never; 2 = Rarely; 3 = Sometimes; 4 = Often; 5 = Always

- Printing: How often do you do the following activities related to printing and copying at work?
    - 1. I print double-sided.
    - 2. I copy double-sided.
    - 3. I try to get as much as possible on one sheet (e.g. by using narrow margins or printing two pages on one A4 sheet).
        - Response categories: 0 = N/A; 1 = Never; 2 = Rarely; 3 = Sometimes; 4 = Often; 5 = Always

- Drinking: To what extent do the following statements suit you?
    - 1. I use a mug for drinking coffee/tea.
    - 2. I wash the mug in a sustainable way (e.g. cold water, no use of washing-up liquids).
    - 3. I take a new plastic/carton cup each time I have coffee or tea.(reverse coded)
        - Response categories: 0 = N/A; 1 = Never; 2 = Rarely; 3 = Sometimes; 4 = Often; 5 = Always

- Sustainable shopping: To what extent do the following statements suit you?
    - 1. I choose bio food when if it is offered in a cafeteria at my workplace.
    - 2. When I purchase goods or services, I pay attention to sustainability.
        - Response categories: 0 = N/A; 1 = Never; 2 = Rarely; 3 = Sometimes; 4 = Often; 5 = Always

- Computer use: To what extent do the following statements suit you?

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- 1. I switch off my computer/notebook when I leave my office for a considerable period
- 2. I switch off my computer/notebook when I go home.
  - Response categories: 0 = N/A; 1 = Never; 2 = Rarely; 3 = Sometimes; 4 = Often; 5 = Always

- Light use: To what extent do the following statements suit you?
  - 1. I switch on the lights when I come to the office in the morning and switch them
  - 2. When I leave my office for a considerable period of time, and there is no one else
    - Response categories: 0 = N/A; 1 = Never; 2 = Rarely; 3 = Sometimes; 4 = Often; 5 = Always

- Recycling: To what extent do you recycle the following products?
  - 1. Glass
  - 2. Plastic bottles
  - 3. Batteries
  - 4. Chemical office waste
    - Response categories: 0 = N/A; 1 = Never; 2 = Rarely; 3 = Sometimes; 4 = Often; 5 = Always

- Please indicate to what extent you agree with the following statements:
  - 1. If I lived close to work, I would go to work by bicycle (or walking) rather than by
    - Response categories: 0 = N/A; 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree

- Please indicate to what extent you agree with the following statement:
  - 1. I am going to behave pro-environmentally at work in the coming month to reduce my impact on the environment (e.g. by turning off the computer, printing less, using a mug etc.)
  - 2. In the coming month I have the intention to behave more pro-environment friendly at work
    - Response categories:1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree

- Please indicate whether you agree/disagree with the following statements.
  - 1. I'm in favour of behaving pro-environmentally in the workplace
  - 2. I think it's a good idea for my organization as an employer to support the pro-environmental behaviour in the workplace
  - 3. The pro-environmental behaviour in the workplace is important to me
  - 4. I think too much attention is paid to the pro-environmental behaviour in the workplace (reverse coded)
  - 5. I think it is good when colleagues show pro-environmental behaviour
    - Response categories: 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree

- Please indicate to what extent you agree with the following statements:
  - 1. My boss/head of the department supports me in showing pro-environmental behaviour at work
  - 2. My employer informs me about the environmental impact of my behaviour at work
  - 3. My employer informs me about environmental policy of my department
  - 4. I learn environmental friendly behaviour at work
  - 5. There is a supervisory support for the environmental effort of the employees
  - 6. The organization cares whether I am satisfied with the environmental policy and how employees behave accordingly

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- 7. The organization takes pride in the way I perform environmentally friendly at work (POS-E)
- 8. The organization is willing to extend itself if I would want to perform my job as environmentally as possible
  - Response categories: 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree

- Indicate to what extent this description characterizes your manager:
  - 1. My manager has green vision; often brings up green ideas about sustainable possibilities for the future
  - 2. In pursuing organizational environmental objectives, my manager engages in green activities involving considerable personal risk
  - 3. My manager readily recognizes constraints in the environment (technological limitations, lack of resources, cultural norms, etc.) that may stand in the way of achieving organizational environmental objectives
  - 4. My manager shows sensitivity for the environmental concerns of the other members in the organization
  - 5. My manager engages in unconventional behaviour in order to achieve organizational environmental goals
    - Response categories: 1 = very uncharacteristic; 2 = uncharacteristic; 3 = neither one nor the other; 4 = characteristic; 5 = very characteristic

4.1.2 Technical aspects

The survey was initially hosted on the GreenScent Open Innovation Platform, which is powered by Agorize and can be accessed at https://greenscent.agorize.com. This platform provided an independent technical environment exclusively owned by GreenScent. The survey had its own dedicated interface with a separate back-end system, allowing us to manage the setup and address any inquiries that may arise.

