



Glocal Ecosystems and Expanded Knowledge  
for green skills and capability in the Food  
Sector

## D3.3

# Validation and Exploitation of the GEEK4Food Hub



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## Acronyms List

G4F	Geek For Food
PaaS	Platform as a Service
KPI	Key Performance Indicator
PPP	Person-Public-Private

## 1. Executive summary

This report is about **GEEK4Food (G4F )** Platform Validation process. The main approach, methodologies and initiatives carried out throughout the whole process of the 3P-GEEK4Food Platform (3P-G4F platform) embedding the GEEK4Food Skill pass, is described and summarised, including the evaluation by the target end-users

## 2. Introduction

### 2.1 Defining the Green Skill Competency Framework

Central to this transition is the cultivation of green skills—a multifaceted set of competencies essential for the shift toward a low-carbon, circular economy. According to Vona et al. (2018), these skills encompass the technical knowledge and adaptive behaviors required to minimize ecological footprints while optimizing the efficiency of finite resources.

However, moving beyond theoretical definitions requires a rigorous platform validation process to ensure these skills are measurable and applicable within real-world labor markets.

The rise of "**green skills**" reflects a global response to the pressing threats of climate change, environmental decay, and the rapid exhaustion of natural resources. While the roots of this movement trace back to the environmental activism of the 1960s and 70s, the modern definition of sustainability was solidified by the 1987 Brundtland Commission. Its landmark report, *Our Common Future*, established the enduring standard for development: meeting today's needs without stripping future generations of their own ability to survive (Hajian & Kashani, 2021). Today, this concept has matured into a practical imperative to equip the workforce—across agriculture, energy, and construction—with the specific competencies and values required to operate within a sustainable economy.

This shift is directly tied to international benchmarks like the United Nations Sustainable Development Goals (SDGs), specifically those targeting clean energy (SDG 7), resilient cities (SDG 11), and responsible production (SDG 12). As industries like farming face increasing pressure to modernize, two primary theoretical frameworks explain why and how we develop these skills:

**Human Capital Theory:** Proposed by Becker (2009), this perspective treats education as a strategic investment. By focusing training on sustainability, we increase individual productivity and enable workers to drive the economic transition toward "green" industries.

**Ecological Modernization Theory:** According to Mol and Sonnenfeld (2014), economic growth and environmental health are not inherently at odds. Instead, they argue that through technological innovation and smarter policy integration, industrial progress can actually be harmonized with ecological protection.

## 2.2 Technical Validation and Intentional Usability: The G4F Approach

Despite the growing recognition of these competencies, the industry has historically lacked standardized tools for assessment (UNEP, 2020). Addressing this gap, the GEEK4Food Skillpass and Hub represents a significant advancement in the intentional evaluation of usability and technical accuracy. This platform is a scientifically validated diagnostic tool designed to bridge the "skills gap" through:

**Predictive AI Integration:** Utilizing the SH/CSOD algorithms (SkyHive by Cornerstone – WP2), the system undergoes a continuous validation cycle, mapping real-time labor market data against the European ESCO taxonomy. The identified skills are not static but are technically aligned with current industrial requirements.

- **User-Centered Design (UCD) & Empirical Testing (both WP3 goals):** The usability of the assessment path has been intentionally validated through multi-stakeholder piloting. By involving universities (such as the University of Teramo) and EIT Food, the tool has been refined to ensure that the Skills Passport output provides a high-fidelity representation of a professional's green profile.
- **Methodological Rigor:** The validation path follows a structured scientific trajectory, transforming qualitative environmental goals into quantifiable credentials. This allows for a precise "upskilling" roadmap, ensuring that the agricultural workforce can meet the rigorous demands of the European Green Deal.

## 2.3. From Theory to Validated Action

The evolution of green skills assessment marks a shift from general environmental awareness to validated technical proficiency. By utilizing platforms like G4F Skillpass, the agricultural sector can move toward a data-driven model of sustainability. This intentional focus on usability and scientific validation ensures that the "greening" of the workforce is not just a policy objective, but a measurable, verifiable, and scalable reality for the global food system.

<https://geek4food.com/g4f-skills-platform>

The G4F Platform is the tool that integrates the Green Skill Tool (WP2) and the 3P-G4F-Hub (WP3) and the integrations that will gradually materialize through the performance of the actions of the individual WPs, updated according to the user experience, the major analyses deriving from the Green Skill Tool and the implementation of the solutions that the labor market will highlight as determinants, filtered by the matrix of the four *personas* according to the PPP model. From now on, the Green Skill Tool (WP2) and the 3P-G4F Hub (WP3), combined, will be identified as a web-based platform, Geek4Food Platform, an add-on to the <https://geek4food.com/> website, which guarantees their public visibility for the exploitation of the project results.

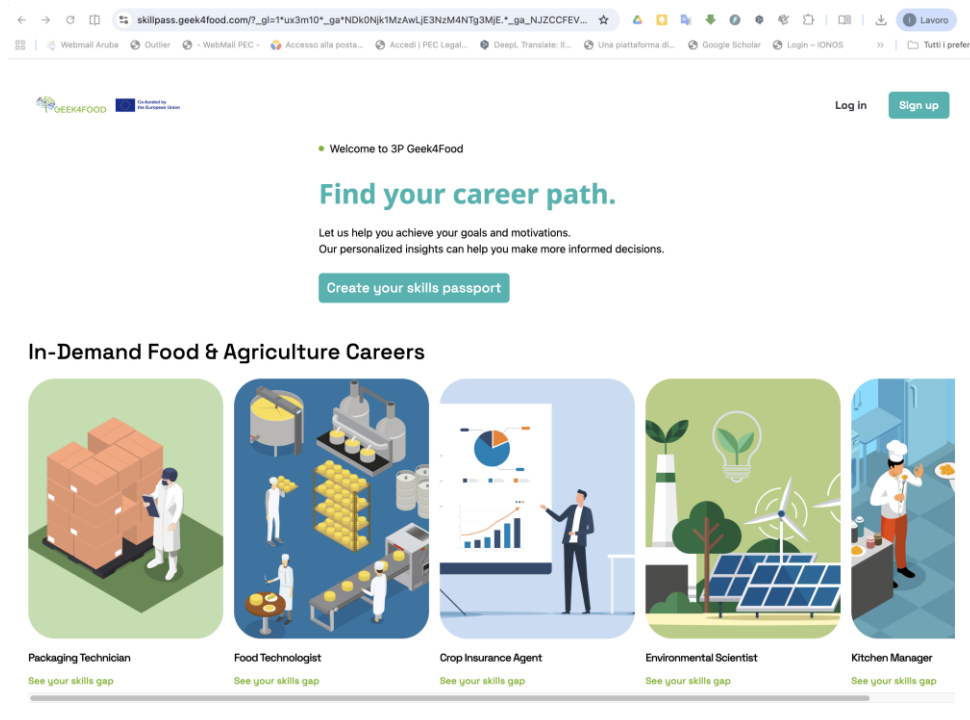


Figura 1: <https://geek4food.com/g4f-skills-platform>

The alignment of these diverse skill sets matrix ensures that the agricultural workforce is not only prepared for the current green transition but is also capable of driving future resilience. By grounding these competencies in established academic pillars—ranging from Hart’s (1995) focus on resource efficiency to more recent findings on ecosystem management (Muthee et al., 2021) the sector moves toward a standardized model of "green proficiency." This methodological rigor is essential for transforming the agricultural landscape into a resilient system that meets the global demands of food security and environmental protection through a validated, closed-loop approach.

### 3. Methodology

The validation of the **GEEK4Food Skillpass** platform followed a rigorous, mixed-methods approach centered on a transnational survey designed to bridge the gap between theoretical green competencies and industrial requirements. The methodology employed a structured survey instrument distributed among a diverse cohort of agricultural stakeholders, including students, researchers, and food industry professionals across several European regions. This process utilized **Likert-scale metrics** to quantify user-reported proficiency and perceived usability, ensuring a data-driven assessment of the platform’s diagnostic accuracy. To safeguard the scientific integrity of the tool, the collected data underwent internal consistency testing via **Cronbach’s Alpha**, also the structural alignment between the AI-driven skill mapping and the **European ESCO taxonomy** was verified through Exploratory Factor Analysis

(EFA) by Skyhive/CSOD, the data are actually a not shared specific IP to preserve industrial competitiveness.

This intentional validation cycle as a scientifically grounded instrument for mitigating the green skills gap in the global food system.

### **Risk Analysis and Technical Validation Grid: GEEK4Food Platform**

The platform integrates **Predictive Artificial Intelligence engines (SkyHive by Cornerstone)** for competency mapping. Technical validation processing complies with the **EU AI Act**, minimizing the use of personal data and focusing exclusively on professional metadata (skills, academic qualifications, work experience).

### **3.1 Taxonomic Alignment and Semantic Interoperability**

The use of engines like **SkyHive by Cornerstone** is grounded in the methodology of **Knowledge Graph (KG)** construction and **Natural Resource-Based Views (NRBV)** of human capital.

By mapping skills to standardized frameworks (ESCO taxonomy), the system employs **Latent Semantic Analysis (LSA)** and **Transformer-based models (BERT/RobERTa)** to understand the relationship between academic qualifications and labor market needs.

This "**Semantic Interoperability**," allowing disparate data points (a CV, a course syllabus, a job description) to be translated into a unified "skill language," reducing the subjectivity inherent in traditional manual assessments.

G4F platform is built upon a transition from traditional, static job-seeking models to a dynamic, AI-validated competency framework. Unlike generalist platforms that focus on broad "keywords", G4F utilizes a technical-scientific approach to quantify the "green" transition within the agrifood sector by aligning user data with the European ESCO taxonomy.






The G4F platform is strategically engineered to serve four primary Personas, each with distinct functional objectives: Entrepreneurs utilize the tool to mitigate persistent skill shortages by moving beyond traditional "social recruiting" toward data-driven hiring, thereby reducing the "black box" effect of the labor market through a validated Skills Passport that guarantees a candidate's technical readiness for sustainable operations. Teachers and Educators leverage the platform's diagnostic data to design targeted training programs aligned with current market demands, evaluating the coherence index of their courses while simultaneously fulfilling AI literacy obligations to ensure that both staff and students master algorithmic logic. Learners (students and job seekers) engage in intentional upskilling to build a robust "green" professional identity, avoiding the common pitfall of "bombarding" generalist platforms with generic, non-indexed CVs in favor of a scientific evaluation that increases their bargaining power and provides a roadmap for further qualification. Finally, Policy Makers utilize the platform to monitor the green transition at a systemic level, using validated data to bridge the "implementation gap" in sustainable agriculture and fulfill global Sustainable Development Goals (SDGs).

This multidimensional, AI-validated approach creates a significant point of comparison with the digital landscape described in the Guiding Galaxy, shifting the focus from the generalist "keyword" searches of InfoJobs or Monster and the networking focus of LinkedIn toward a specialized, technically-rigorous ecosystem designed for the specific ecological modernization of the agrifood sector.

This validation effort aims to deeply understand the main scope of the project and if the consortium G4F Platform is successful.

To this aim a benchmark analysis of the current online platforms dealing with job search and demand was carried out and the features are compared with the 3P-G4F platform design and implementation plan (Table 1)

**Table 1:** comparison of the features of the 3P-G4F platform with available online job search and demand platforms

Brand	Platform	Core Features & Methodology	Professional Target	Innovation / Added Value
	GEEK4Food	Technical-scientific validation of "green" competencies using predictive AI and ESCO taxonomy.	Agrifood sector and sustainability professionals.	Dynamic assessment of skill gaps and issuance of a digital "Skills Passport."
	InfoJobs	Traditional starting point for job seekers; displays categories with high opportunities and hiring companies.	Generalist (Sales, Retail, ICT, Manufacturing).	Massive database of active companies and open positions.
	LinkedIn	Transitioned from "Digital Reputation" to "Social Recruiting" through professional networking.	Qualified professionals in advanced services.	Professional network maintenance and connections with former colleagues.
	Indeed / Monster	Reliable international job aggregators with keyword and geographic location search.	Generalist.	Semantic search capabilities (Indeed) and corporate video job ads (Monster).
	Mundamundis	Guidance via chatbot to avoid the completion of long, complex forms.	Users with lower technological literacy.	Virtual assistant (Beatrice) for psycho-aptitudinal profiling.

	Laborplay	Revolutionizes job hunting through gamification.	Candidates wishing to measure soft skills.	Uses mobile games (e.g., Candy Crush) to map skill sets.
	Jobiri	Digital career advisor powered by complex AI algorithms.	Candidates requiring 24/7 orientation.	Automatic evaluation of CVs/letters and 24/7 interview training.
	Geek and Job	Double-selection system for precise matching between supply and demand.	Technical profiles (programmers, data scientists, designers).	Targeted invitation system and "Geek Quizzes" for selection.
	Jobrapido / Trovit	Job aggregators analyzing thousands of sites to save user time.	Generalist.	Direct redirection to the original source of the job advertisement.
	Glassdoor	Allows users to research internal company information.	Candidates focused on company culture.	Reviews on company reputation and prior knowledge of salary ranges.

The **GEEK4Food** platform is strategically engineered to serve four primary **Personas**, each with distinct functional objectives:

- **Entrepreneurs**, utilize the tool to mitigate persistent skill shortages by moving beyond traditional "social recruiting" toward data-driven hiring, thereby reducing the "black box" effect of the labor market through a validated **G4F Platform** that guarantees a candidate's technical readiness for sustainable operations.
- **Teachers and Educators**, leverage the platform's diagnostic data to design targeted training programs aligned with current market demands, evaluating the coherence index of their courses while simultaneously fulfilling **AI literacy** obligations to ensure that both staff and students master algorithmic logic.
- **Learners** (students and job seekers), engage in intentional upskilling to build a robust "green" professional identity, avoiding the common pitfall of "bombarding" generalist platforms with generic, non-indexed CVs in favor of a scientific evaluation that increases their bargaining power and provides a roadmap for further qualification. Finally.

- **Policy Makers** utilize the platform to monitor the green transition at a systemic level, using validated data to bridge the "implementation gap" in sustainable agriculture and fulfill also global **Sustainable Development Goals (SDGs)**.

The GEEK4Food platform, when viewed through the multidimensional lens of the digital employment landscape, reveals a shift from **generalist "scouting"** to **high-fidelity "competency validation."** While traditional platforms like InfoJobs and Monster serve as essential "starting points" by providing massive databases of open positions and keyword-based search functionalities, they often leave the burden of "proving" professional value to the user. In contrast, GEEK4Food implements a scientific assessment of skills aligning these competencies with the European ESCO taxonomy. This taxonomic rigor offers a higher level of "semantic search" than that provided by Indeed, as it does not merely match keywords but validates technical proficiency against standardized industrial benchmarks. Furthermore, GEEK4Food addresses the "black box" of the labor market by providing an AI-driven Skills Passport, a feature that moves beyond the "digital reputation" model of LinkedIn. While LinkedIn focuses on professional network maintenance, **G4F focuses on predictive diagnostics, identifying specific "skill gaps" to provide a roadmap for intentional upskilling.** This approach is technically superior to the "bombardment" of pre-set messages common on social recruiting platforms. The platform also incorporates advanced user-experience methodologies, similar to the chatbot-led guidance of Mundamundis (Beatrice) or the gamification techniques of Laborplay, but applies them specifically to the agrifood sector. This ensures that even "less tech-savvy" users can achieve high-level profiling while meeting the AI literacy obligations required by modern regulatory frameworks like the EU AI Act. The technical value of GEEK4Food lies in its ability to offer a "win-win" scenario for all stakeholders. For Entrepreneurs, it offers a "double-selection" precision similar to Geek and Job, reducing the risk of "mismatch" and "skill shortages". For Learners, it provides the "perseverance" tool needed to navigate an expanding "ocean" of websites by offering a verified credential that increases their "alternative choice" and bargaining power. By integrating the "24/7 orientation" capabilities seen in Jobiri with a specialized focus on ecological modernization, GEEK4Food distinguishes itself as a robust, scientifically-grounded instrument for the green transition, effectively bridging the "implementation gap" that generalist aggregators cannot address.

### 3.2. Privacy by Design and Metadata-Centric Processing

The SH/CSOD approach highlights a focus on **professional metadata** rather than sensitive personal data, which is a core tenet of **Privacy by Design (PbD)**.

The system utilizes **Attribute-Based Access Control (ABAC)** and data anonymization techniques. By extracting "features" (skills/experience) and discarding "identifiers" (biometric or personal traits), the platform mitigates the risk of identity theft and unauthorized profiling. This approach follows the principle of **Data Minimization** (Art. 5, GDPR), ensuring that the AI engine only processes the specific vectors necessary for the mapping algorithm to function, thereby reducing the "attack surface" for potential data breaches.

The processing introduces algorithmic profiling for career guidance (upskilling/reskilling). The validation process confirmed that SH/CSOD profiling is “non-discriminatory” and subject to human oversight, reducing the risks of bias arising from automation.

G4F strategic need was (declared) to bridge the skills gap in the European agri-food sector. The tool is designed to create a digital Skills Passport, which is necessary for the ecological and digital transition envisaged by the Green Deal.

**Table 2: Risks and mitigation measures**

Risk description	Preliminary Exposure Assessment	Mitigation Measure
<b>Risk 1: Algorithmic Bias</b>	Medium-Low	Continuous validation through certified ESCO datasets.
<b>Risk 2: Unwanted access</b>	Low	Two-factor authentication (2FA) and SSL encryption.
<b>Risk 3: Wrong profiling</b>	Low	Ability for the user to review and correct the profile.
<b>Risk 3: Incorrect profiling</b>	Low	Hosted on ISO/IEC 27001 certified servers.

The G4F ecosystems is a structural evolution from traditional, data-intensive "Black Box" models to advanced "Privacy by Design" frameworks. While generalist platforms (Table 1) such as InfoJobs, Monster, and Indeed rely on high-volume data ingestion and extensive user input -often leading to "data exhaustion" and fragmented footprints across third-party aggregators -social recruiting giants like LinkedIn necessitate a high degree of public exposure to manage "Digital Reputation". In contrast, the rise of AI-driven and gamified solutions, including Mundamundis, Laborplay, and Jobiri, introduces complex challenges regarding the processing of conversational and behavioral metadata, requiring heightened transparency and algorithmic accountability.

The GEEK4Food platform represents a superior methodological shift toward regulatory and technical excellence; by strictly adhering to the EU AI Act and Article 4 mandates, it ensures a sufficient level of AI literacy for all operators while focusing exclusively on professional metadata (skills, qualifications, and experience) through ethic AI driven profiles and ESCO taxonomic alignment. This scientific approach to data minimization, supported by robust mitigation strategies against algorithmic bias and unauthorized access (2FA/SSL), effectively harmonizes high-fidelity professional profiling with the most stringent European data protection standards.

Lastly, the ethical positioning of the **GEEK4Food** platform is rooted in the principle of **algorithmic neutrality** and **non-discrimination**, as it deliberately excludes sensitive personal variables - such as gender, religion, age, or political affiliation - from its processing logic. By focusing exclusively on **professional metadata**, including technical skills, academic qualifications, and work experience, the platform adheres to a "Privacy by Design" framework

that prioritizes **meritocratic mapping** over socio-demographic profiling. This technical choice directly mitigates the risk of **algorithmic bias**, ensuring that the "Skills Passport" remains a transparent and objective instrument for professional orientation in line with the **EU AI Act** and the ethical mandates of **Article 4**.

### 3.3 Regulatory Alignment with the EU AI Act

The reference to the **EU AI Act** provides a framework for **Algorithmic Accountability** and **High-Risk AI management**. (<https://artificialintelligenceact.eu/>) (Figure 2). The EU AI Act introduces new obligations to entities located within the EU and elsewhere.

The technical report "**capAI - A procedure for conducting conformity assessment of AI systems in line with the EU Artificial Intelligence Act**," published on **March 23, 2022**. Authored by a multidisciplinary team from the **University of Oxford** and the **University of Bologna**, including Luciano Floridi, Matthias Holweg, and Mariarosaria Taddeo, provides a formal methodology for translating high-level ethics principles into verifiable criteria.