Utilizing Agorize's Software-as-a-Service (SaaS) platform offered several advantages. Firstly, it facilitated easy monitoring of the number of respondents and regular tracking of key performance indicators (KPIs) throughout the survey duration. Additionally, it enabled structured data collection through an export functionality, saving significant time and effort required for data preparation prior to analysis. This functionality allowed for the download of a pre-formatted Excel export, streamlining the data handling process.

The survey interface also featured a personalized front-end that was visible to all respondents. This provided an opportunity to present the survey's context and purpose in an aesthetically appealing manner. To achieve this, a dedicated banner was designed, and a presentation page was created, incorporating the visual identity of the GreenScent project.

After a few months of launching the survey on the dedicated Agorize.com platform, we made the decision to transition to Typeform. This shift was prompted by feedback received from our community and partners, who expressed concerns about the complexity of the registration process on the Agorize platform. Given that our platform is primarily designed for open innovation challenges, which require users to create an account using their email address before participating in any initiatives, it was recognized that this approach was not suitable for conducting a large-scale survey. As a result, we opted to change our strategy and select a more appropriate tool, leading us to choose Typeform.

4.1.3 Results

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The survey was launched in December 2022 and will end in June 2023, with a target of gathering 500 responses. **After 6 months, we have collected 878 answers thanks to a** targeted communication campaign, including regular LinkedIn posts, newsletter, and dedicated mailings. In total, we have received, 1065 views with a completion rate of 86,6% and an average time to complete of 00:07:05.

Analysis of the results:

Survey Category	Key Findings
Demographics	
Gender	A good balance between male and female respondents. 51.8% Female, 47.7% Male, 0.5% Other
Country of Residence	We managed to mainly target western European countries: UK (29.8%), France (21.9%), Germany (15.5%), Spain (14.6%), Italy (13.4%)
Company Size	A majority of Large Size companies: Company Size Large (40.5%), Medium (28.9%), Small (19.4%), Micro (11.2%)
Pro-Environmental Behaviour	Analysis of specific behaviours, attitudes, and support related to pro-environmental practices in the workplace
Coffee-Related Behaviour	Mug Usage: 55.6% Always use a mug for coffee/tea
	New Cup Usage: Varies across levels of usage, with a notable portion indicating rare or no usage
Computer Switching Behaviour	Leaving Office: Average score of 3.8, indicating a moderate inclination to switch off computers/notebooks
	Going Home: Average score of 4.1, indicating a generally positive tendency to switch off computers/notebooks
Organizational Concern	Employee Satisfaction: Average score of 2.9, indicating room for improvement in the organization's concern
Supervisory Support for Environmental Effort	Average score of 2.8, suggesting the need for improvement in providing supervisory support
Employer Communication on Environmental Impact	Average score of 2.9, indicating a moderate level of employer communication about the environmental impact
Perception of Colleagues' Pro-Environmental Behaviour	Average score of 3.9, suggesting a positive perception of colleagues showing pro-environmental behaviour
Importance of Pro-Environmental Behaviour	Average score of 3.9, indicating the significance of pro-environmental behaviour in the workplace

Table 1 - Summary table of responses to the stakeholder survey

The stakeholder survey on pro-environmental behaviour in the workplace provided valuable information on various aspects of sustainability practices and employee attitudes. The survey was conducted among a diverse group of participants from different countries and company sizes, providing comprehensive results that can be generalized to a variety of European workplace contexts.

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In terms of coffee-related behaviour, a significant proportion of respondents reported using a mug for coffee/tea consumption, indicating an encouraging trend towards environmentally-friendly practices. But progress still needs to be made to reduce the use of the new plastic and cardboard cups. Organizations should focus on raising awareness of the environmental impact of single-use cups and promoting reusable alternatives.

The survey also revealed important information about switching behaviour. Respondents were moderately inclined to switch off their computers when leaving the office for long periods and when returning home. This behaviour is in line with energy-saving efforts and demonstrates a responsible approach to sustainability in the workplace.

In terms of organizational concerns, employee satisfaction with environmental policy and behaviour, as well as the level of support for environmental efforts from line managers, indicate areas for improvement. Organizations should prioritize strengthening their environmental policies, providing resources for sustainability initiatives, and fostering a supportive culture that encourages pro-environmental behaviour at all levels.