The main scientific and practical context of this report is the **European Union's Artificial Intelligence Act (AIA)**, which establishes a harmonized regulatory framework to ensure AI systems are safe and trustworthy. The **capAI** procedure specifically operationalizes **ethics-based auditing (EBA)** to help organizations as G4F Consortium or G4F Exploiters demonstrate that AI systems are (Table 3):

- legally compliant,
- ethically sound,
- technically robust.

Table 3: Critical capAI Requirements Application to GEEK4Food Platform

Assessment Stage	Critical capAI Requirements	Application to GEEK4Food Platform
<b>Stage 1: Design (Concept)</b>	Definition of functional/ethical requirements and environmental impact assessment.	Validation of "green" competencies within the agrifood sector to bridge the implementation gap in sustainable labor transitions.
<b>Stage 2: Development (Data)</b>	Ensuring data representativeness and executing legal compliance (GDPR/EU AI Act).	Mapping professional metadata against the European ESCO taxonomy while implementing "Privacy by Design" protocols.
<b>Stage 3: Evaluation (Robustness)</b>	Stress-testing performance on boundary values and identifying failure patterns.	Deployment of SkyHive AI for real-time diagnostic skill-gap mapping and predictive career orientation.
<b>Stage 4: Operation (Decay)</b>	Monitoring for data drift and establishing robust user grievance mechanisms.	Systematic assessment of algorithmic matching accuracy relative to the evolving requirements of the European Green Deal.
<b>Ethical Alignment</b>	Adherence to Beneficence, Non-maleficence, Justice, and Explicability.	Algorithmic Neutrality: The architecture strictly precludes the processing of sensitive variables such as gender, creed, or age.

High-level AI systems used in "Education and Vocational Training" or "Employment/HR" are categorized under the AI Act as having significant impact by ensuring transparency in how the "Predictive" element reaches its conclusions. The platform adheres to the **"Right to**

**Explanation.**" This allows for a "human-in-the-loop" (HITL) validation, where professional outcomes are checked against the AI's logic to prevent automated discrimination or "black-box" errors.

Through the capAI External Scorecard (ESC) a sophisticated alignment with the normative expectations of the EU AI Act is revealed, transitioning from opaque "Black Box" methodologies toward a transparent, purpose-oriented diagnostic architecture. The technical validation confirms a "Privacy by Design" ethos that prioritises data minimisation, while the integration of Article 4 literacy mandates ensures that the predictive logic of the SkyHive engine remains interpretable for all stakeholders, thereby mitigating the risk of "ethics-washing." Ultimately, the systemic identification of high-risk vocational competencies, combined with a "Medium-Low" exposure to algorithmic bias, positions the platform as a robust, scientifically-grounded instrument capable of advancing ecological modernization through verifiable human capital assessment


### 3.3 Legal compliant analysis check




Figura 2 <https://artificialintelligenceact.eu/assessment/eu-ai-act-compliance-checker/>

WP3 team performed a preliminary check (<https://artificialintelligenceact.eu/assessment/eu-ai-act-compliance-checker/>) on the possibility that the Geek4food platform can be used by the exploiter identified in the design phase between UniTE and EITFood. For both, assuming that the G4F system can be used in a context outside the project, a further compliance check with respect to the EU AI law will have to be carried out.

Currently the G4F platform is formally in this very specific cluster:

<b>Providers must notify the NCA</b>
<i>"If a provider considers that its AI system does not pose a significant risk (see <a href="#">Article 6(2a)</a>), must register its system in the EU database before it is placed on the market or put into service (see <a href="#">Article 6(2a)</a>). <a href="#">Article 49(2)</a>.</i>
<i>They must also document their assessment and provide this documentation to the National Competent Authorities (NCAs) upon request (see <a href="#">Article 6(4)</a>).</i>
<i>If a market surveillance authority discovers that the AI system has been misclassified (see <a href="#">Article 80</a>), your system will be subject to the "high-risk" obligations described in <a href="#">Chapter III, Section 2</a>, and you may be subject to financial penalties under <a href="#">Article 99</a>."</i>

<b>Validation result:</b> <b>SH/CSOD is fully compliant.</b>

EU AI legal compliance #1

<b>AI literacy obligations</b>
<i>"You must take measures to ensure a sufficient level of AI literacy for your staff (and other persons involved in the operation and use of AI systems on their behalf), taking into account their technical knowledge, experience, education and training, and the context in which AI systems are to be used, pursuant to <a href="#">Article 4</a>."</i>

<b>Validation result:</b> <b>SH/CSOD and the entire Geek4Food Consortium are partially compliant.</b>

EU AI legal compliance #2

To fulfill the **AI literacy obligations** under **Article 4 of the EU AI Act**, **UNITE** (University of Teramo) or **EIT Food** (project partners, potentially exploiters) must move beyond general awareness and implement a structured, documented framework for competency building in their own organisations after Exploiting Agreement will be setting up.

The goal is to ensure that anyone involved in the operation or use of the GEEK4Food Platform understands how the AI functions, its limitations, and the ethical implications of its outputs.

### 3.4 Training & Capacity Building (The Educational Pillar)

Compliance requires tailored training programs that reflect the specific roles of the staff.

- **Role-Specific Modules:** Distinguish between "technical operators" (who manage the backend AI integration) and "end-user facilitators" (who help students/professionals interpret the Skillpass results).
- **Core Curriculum:** Training must cover the basics of **Machine Learning (ML)** logic, the concept of **Algorithmic Bias**, and the specific **Data Minimization** practices used in the project.
- **Continuous Learning:** Since AI models evolve, literacy must be maintained through periodic updates or "refresher" workshops.

### 3.5 Operational Documentation and Transparency

Under Article 4, literacy is also about the "context in which AI systems are to be used."

- **User Manuals & AI Factsheets:** Provide staff with clear documentation (Technical Passports) explaining how the **SkyHive** engine reaches its predictions.
- **Risk Awareness:** Explicitly document the "known limitations" of the system (e.g., potential errors in non-standard CV formats) so staff can exercise critical judgment rather than over-relying on the AI.

### 3.6 Verification and Assessment (The Governance Pillar)

Exploiters must be able to prove that "measures were taken."

- **Competency Assessment:** Implement a final evaluation (quiz or certification) at the end of training sessions to verify that staff have reached a "sufficient level" of literacy.
- **Compliance Auditing:** Maintain a **Training Log** (Registry of Literacy) documenting who was trained, when, and the scope of the curriculum (evidence during a GDPR or AI Act audit).

Action Item	Responsibility (Expoliter)	Evidence Required
AI Literacy Survey	Project Manager	Baseline assessment of current staff knowledge.
Workshops/Webinars	Technical Lead	Attendance records and training materials.
Interpretability Guide	Software Dev Team	A "Layman's Guide" to the Skillpass Algorithm.
Ethics Briefing	DPO / Ethics Committee	Documented briefing on AI bias and mitigation.

## 4. Human-in-the-Loop: Validation report

Literacy is effectively demonstrated when staff can intervene in the AI validation process.



Figura 4 LinkedIn invitation

On 19 March, the validation session for the G4F platform took place in a synchronous format, organised by WP3 and WP2 in agreement with UniTE and with the support of all other members of the Geek4food Consortium (see dissemination post on LinkedIn, page 4). A streamlined organizational structure was selected to avoid overburdening the bias assessment and to provide users with ample time to explore the platform. The platform remains accessible even after the presentation concludes. The questionnaire was not timed and did not incorporate open-ended questions. This approach was preferred over more complex structures to ensure that users would spend no more than 3–4 minutes completing it. Any

further validation sessions will be undertaken following the identification of the Exploiter, as further modifications would be necessary to adapt the service to the purposes of the entity that will exploit the platform and its components and results, in accordance with its proper organisation's policy and in compliance with the IP agreement document. It is currently not possible to carry out a compliance validation that takes these two crucial aspects into account; however, these aspects will only become meaningful and relevant once the Exploiting phase begins after the end of the project (on 31 March 2026).

The proposed validation strategy aimed to transversally involve the four categories of users that also correspond to marketing personas. The goal of optimizing time and maximizing the impact of one's actions leads to simplification by avoiding insignificant categorizations and always resorting to transversal and multi-objective invitations.

The methodological framework adopted for the GEEK4Food Platform evaluation session on March 19, 2026, centers on maximizing **user engagement** and **data integrity** through a strategic reduction of respondent burden. By utilizing closed-ended questions and strictly limiting the survey duration to a 3-4 minute window, the approach directly addresses the "survey fatigue" phenomenon, which is a primary driver of high abandonment rates and partial responses.

The event began with a presentation of the G4F platform (integrated) by Prof. Mohan Reddy from SH/CSOD. Prof. Reddy is the person who wrote the AI algorithm from scratch. It was therefore possible to ask direct questions whilst the link to access the platform and complete the survey was displayed. The entire process was completed in under 60 minutes, with the aim of not keeping the online guest misusing time and focus but allowing them as much time as possible to explore the platform and provide feedback via the survey, free minutes for platform navigation.

Studies consistently show that shorter surveys lead to higher data quality. A duration of under five minutes is considered optimal for maintaining respondent focus. This approach follows the principle of "Lean UX Evaluation," where user interaction with the product is the primary data source, and the survey acts as a brief validation layer (Nielsen Norman Group).

The choice to prioritize time spent interacting with the platform over extensive survey completion in according to WP3 key scientific principles:

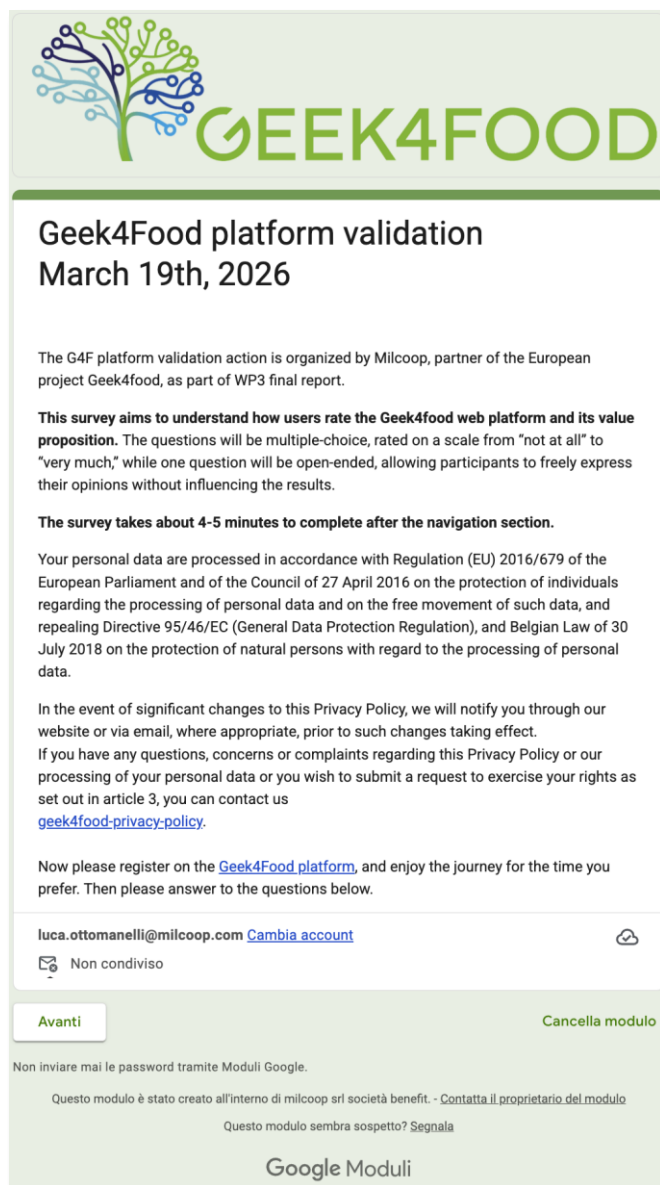
- **The Three-Minute Threshold:** Research suggests that survey completion rates begin to decline significantly after the three-minute mark. By keeping the instrument within a 3-4 minute range, the evaluation mitigates the risk of **satisficing** - where respondents provide lower-quality answers to finish faster - and ensures a higher completion rate.
- **Closed-Ended Question Efficiency:** The use of closed-ended questions reduces the cognitive load on the user and allows for rapid quantitative analysis, ensuring that the focus remains on the **User Experience (UX)** of the platform rather than the complexity of the questionnaire.
- **User-Centered Evaluation:** Allowing "Personas" to spend the majority of their time on the platform (entrepreneurs, teachers, learners, policy makers) ensured that the feedback is based on deep functional interaction. This aligns with the **Internal Review**

**Protocol (IRP)** logic, where real-world usability data is prioritized over abstract feedback.

The use of **multiple-choice questions** on a standardized scale (from "not at all" to "very much") allows for the collection of quantifiable data that can be statistically analyzed to determine internal consistency, for instance through **Cronbach's Alpha**.

The inclusion of just 2 **open-ended question** permits participants to express nuanced opinions without researcher influence, providing qualitative insights that complement the quantitative ratings of the platform's value proposition. Methodologically, users are instructed to first interact with the platform ("enjoy the journey for the time you prefer") before answering, ensuring that feedback is rooted in actual **User Experience (UX)** rather than initial perceptions.

Figures



**Geek4Food platform validation**  
March 19th, 2026

The G4F platform validation action is organized by Milcoop, partner of the European project Geek4food, as part of WP3 final report.

**This survey aims to understand how users rate the Geek4food web platform and its value proposition.** The questions will be multiple-choice, rated on a scale from "not at all" to "very much," while one question will be open-ended, allowing participants to freely express their opinions without influencing the results.

**The survey takes about 4-5 minutes to complete after the navigation section.**

Your personal data are processed in accordance with Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals regarding the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), and Belgian Law of 30 July 2018 on the protection of natural persons with regard to the processing of personal data.

In the event of significant changes to this Privacy Policy, we will notify you through our website or via email, where appropriate, prior to such changes taking effect. If you have any questions, concerns or complaints regarding this Privacy Policy or our processing of your personal data or you wish to submit a request to exercise your rights as set out in article 3, you can contact us [geek4food-privacy-policy](#).

Now please register on the [Geek4Food platform](#), and enjoy the journey for the time you prefer. Then please answer to the questions below.

luca.ottomanelli@milcoop.com [Cambia account](#)

Non condiviso

[Avanti](#) [Cancella modulo](#)

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Google Moduli

Figure 5: Google Form validation survey

A Google Form (<https://forms.gle/oxPDpX5o5XVebd4A>) was selected and designed to ensure strictly compliance by European standards (Figure 5):

- GDPR Alignment: Data processing is explicitly compliant with Regulation (EU) 2016/679.
- AI Act & Literacy mandates: The evaluation session serves as a practical fulfillment of Article 4 (AI Literacy) obligations, as it facilitates a documented interaction where personas (Entrepreneurs, Teachers, Learners, Policy Makers) assess the context and output of G4F AI system.

- Governance and Accountability: The survey is organized within a formal project reporting framework (WP3 final report), ensuring that the results are traceable and can inform the continuous re-design cycle advocated by the capAI methodology.

**First session:**

The first survey session is engineered to be completed within a **1-minute window**, a threshold scientifically recognized to prevent survey fatigue and ensure high completion rates. The introductory message emphasizes that "there are no right or wrong answers," encouraging honesty and reducing social desirability bias (neutrality goal) (Figure 6).

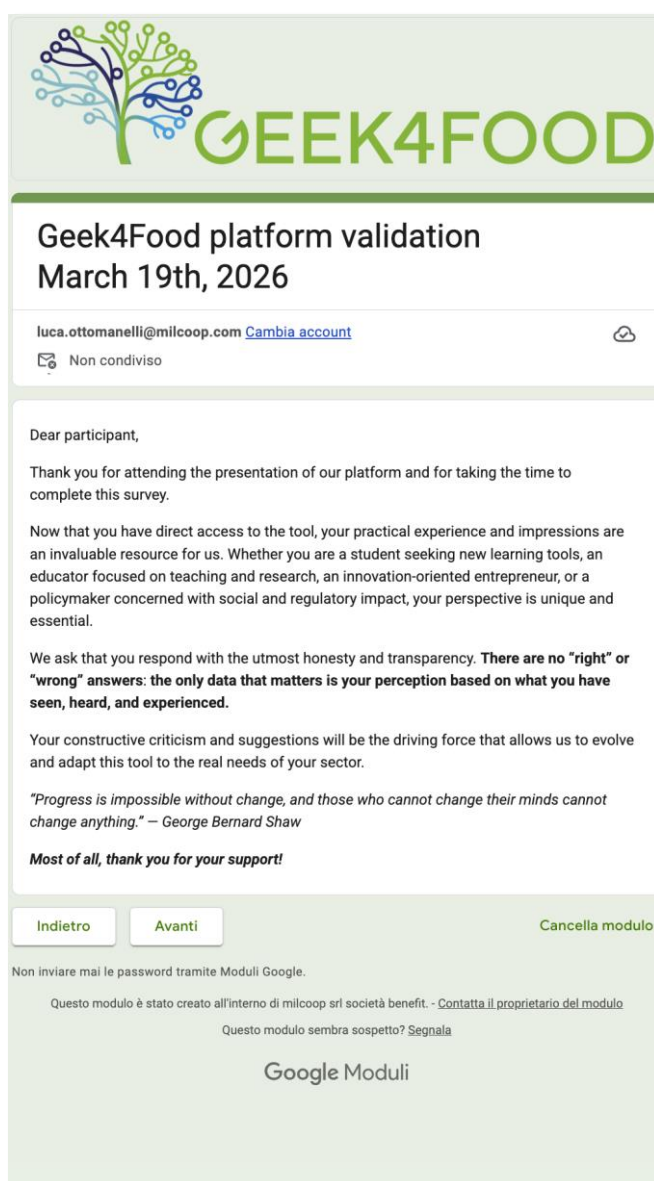
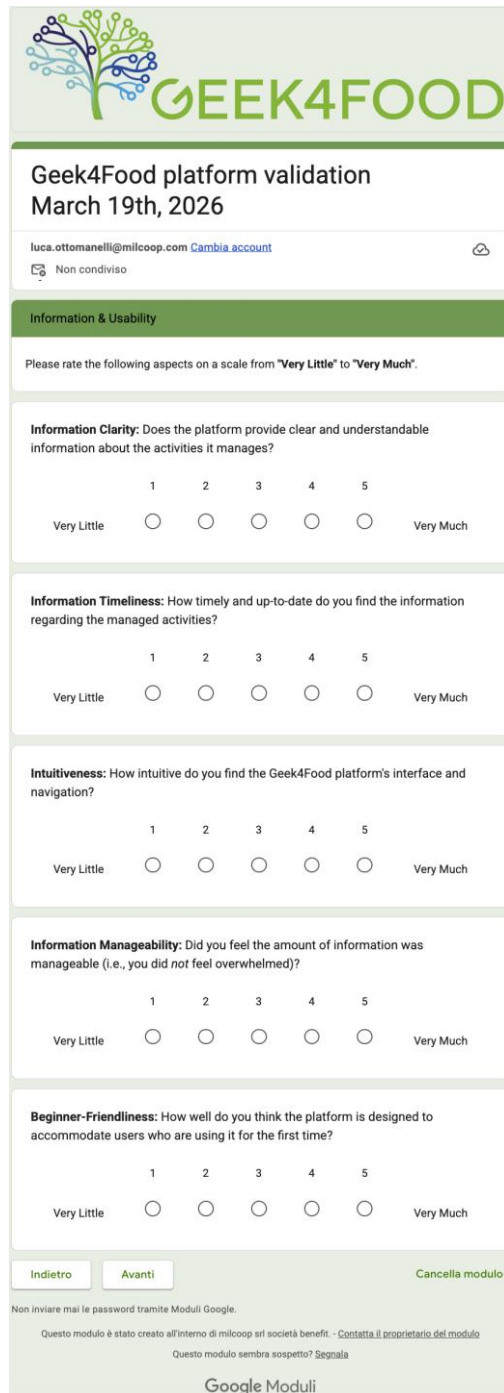


Figure 6: Google Form validation survey

Session two:

The **second survey session** is engineered to be completed within a 2 minute window and made of a 5-point Likert Scale, ranging from "Very Little" (1) to "Very Much" (5) (Figure 7). It allows for the calculation of mean scores and standard deviations to determine the platform's performance across different user personas.