Respondents expressed a positive perception of their colleagues adopting pro-environmental behaviour, suggesting the presence of a supportive work environment that values sustainable development. This perception can motivate employees to adopt sustainable practices and contribute to a greener workplace. Organizations should capitalize on this positive perception by encouraging peer-to-peer learning, collaboration, and the sharing of best practices among employees.

The survey highlighted the importance of pro-environmental behaviours in the workplace, with respondents attaching great importance to them. It underlines the need for organizations to make sustainable development a core value, and to communicate the impact of individual actions on the achievement of environmental goals.

○ 4.2 The first GreenSCENT Open Innovation challenge

As briefly mentioned before, the Open Innovation Challenges (together with the Youth Assembly) represent in GreenSCENT a format of "beyond-education" activities. The original idea in GreenSCENT was that the incorporation of "beyond education" activities, such as idea generation and project pitching about a specific Green Deal focus area, can add a more active, hands-on dimension to environmental learning. This promotes a more intrinsic, enduring behavioural change in participants that extends beyond just knowledge acquisition. This specific hypothesis is actually implemented also in GreenSCENT educational pilots, using digital (and non-digital) technologies for providing situated, experiential learning opportunities to the participants. The concept is already validated in literature; according to Kolb's Experiential Learning Theory (1984), people learn most effectively through experience[2]. Engaging young individuals in open innovation challenges offers them a chance to put theoretical knowledge into practice, working on real-life problems and creating practical solutions. By fostering a sense of ownership over their projects, these activities instill a sense of responsibility and commitment towards environmental conservation, driving a stronger shift in behaviour than traditional classroom learning can achieve (Kolb, D. A., 1984). Furthermore, Bandura's Social Learning Theory (1977)[3] underlines the importance of observation and imitation of behaviours. Participating in Open Innovation Challenges can expose participants to an array of positive behaviours and attitudes towards the environment, allowing them to model these in their own lives. Active involvement in these activities also builds self-efficacy - a core aspect in Bandura's theory - empowering individuals to believe in their capabilities to enact change (Bandura, A., 1977). Lastly, the collaborative aspect of these activities (most of the project submitted were,

[2] Kolb, D. A. (1984). Experiential learning: Experience as the source of learning and development. Englewood Cliffs, NJ: Prentice Hall.
[3] Bandura, A. (1977). Social Learning Theory. Englewood Cliffs, NJ: Prentice Hall.

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indeed, proposed by a team of young citizens) fosters a community-driven approach to tackling environmental issues. A study by Schultz et al. (2008) demonstrated that individuals who felt a sense of interconnection with others and the environment were more likely to exhibit pro-environmental behaviours[4]. The approach described by Schultz et al. is furthermore pretty in line with the instruments developed in GreenSCENT for assessing the actual "behavioural change" generated in the participants by the educational and beyond-education activities[5] through which the GreenSCENT Competence Framework[6] in its first release has been and is going to be tested on the field.

4.2.1 The challenge

The GreenScent Sustainable Food Challenge, organized by Agorize in collaboration with the European Commission, is an opportunity for European students to contribute to the future of food sustainability. This innovative challenge is specifically designed to inspire and empower European students to find innovative solutions to complex food sustainability challenges. It encourages students to think critically and propose practical initiatives that could transform the way we produce, consume and manage food resources, leading to a more sustainable and resilient food system.

4.2.2 Main theme

The theme of the challenge revolves around the Farm to Fork strategy. In order to define the categories and link our challenge to the global objectives of the GreenSCENT program we have used the Competence framework. We there suggested sustainable food production, sustainable food consumption, sustainable food processing and distribution, and food loss and waste prevention as four main categories of this challenge. These themes are broad enough for students of all majors and training to participate and submit their innovative ideas and solutions.

i. Under the sustainable food production theme, students were asked if they had any ideas to limit the negative impacts of food production on the planet and if they could propose solutions to produce food sustainably on campus, for example. The food industry is currently facing unprecedented challenges such as global warming, the decline in natural resources, and the fall of biodiversity. Furthermore, with the world population on the rise, changing consumer behaviours, and complex logistical needs, it has become imperative for the food industry to transform and ensure access to safe and nutritious food for all.
ii. One of the key problem statements under the theme sustainable food processing and distribution relates to the food industry's adoption of advanced technologies to increase production rates. The students can think about ideas to make the food processing and distribution supply chain more sustainable, imagine ways to improve local sourcing and distribution. This would involve shortening the geographical scope of supply chains and promoting the use of locally grown, organic produce. They can also focus on ways to reduce food waste and prevent the overproduction of goods.
iii. The sustainable food consumption theme proposed to students is motivated by the growing awareness of the negative impact of the food industry on the environment and consumer health. It provides an opportunity for students to develop solutions that bridge sustainable food products with consumer eating habits and taste preferences, while promoting sustainability. This theme discusses the challenge of closing the gap between consumers' desire to become more sustainable and their actual behaviour.