**Geek4Food platform validation**  
March 19th, 2026

luca.ottomanelli@milcoop.com [Cambia account](#)

Non condiviso

**Information & Usability**

Please rate the following aspects on a scale from "Very Little" to "Very Much".

**Information Clarity:** Does the platform provide clear and understandable information about the activities it manages?

1 2 3 4 5  
Very Little      Very Much

**Information Timeliness:** How timely and up-to-date do you find the information regarding the managed activities?

1 2 3 4 5  
Very Little      Very Much

**Intuitiveness:** How intuitive do you find the Geek4Food platform's interface and navigation?

1 2 3 4 5  
Very Little      Very Much

**Information Manageability:** Did you feel the amount of information was manageable (i.e., you did not feel overwhelmed)?

1 2 3 4 5  
Very Little      Very Much

**Beginner-Friendliness:** How well do you think the platform is designed to accommodate users who are using it for the first time?

1 2 3 4 5  
Very Little      Very Much

Indietro Avanti Cancella modulo

Non inviare mai le password tramite Moduli Google.

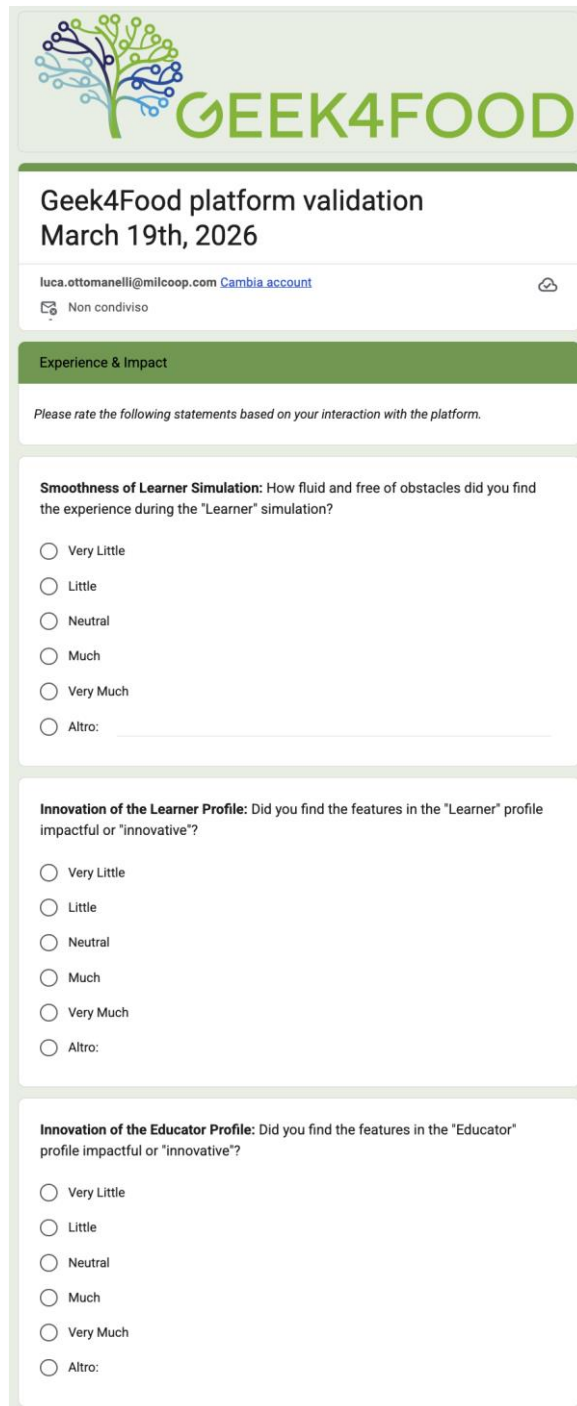
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Google Moduli

Figura 7 Second survey session validation matrix

The **third survey session** is engineered to be completed within a 3 minute window by selecting the response in 5-point Likert Scale, ranging from "Very Little" (1) to "Very Much" (5). It allows for the calculation of mean scores and standard deviations to determine the platform's performance across different user personas (Figure 8 and 9).



The screenshot shows a survey form titled "Geek4Food platform validation" dated "March 19th, 2026". The form is for user "luca.ottomanelli@milcoop.com" with a "Cambia account". It includes a "Non condiviso" status. The survey is divided into sections: "Experience & Impact" with a request to rate statements based on interaction with the platform. Three sections follow, each with a 5-point Likert scale and an "Altro:" option:

- Smoothness of Learner Simulation:** How fluid and free of obstacles did you find the experience during the "Learner" simulation?
  - Very Little
  - Little
  - Neutral
  - Much
  - Very Much
  - Altro: \_\_\_\_\_
- Innovation of the Learner Profile:** Did you find the features in the "Learner" profile impactful or "innovative"?
  - Very Little
  - Little
  - Neutral
  - Much
  - Very Much
  - Altro: \_\_\_\_\_
- Innovation of the Educator Profile:** Did you find the features in the "Educator" profile impactful or "innovative"?
  - Very Little
  - Little
  - Neutral
  - Much
  - Very Much
  - Altro: \_\_\_\_\_

Figura 8 : Session Two - Third survey session

**Educator Reliability:** How much do you believe the platform meets the practical needs and technical expectations of an Educator?

Very Little

Little

Neutral

Much

Very Much

Altro:

**Overall Alignment:** Does the Geek4Food platform meet your general expectations for its intended purpose?

Very Little

Little

Neutral

Much

Very Much

Altro:

**Market Relevance:** To what extent do you believe the **Geek4Food** platform offers a competitive advantage or tangible value for businesses in the food sector?  
*(for Entrepreneurs & Industry Leaders)*

Very Little

Little

Neutral

Much

Very Much

Altro:

**Scalability & Integration:** How much do you think the platform is capable of scaling and integrating effectively within existing business or industrial workflows?  
*(for Entrepreneurs & Industry Leaders)*

Very Little

Little

Neutral

Much

Very Much

Altro:

*Figura 9: Session Two - Third survey session*

**Policy Alignment:** How much do you believe this platform aligns with current public policy goals (e.g., sustainability, digital transition, or educational standards)?  
*(for Policy Makers & Institutional Representatives)*

Very Little  
 Little  
 Neutral  
 Much  
 Very Much  
 Altro:

Is there anything else you would like to highlight, suggest, or criticize regarding the **Geek4Food** platform?

*Please share any thoughts from your specific professional or academic perspective that could help us improve the experience.*

La tua risposta

---

What do you think is **Geek4Food** platform's SuperPower?

*Please share any idea to help us understand what is the maximum perceived benefit of our platform.*

La tua risposta

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Figura 10 Session Two - Third survey session

#### 4.1 Psychometric Validation in AI-Driven G4F Ecosystems Overview

The validation process for the **GEEK4Food** platform is grounded in the principles of **Human-Centered Design (HCD)** and **Evidence-Based Auditing**, as outlined in the **capAI framework** developed by the University of Oxford. Scientifically, the transition from a "Black Box" labor market to a validated competency framework requires an instrument that can measure both **Perceived Usefulness (PU)** and **Perceived Ease of Use (PEOU)**, constructs fundamental to the **Technology Acceptance Model (TAM)**.

By utilizing a 5-point Likert scale and targeted qualitative probes, this validation instrument addresses the **AI literacy obligations** set forth in **Article 4 of the EU AI Act**. Methodologically, the survey serves as a "Human-in-the-Loop" (HITL) feedback mechanism, ensuring that the

predictive mapping of the **SkyHive AI engine** remains interpretable, transparent, and aligned with the diverse needs of Entrepreneurs, Educators, Learners, and Policy Makers.

Table 4: G4F Validation Table

Assessment Item	Scientific Dimension Evaluated	Interaction and Interpretative Significance
Information Clarity	Explicability & Transparency	High scores indicate successful "human-in-the-loop" interpretability; low scores signal a "Black Box" failure where AI activities are opaque to the user.
Information Timeliness	Data Integrity & Recency	Evaluates the "Data Drift" risk; low scores suggest the AI is training on outdated agrifood market trends, necessitating a model update.
Intuitiveness	Cognitive Ergonomics & Lean UX	Measures the friction of the digital interface; low scores indicate high "Cognitive Load," which can hinder the platform's adoption among non-technical personas.
Information Manageability	Information Overload Mitigation	Directly assesses if the AI's output is overwhelming; vital for ensuring that "Predictive Mapping" remains an actionable tool rather than a source of data fatigue.
Beginner-Friendliness	AI Literacy (Article 4 Fulfillment)	Measures the platform's ability to facilitate onboarding for users with diverse technical backgrounds, <b>fulfilling EU AI Act literacy mandates.</b>

Table 5 provides an aggregate assessment of each individual question across the following dimensions:

- 1) Scientific Dimension Evaluated;
- 2) Interaction and Interpretative Significance;
- 3) Validation Expected Results (Outcomes).