[4] Schultz, P. W., Shriver, C., Tabanico, J. J., & Khazian, A. M. (2004). Implicit connections with nature. Journal of environmental psychology, 24(1), 31-42.
[5] GreenSCENT Project (2022), D1.7 – D1.7 – GreenSCENT Pilots Initial Requirements
[6] GreenSCENT Project (2022), D1.1 – GreenSCENT Competence Framework 1st release

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iv. The theme of Food Loss and Waste Prevention was proposed to address the alarming statistics that one-third of the food produced for human consumption is lost or wasted worldwide, throughout the food value chain. Food loss primarily occurs during the production, post-harvest, processing, and storage stages of the food value chain, while food waste occurs at the consumer or "fork" level. Food is wasted due to various reasons, such as improper handling, storage, and transportation, and disposal at the consumer level due to overbuying or misinterpretation of food labels. The theme provides an opportunity for students to develop solutions that reduce the amount of food lost or wasted, valorize food loss or waste, optimize storage and transportation conditions and infrastructure to reduce food loss in developing countries, and recycle or transform food waste into a valuable product.

4.2.3 Additional competence mapping

The theme of the challenge went beyond the Farm to Fork competences. Indeed, we have identified various transversal competences students had to use in order to work on their ideas. Those transversal competences are resumed in the following table.

Challenge Category	From farm to Fork competences	Transversal Competences
Production	From farm to fork 1.1. Understanding natural processes From farm to fork 1.2. Understanding agricultural practices From farm to fork 1.3. Linking economic and social factors From farm to fork 1.4. Valuing food security	1.3. Know - how problem solving Skills • #EQF1 Is able to identify existing issues in the context of climate change • #EQF2 Identify a problem, come to a clear, precise, and complete understanding of the situation • #EQF3 Identify useful and missing data, can foresee the trends from data • #EQF4 Highlight key problem/solution components, suggest concrete, original, and effective solutions spontaneously • #EQF5 Set clear objectives • #EQF6 Use a good methods for goal deliberation, identification • #EQF7 Be able to name several alternatives for possible problem solution
Processing & Distribution	From farm to fork 2.1. Defining food products From farm to fork 2.2. Understanding processes	

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Consumption	From farm to fork 3.1. Geography and culture of food From farm to fork 3.2. Market and health factors From farm to fork 3.3. Understanding society and food	5.1. Circular systems thinking in designing products Knowledge ● Being able to adopt an approach to design that regards the circular economy as a complex system ● Being able to take into account that circular design interventions will have systemic effects ● Describe open and closed loop supply chains ● Understand the material flows and operational environment of the system. 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 Skills ● Engaging in sustainability-oriented social transformation In diverse venues (work as well as personal, civic, and social life). ● Recognizing and summarizing historically significant events, concepts, and findings. ● Connecting/applying learning to place and community. ● Transferring and adapting Ideas and principles to diverse contexts. Circular Economy 1.4. Awareness of losses and waste Knowledge ● Addressing the value lost through operations and by-products of business processes with respect to energy, emissions, water, and waste ● Understanding the importance of using of renewable resources ● Understanding that valuable resources are currently lost because of inefficient waste collection, consumer behaviour and a lack of awareness, market-related aspects, technological barriers, design complexities and the hazardous nature of embedded materials
Loss and waste prevention	From farm to fork 4.1. Understanding the role of storage and conservation in food waste processes From farm to fork 4.2. Sustainable disposal and circularity	***Emergent Category*** Management Clean Energy 2.3 Responsible Production and Consumption

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Table 2 - Competence Framework mapping

4.2.4. The modalities and "keys steps "

The challenge is organized in four stages, which include ideation, evaluation, mentoring, and final pitching. The challenge opened on 16 February 2023 and will end on 7 July 2023. The first stage of the challenge is the ideation phase, which began on 16 February and ended on 12 May. In this phase, students are required to register on the platform and submit their ideas in a PDF/PPTX format. Participants must present their proposals in five to ten slides and get into a team of one to four members. The primary goal of this phase is to encourage students to use their creativity to present innovative ideas that contribute to sustainable development.