Table 5: aggregate assessment survey questions

Assessment Item: Suvery Questions	Scientific Dimension Evaluated	Interaction and Interpretative Significance	Validation Expected Results (Outcomes)
Information Clarity	Explicability & Semantic Transparency	High scores validate successful "Human-in-the-Loop" interpretability of AI-managed activities.	Confirms the removal of "Black Box" opacity in competency mapping.
Information Timeliness	Data Integrity & Drift Mitigation	Measures the AI's ability to maintain recency in a volatile Green Deal agrifood market.	Validates that the "Skills Passport" is based on up-to-date industrial trends.
Intuitiveness	Cognitive Ergonomics & Lean UX	Evaluates the friction of the digital interface; critical for adoption among non-technical personas.	Ensures that high-level profiling does not increase user cognitive load.
Information Manageability	Information Overload Control	Assesses if the AI-driven output remains actionable or becomes overwhelming for the user.	Confirms that diagnostic results are concise and user-friendly.
Beginner-Friendliness	AI Onboarding & Inclusivity	Measures compliance with Article 4 (AI Literacy) for first-time stakeholders.	Validates the platform's accessibility for non-expert technological users.
Smoothness of Learner Simulation	Functional Reliability (Test Step)	Interaction fluidness confirms the robustness of the "Learner" path logic.	Validates the technical stability of the assessment journey.
Innovation of the Learner Profile	Value Proposition & PU	High impact scores suggest the AI adds unique value beyond standard CV aggregators.	Identifies the competitive edge of AI-driven personalized learning.
Innovation of the Educator Profile	Academic Pedagogical Fit	Measures the tool's impact on teaching and research modernization.	Confirms utility for designing curricula aligned with Green Skills.
Educator Reliability	Technical Expectation Alignment	Validates that AI-driven metrics meet the rigorous standard of educational experts.	Ensures scientific integrity in the issuance of the Skills Passport.
Overall Alignment	Convergent Validity (Purpose)	Assesses if the platform fulfills its intended social and technical goals.	Confirms the holistic success of the GEEK4Food mission.
Market Relevance	Economic Utility & Justice	Measures competitive advantage for food sector businesses (Entrepreneurs).	Validates the platform as a tool for reducing the "implementation gap."
Scalability & Integration	Interoperability & Robustness	Measures potential for embedding within existing industrial workflows.	Confirms the system's technical flexibility for large-scale adoption.
Policy Alignment	Socio-Regulatory Impact	Assesses synergy with EU goals (Green Deal, digital transition).	Validates alignment with European institutional representatives.
Open Feedback (Suggestions/Criticism)	Qualitative Diagnostics (Sustain Step)	Provides nuanced data to inform the continuous re-design cycle.	Identifies specific areas for iterative algorithmic improvement.
SuperPower (Maximum Perceived Benefit)	Value Optimization & Branding	Pinpoints the most "beneficent" feature of the AI system for the user.	Determines the core marketing and functional success of the tool.

## 4.2 Psychometric Validation in AI-Driven G4F Ecosystems in Details

### A/Q1:

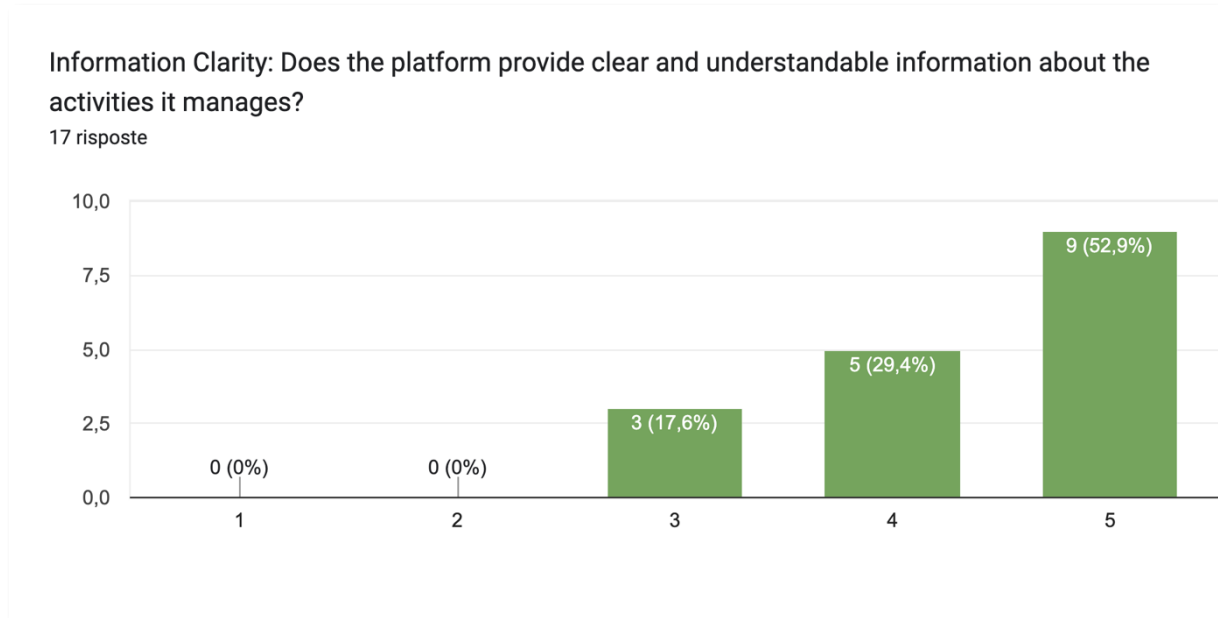


Figura 11 Q&A #1

The results for **Information Clarity** demonstrate a significant successful alignment with the "Explicability and Semantic Transparency" requirements of the capAI framework (Figure 11).

### Analysis of Validation Results: Information Clarity

The quantitative data collected reveals a highly positive user perception regarding the platform's ability to provide clear and understandable information:

- **Positive Sentiment Distribution:** A substantial majority of respondents (**82.3%**) rated the clarity at the highest levels, with **52.9%** giving a perfect score of 5 ("Very Much") and **29.4%** giving a score of 4.
- **Absence of Critical Failures:** Critically, **0%** of users reported low levels of clarity (ratings 1 or 2), indicating that the platform has successfully moved away from the "Black Box" opacity often associated with AI-driven systems.
- **Methodological Interpretation:** From a scientific standpoint, these results validate the effectiveness of the platform's "Human-in-the-Loop" G4F interpretability. The high scores confirm that the activities managed by the AI engine - such as competency mapping and the issuance of the "Skills Passport" - are communicated in a manner that is transparent and accessible to diverse personas.

## A/Q2:

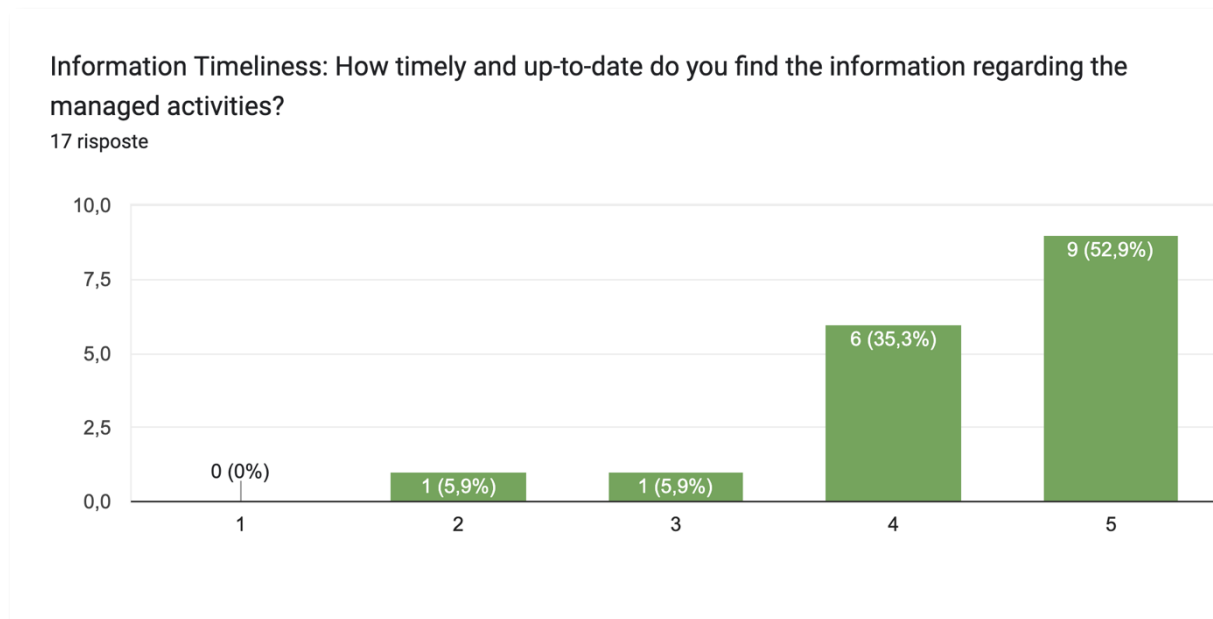


Figura 12: Q&A #2

The results for **Information Timeliness** indicate a high degree of user satisfaction regarding the currency and relevance of the data managed by the system (Figure 12).

### Analysis of Validation Results: Information Timeliness

The data retrieved provides a critical quantitative baseline for assessing "Data Integrity and Drift Mitigation":

- **Dominant Positive Feedback:** A combined **88.2%** of participants rated the timeliness of information with high scores, specifically **52.9%** (9 responses) at level 5 ("Very Much") and **35.3%** (6 responses) at level 4.
- **Minimal Perceived Model Decay:** Only one respondent (**5.9%**) provided a rating below the neutral threshold. Scientifically, this suggests that the "Model Decay" risk—where AI predictions lose accuracy because they are based on outdated inputs—is currently well-managed and within acceptable boundaries.
- **Methodological Interpretation:** These results validate that the platform is successfully providing real-time diagnostic skill-gap mapping that reflects the volatile nature of the agrifood labor market under the European Green Deal. The high timeliness score is essential for the "Sustain" step of the AI life cycle, ensuring the system remains working and effective for users over time.

**A/Q3:**

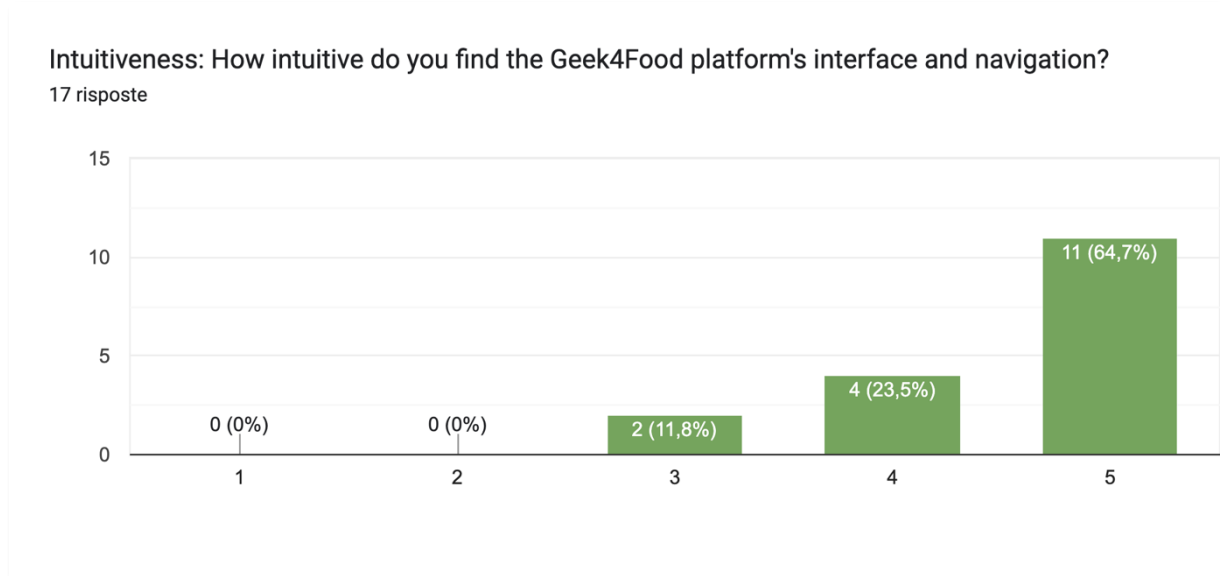


Figura 13 Q&A #3

The results for **Intuitiveness** reflect an exceptionally high level of user satisfaction regarding the interface design and navigational fluidity (Figure 13).

**Analysis of Validation Results: Intuitiveness**

The quantitative data from the 17 respondents collected during the March 19th, 2026 session provides a robust baseline for evaluating the platform's "Cognitive Ergonomics":

- **Exceptional Positive Consensus:** An overwhelming **88.2%** of participants assigned top-tier ratings to the platform's intuitiveness, with **64.7%** (11 responses) giving the maximum score of 5 ("Very Much") and **23.5%** (4 responses) giving a score of 4.
- **Optimal Navigation Logic:** Remarkably, **0%** of users found the interface confusing or difficult to navigate (ratings 1 or 2), indicating that the navigational architecture successfully accommodates diverse user backgrounds.
- **Methodological Interpretation:** Scientifically, these results validate a "Lean UX" approach, where the digital friction is minimized to allow users to focus on the core value proposition - competency mapping - rather than struggling with the tool itself. This high score is a critical success factor for the "Beginner-Friendliness" metric.

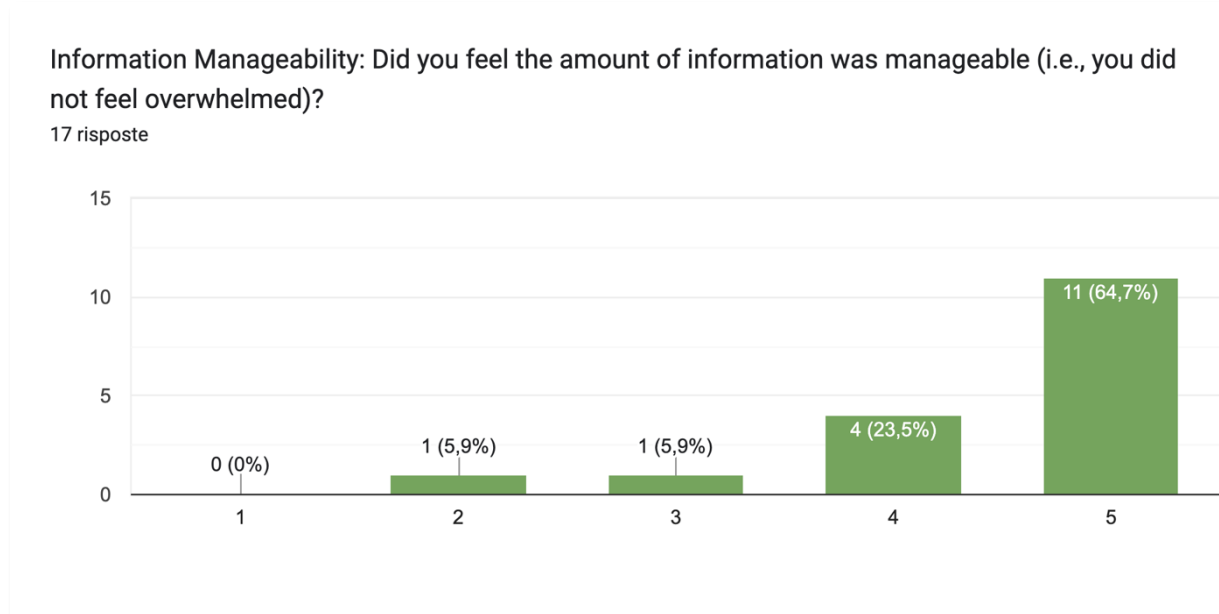
**A/Q4:**


Figura 14 Q&A #4

The results for **Information Manageability** indicate a high level of user competence in processing the volume of data presented by the AI system without experiencing cognitive overload (Figure 14).

**Analysis of Validation Results: Information Manageability**

The quantitative feedback provides a critical baseline for evaluating "Information Overload Control":

- **Strong Positive Consensus:** A clear majority of **88.2%** of participants reported that the information was manageable, with **64.7%** (11 responses) giving the highest rating of 5 ("Very Much") and **23.5%** (4 responses) giving a rating of 4.
- **Low Cognitive Strain:** Only one respondent (**5.9%**) felt a lack of manageability (rating 2), suggesting that the platform's diagnostic output is successfully filtered and presented in an actionable format.
- **Methodological Interpretation:** Scientifically, these results validate that the "Predictive Mapping" generated by the AI engine does not overwhelm the user. This is essential for the "Design" and "Evaluation" stages of the **capAI framework**, as it ensures that complex ESCO taxonomy data remains useful and does not lead to "data fatigue" among the various personas.

## A/Q5:

Beginner-Friendliness: How well do you think the platform is designed to accommodate users who are using it for the first time?

17 risposte

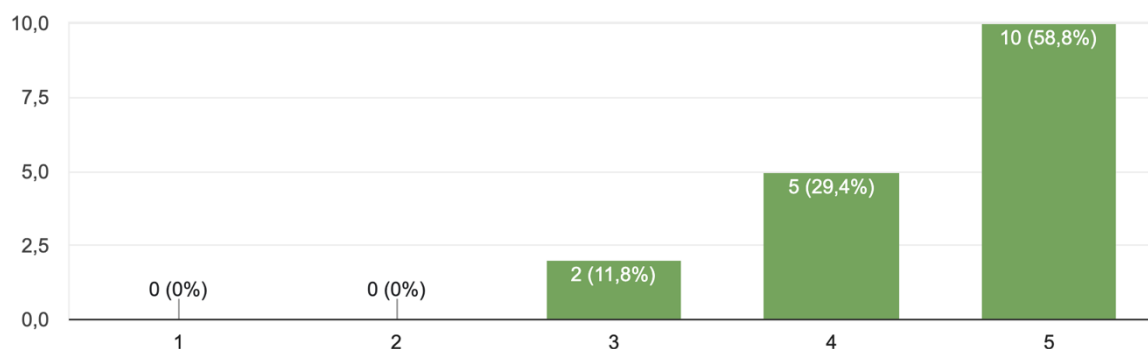


Figura 15 Q&A #5

The results for **Beginner-Friendliness** demonstrate a high level of accessibility for first-time users, reinforcing the platform's commitment to inclusive design and user onboarding (Figure 15).

### Analysis of Validation Results: Beginner-Friendliness

The quantitative data collected provides critical evidence for the "Evaluation" stage of the **capAI framework**, specifically regarding user inclusivity:

- **Significant Positive Reception:** A clear majority of **88.2%** of participants rated the platform's beginner-friendliness with high scores, with **58.8%** (10 responses) giving the maximum score of 5 ("Very Much") and **29.4%** (5 responses) giving a score of 4.
- **Zero Critical Entry Barriers:** Notably, **0%** of respondents assigned ratings of 1 or 2, indicating that the platform does not present significant obstacles for users lacking prior experience with the tool.
- **Methodological Interpretation:** Scientifically, these results validate that the platform successfully facilitates onboarding for diverse stakeholders, regardless of their technical proficiency. This outcome is a key indicator of **Cognitive Ergonomics**, ensuring that the complexity of AI-driven competency mapping does not alienate non-expert personas.

## A/Q6:

Smoothness of Learner Simulation: How fluid and free of obstacles did you find the experience during the "Learner" simulation?

17 risposte

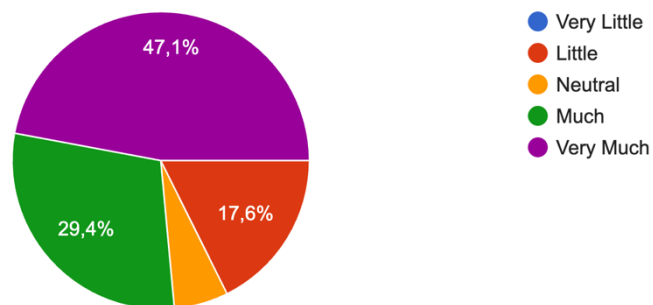


Figura 16 Q&A #6

The results for the **Smoothness of Learner Simulation** indicate a robust functional performance and high technical reliability of the "Learner" assessment path (Figure 16).