The second step of the challenge is the evaluation and, in parallel, a public vote, which started on May 15 and ended on May 31. During this phase, volunteer GreenSCENT consortium members have evaluated the submitted projects on a scale of 1 to 10 points based on the criteria of innovation, relevance, feasibility, impact and clarity. Each criterion had a weight of 20% and the jury members are members of the consortium. The public will also have the opportunity to vote by liking the projects they like the most, they will have 3 likes per account, at the end of the stages the project with the most likes will be selected as sixth finalist. This phase is designed to engage participants and encourage them to communicate about the challenge with their friends and family.

The third steps of the challenge are mentoring, which begins on 1 June and ends on 25 June. During this preparation phase, the top six teams will be assigned a mentor who will guide and help them develop their project and prepare for the final event. The mentors are consortium members who have expertise in the field of sustainable development.

The final stage of the challenge is the pitching day, the top six teams will be given the unique opportunity to pitch their ideas in front of GreenScent partners and environmental experts in Paris. The pitch format will be a ten-minute pitch and a five-minute Q&A session. The Grand winner of the challenge will be announced at the end of the event. The grand winner will have the opportunity to join the consortium members at future programme events and take part in the evaluation step of the second GreenSCENT challenge. Furthermore, if wanted, their project will be featured on the GreenSCENT website and social media.

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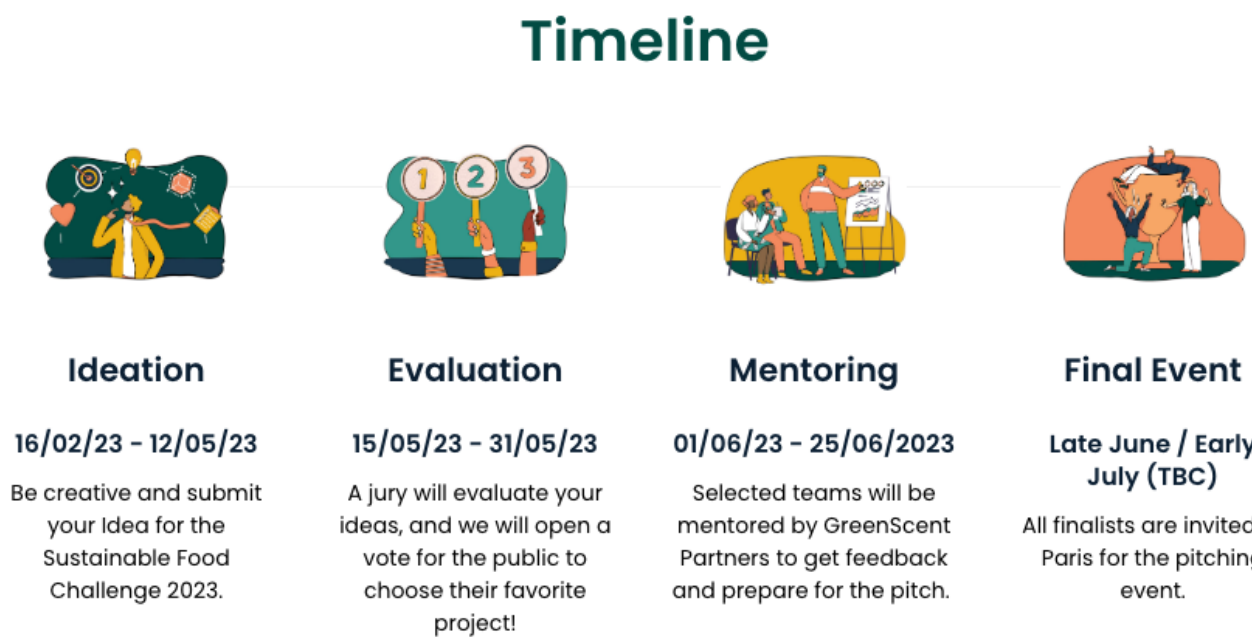
4.2.5. The content: The visuals & "tone"



- *Figure 2: Visual of the timeline for the Sustainable Food Challenge, visible via this link : https://greenscent-innovation.agorize.com/*

The visual and language elements of the challenge have been meticulously designed to effectively communicate the values and objectives of the challenge. The ultimate goal is to inspire students to think creatively and devise innovative solutions to tackle the critical issue of sustainability in the food industry.

The design of the challenge is meant to convey a sense of innovation, youthfulness, and sustainability. The design team at Agorize have created a mood board that incorporates different styles, including human and colorful designs that use bright and bold colors to emphasize key points.

- *Figure 3 & 4: Visuals, decoration element for the page visible via this link : https://greenscent-innovation.agorize.com/*

The visuals aim to be eye-catching and green oriented, while also communicating the seriousness of the challenge and the importance of sustainable food production and consumption.

The tone of the challenge is clear and concise, yet engaging and inspiring. The language is meant to encourage students to think creatively and come up with innovative solutions to the challenges facing our food system. The tone conveys a sense of excitement and possibility, while also emphasizing

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the urgency of the situation and the need for action. It aims to reflect the importance of the challenge and the potential impact that students can have in creating a more sustainable future.

Some examples of copywriting used:

- *"Undertake the Sustainable Food Challenge for the chance to make a real difference!"*

"NOW is the time to rethink and revolutionize our traditional food systems to realign economic objectives with social and environmental challenges. "

"It is estimated that one-third (or 1.3 billion tons per year) of the food produced for human consumption is lost or wasted worldwide throughout the food value chain (FAO,2019)."

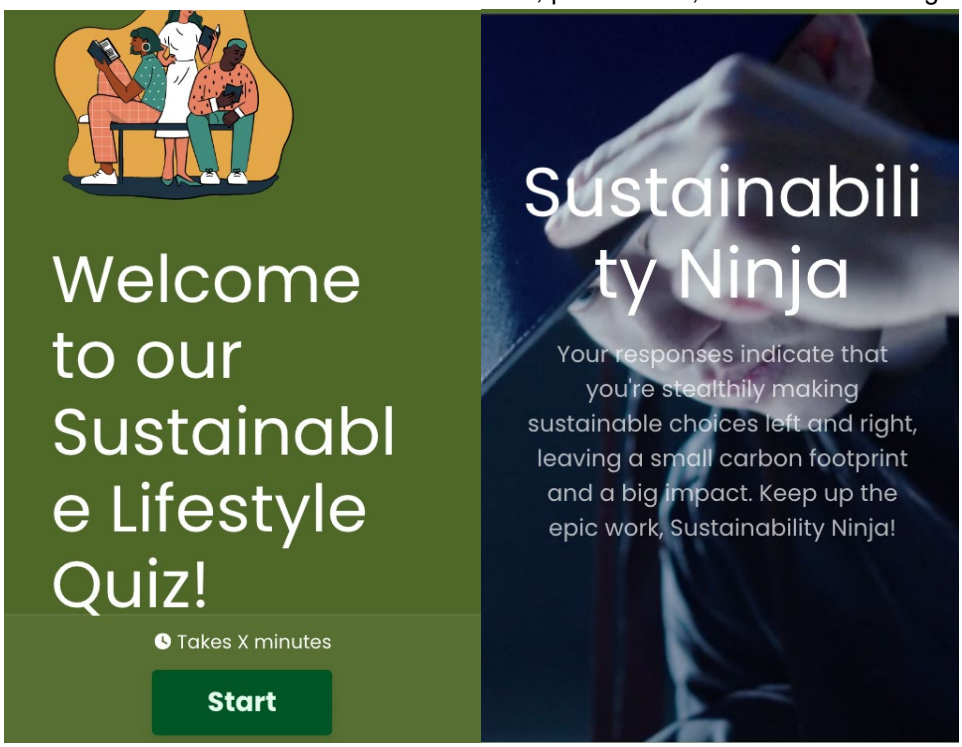
"We truly believe that young people are crucial for addressing climate and environmental challenges: They are the changemakers of the present and the future!"

"By participating, you stand a chance to live an amazing experience and showcase your project."

4.2.6 Behavioural analysis

As part of the GreenSCENT work packages, we have launched a first behavioural survey to collect insights from our participants. As of now we have received 45 answers. The results will be analyzed next year in order to compare results with the 2nd survey we will launch. The survey was based on the questions developed by Uninetunno and took the form of a quiz titled "Sustainable Lifestyle Quiz!" and aimed to gather information about students' perspectives on sustainability and their daily habits.

The quiz format provided an engaging and interactive way for students to participate and reflect on their sustainability behaviours. Through a series of questions and scenarios, students were able to discover which sustainable hero archetype they aligned with based on their attitudes and actions towards the environment. Students are asked about their current habits, preferences, and motivations regarding sustainable practices.



- *Figure 5: Screenshots of the stakeholder survey captured from the Typeform platform, accessible via this link: https://form.typeform.com/to/pNZs2Vd7*

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The quiz survey was designed to be easily accessible and user-friendly, allowing students to participate and obtain their sustainable hero archetype results effortlessly.

4.2.7. Key results of the challenge

The challenge is not quite over, as the final will take place in July with all 6 finalists. The outcome of this event will be reported in a next deliverable.

- *1. Sneak preview*

- A total of **1363 engaged citizens** on the platform including participants, jury members and public voters.
- A high participation rate with **668 participants** from **241 teams** and **100 complete proposals.**
- **6 finalist teams**
- Increased program visibility for the Sustainable Fool Challenge and Green Scent thanks to a **multichannel communication strategy**. Using **social media networks** to promote information about key stages of the challenge, as well as **emails, newsletters**, and **targeted calls** to the Agorize community of students and teachers. Network of **school ambassadors was mobilized.**
- **A great geographical representation** on this program with **42+ countries** represented with **250+ universities represented**.

- *2. Fully detailed results*

📈**KPI**

- **668** participations
- distributed in **241** teams
- **100** complete submissions
- Conversion rate from teams to complete submissions: **41%**

🌍 Geographical Scope

Even if our communication actions were focused on Europe, we have benefited from a worldwide outreach. **42 countries** represented **and 63 nationalities.**

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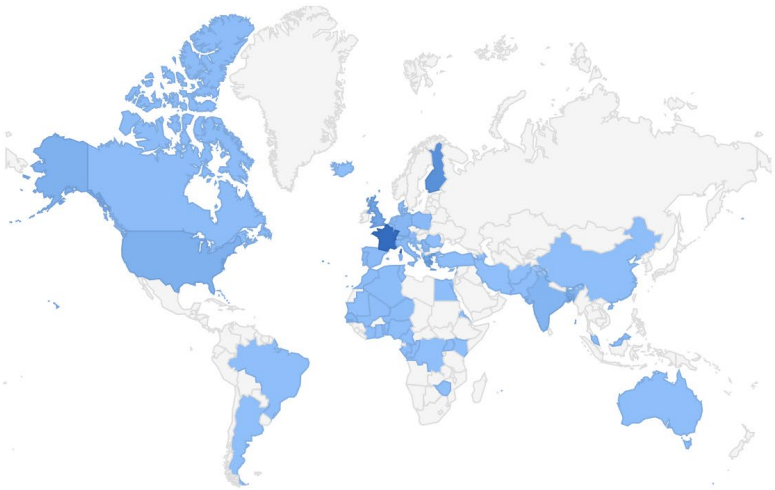

Top 10 countries in Europe:

1. France
2. Finland
3. UK
4. Greece
5. Germany
6. Belgium
7. Italy
8. Poland
9. Portugal
10. Netherlands

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● 5. Partner engagement: Criteria vote and mentoring

○ 5.1. Partner engagement through jury voting

As part of a GreenSCENT initiative, we leveraged on our partners in order to bring their expertise and knowledge to evaluate the projects we have received. All the completed and submitted projects have been meticulously assessed and graded based on the established criteria. To ensure a fair and impartial evaluation process, the consortium partners were invited to act as judges, drawing on their expertise in the field.

The established criteria are as follows:

- Innovation (20%): How creative is the solution to solve the problem described? Are there other solutions available and if so, how does this differentiate from them?
- Relevancy (20%): How well does the proposal respond to the specific need(s) set out?
- Feasibility (20%): How feasible is the solution to put into practice? Does it make sense financially and sustainable over the long term?
- Impact (20%): What is the scale and broadness of potential impact?
- Clarity (20%): How well is the solution described and articulated in the proposal?

The percentage represented the weight of each criteria for the final grade

They can grade the project from 1 to 10 points for each criteria and the final grade is the mean of all points.

An Excel document has been created in which each member can register and choose the category of projects they wish to support.

JURY							
Name*	First name	Mail Adress*	Organisation*	Sustainable Food Production	Sustainable Food Consumption	Sustainable Food Processing & Distribution	Loss and waste prevention

Table 3 - Presentation of the registration jury sheet header

○ 5.2. Partner engagement through mentoring

The challenge includes a mentoring phase, in which the mentor, a member of the consortium, follows a team and gives it advice. This happened after the voting phase, when they mentored the 6 teams selected. This phase will help participants improve their ideas and prepare them for the final presentation.

A mentor's guide was prepared and sent out on June 6, 2023, in which the steps for being a mentor for the GreenScent Sustainable Food Challenge were outlined. This mentor's guide provides mentors with valuable information and instructions to effectively support and guide participating teams during the mentoring phase. It describes the responsibilities and guidelines for mentors involved in the challenge.

The mentor's guide begins with an introduction to the challenge and its objectives, highlighting the role of mentors in helping teams develop innovative solutions and preparing them for the final presentation. It clearly defines the mentors' mission, which is to answer the teams' questions, give them advice and encourage them

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to think critically and creatively. Mentors are encouraged to challenge teams with real-world constraints and potential solutions, to foster a realistic understanding of the field.

Specific objectives are provided for mentors. The guide also gives an example of the time commitment required of mentors, recognizing that mentoring is a personal and purposeful commitment.

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6. Public engagement: Like vote

During the selection phase of the GreenScent Sustainable Food Challenge 2023, a public vote was implemented to actively engage participants and encourage them to spread the word about the challenge within their networks. This public voting process allowed the broader community to have a voice in the selection of the finalists.

Participants were given the opportunity to showcase their projects and invite their friends, family, and colleagues to vote for their submission. The public vote served as a space for participants to generate awareness and support for their ideas, while also fostering a sense of community and collaboration.

The project that received the highest number of votes earned a spot at the final event, where they would have the opportunity to present their innovative solution to the panel of judges composed by members of the consortium. The public vote proved to be an exciting and engaging element of the challenge, with a total of 590 likes being distributed among the various projects. Notably, the winning project received an impressive 147 likes, reflecting the strong support and interest it garnered from the public.

By incorporating a public vote into the selection process, we aimed to democratize the decision-making and ensure that the voice of the wider community was heard. It also created a sense of excitement and competition among the participants, motivating them to actively promote their projects and engage with their networks.

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● 7. Dedicated Communication campaign for the first GreenSCENT challenge

In order to increase engagement and reach a wider audience, the Agorizes communication team implemented various dissemination and communication strategies. These efforts included direct engagement with our partner universities as well as the creation of several communication materials, such as newsletters, social media posts, and listings, aimed at promoting the project and its objectives.

○ 7.1. Direct student engagement

The student communication strategy developed includes the use of ambassadors and school integrations. Integrations are presentations of the challenge organised with our partner universities and professors.

The extensive database of universities and student organizations allows the identification and activation of student ambassadors who are passionate about sustainability and are eager to participate in the challenge. These ambassadors play a critical role in communicating the challenge to their peers at their universities and encouraging them to get involved. Our network of ambassadors was activated to launch the promotion of the challenge: **120+ ambassadors** contacted specifically for the GreenSCENT program.

In addition to these student ambassadors, it is also possible to work with professors and academic institutions to integrate the challenge into their courses and programs. This enables students to take up the challenge as part of their academic curriculum and earn credit for their participation. Working closely with professors, the challenge is integrated in a meaningful way that matches their curriculum and learning objectives.By leveraging these integrations, it is possible to reach a wider audience and inspire even more students to get involved in the challenge and think critically about sustainability in the food industry. Our partner network was activated before the launch: 5,500+ active school partners in Europe.

Globally, the challenge was very well received by our professors. They really appreciated that the challenge was addressing such a wide scope of problems and competences, which enabled them to use it as part of their course in a lot of different curriculums. They are already looking forward to the next challenge, which highlights the success of the first challenge and is an important takeaway.

■

○ 7.2. Other communication actions

■ 7.2.1 Social Media

Promotion of the program to the community and to broader audiences with similar attributes on Facebook, Instagram, Twitter, LinkedIn. Total digital community of **+155,000 innovators** including **+126,000 followers on Facebook, 8,000 on Instagram, 18,000 on LinkedIn and 3,000 on Twitter.**

- **12 separate posts** in total for key stages of the program: post-launch, callback and last call, each targeted to a different social network

7.2.2 Ads on Social Media

Activation of Facebook Ads to promote the program

- **167,200+ reach**
- **2,940+ clicks**

7.2.3 Newsletters

6 monthly newsletter sent to the community of teachers and students in Europe:

- **50,000+ qualified contacts**

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- **300+ targeted calls**

7.2.4 Direct emails

Direct emails sent to the community in Europe: **5,500+ qualified contacts**

7.2.5 Thumbnail redirection

Redirect to Agorize.com to drive natural traffic to your program: **30,000 unique visitors per month**

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8. Takeaways and recommendations for the next challenge

- **Visual identity of the program:** Keep an impactful design for the Sustainable Food Challenge that effectively addresses the theme around sustainability and food.

- **Materials to students on the platform:** Share insights on the issues as seen per Greenscent experts (i.e, videos of professors talking about the issues of sustainable food) so that students have an easier way to relate to the crux of the issue. In general, provide more materials of diverse formats (videos, diagrams, scientific articles) to the students for a richer conversation.

- **Workshop with the students:** Alongside the same vein, planning a workshop during the application phase to engage them could be a great way to create engagement and at the same time provide richer answers to students. The workshop could be captured and made available to students through replay on the platform.

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