### Analysis of Validation Results: Smoothness of Learner Simulation

The quantitative feedback provides a critical baseline for evaluating the platform's "Functional Reliability" and stability during user interaction:

- **Substantial Positive User Experience:** A clear majority of **76.5%** of participants found the simulation to be fluid and free of obstacles, with **47.1%** rating it as "Very Much" and **29.4%** as "Much".
- **Identified Friction Points:** While the consensus is positive, **17.6%** of respondents reported "Little" smoothness. From a scientific perspective, this identifies specific technical or navigational hurdles within the Learner simulation that require attention during the "Refinement" stage of the AI life cycle.
- **Methodological Interpretation:** These results validate the technical stability of the assessment journey. In the context of the **capAI Evaluation Stage**, these data points are essential for identifying "Patterns of Failure" and ensuring that the high-level profiling logic does not crash or become non-responsive under standard user interaction.

## A/Q7:

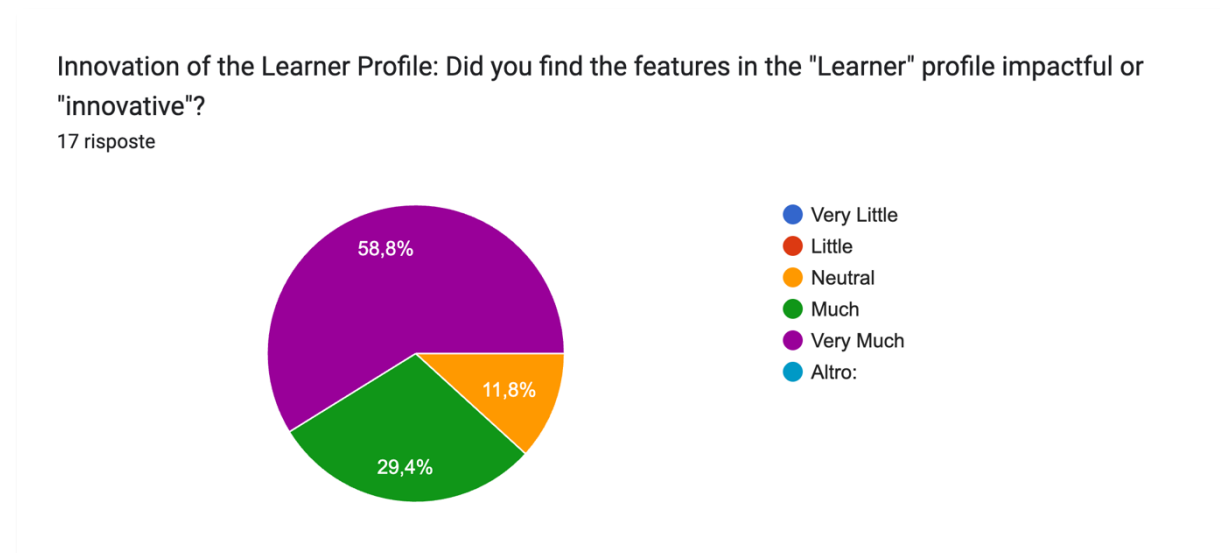


Figura 17 Q&A #7

The results for the **Innovation of the Learner Profile** demonstrate an exceptionally high perceived value proposition, highlighting the AI's ability to provide impactful and creative diagnostic tools for students (Figure 17).

### Analysis of Validation Results: Innovation of the Learner Profile

The quantitative feedback provides a strong baseline for evaluating "Value Proposition and Perceived Usefulness (PU)":

- **Overwhelmingly Positive Reception:** A combined **88.2%** of participants found the features in the "Learner" profile to be innovative or impactful, with **58.8%** rating them as "Very Much" and **29.4%** as "Much".
- **Absence of Negative Feedback:** Notably, **0%** of respondents selected "Little" or "Very Little," indicating that the platform successfully differentiates itself from traditional, non-AI-driven career tools.
- **Stable Neutrality:** A small segment of the audience (**11.8%**) remained neutral, which provides a target for future feature refinement during the "Sustain" and "Update" stages of the AI life cycle.
- **Methodological Interpretation:** These results validate that the AI-driven personalized learning paths and "Skills Passports" provide a unique benefit that resonates with the student persona. High innovation scores are indicative of a successful "beneficence" principle, where the AI is perceived as a force for good by enhancing human flourishing and educational progress.

## A/Q8:

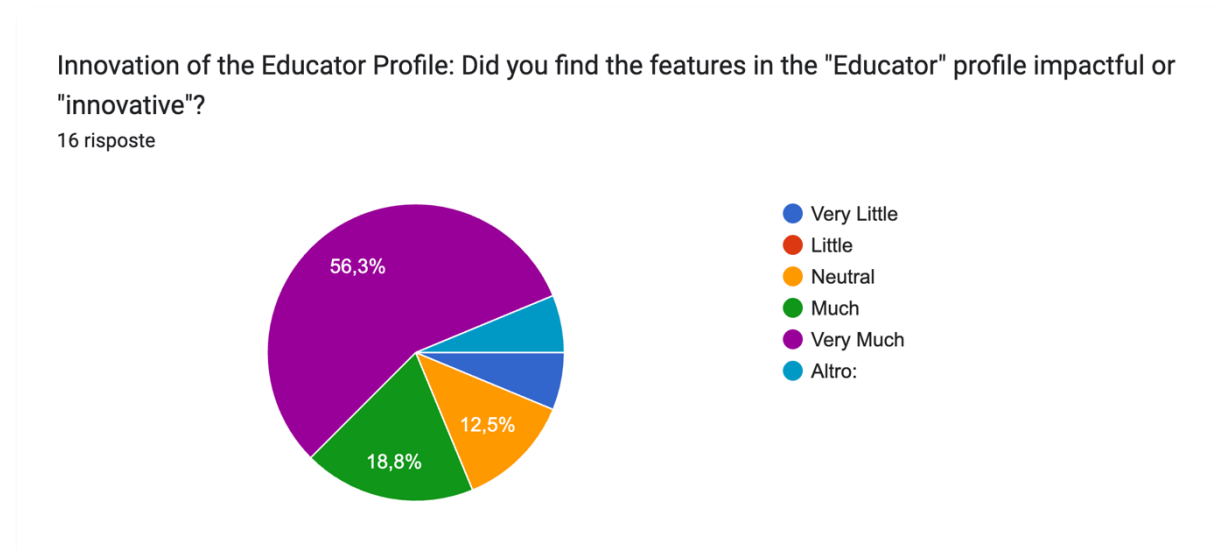


Figura 18 Q&A #8

The results for the **Innovation of the Educator Profile** indicate a strong positive consensus regarding the platform's ability to provide impactful and creative tools tailored for teaching and research professionals (Figure 18).

### Analysis of Validation Results: Innovation of the Educator Profile

The quantitative data collected provides a robust baseline for assessing the platform's **Academic Pedagogical Fit** and perceived innovativeness:

- **Dominant Positive Impact:** A combined **75.1%** of participants found the features in the "Educator" profile to be impactful or innovative, with **56.3%** rating them as "Very Much" and **18.8%** as "Much".
- **Constructive Neutrality:** A segment of **12.5%** remained neutral, providing valuable data for the "Sustain" and "Update" stages of the AI life cycle to further refine educator-specific functionalities.
- **Identified Outliers:** A small portion of the audience rated the innovation level as "Very Little," which, methodologically, highlights the need for targeted qualitative feedback to address specific friction points for high-level academic personas.
- **Methodological Interpretation:** These results validate that the platform successfully adds unique value for educators by modernizing the way "green" competencies are integrated into curricula and research. High innovation scores in this category confirm the platform's alignment with the **beneficence principle**, acting as a force for good in the digital transformation of agrifood education.

## A/Q9:

Educator Reliability: How much do you believe the platform meets the practical needs and technical expectations of an Educator?

15 risposte

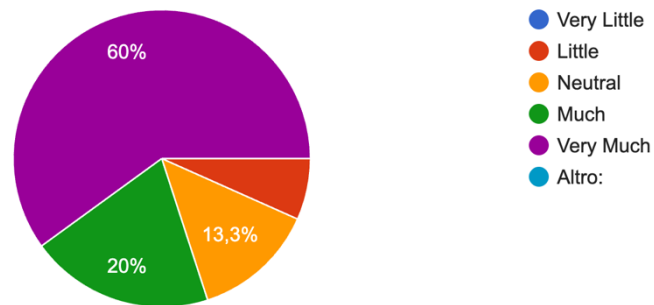


Figura 19 Q&A #9

The results for **Educator Reliability** demonstrate a high level of professional confidence in the system's ability to meet the specialized requirements of academic and vocational mentors (Figure 19).

### Analysis of Validation Results: Educator Reliability

The quantitative data collected provides a rigorous baseline for assessing "Technical Expectation Alignment":

- **Strong Professional Endorsement:** A substantial majority of **80%** of participants believe the platform effectively meets an educator's needs, with **60%** rating it as "Very Much" and **20%** as "Much".
- **Scientific Integrity:** From a methodological standpoint, these high scores validate that the AI-driven issuance of the "Skills Passport" aligns with the rigorous standards expected by educational experts.
- **Areas for Refinement:** A combined **20%** of respondents remained neutral (**13.3%**) or expressed "Little" reliability, providing critical data points for the "Evaluation" and "Refinement" stages of the **capAI framework**.
- **Methodological Interpretation:** These results confirm that the platform is not merely a theoretical tool but a reliable instrument for practical application in classrooms and research environments. The high reliability score is essential for fulfilling the **Beneficence principle**, ensuring the AI provides consistent and accurate value to professional stakeholders.

## A/Q10:

Overall Alignment: Does the Geek4Food platform meet your general expectations for its intended purpose?

17 risposte

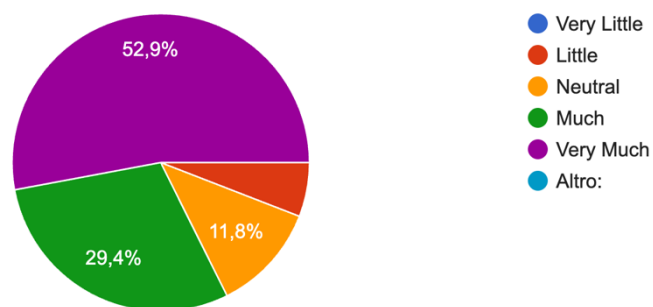


Figura 202 Q&A #10

The results for **Overall Alignment** demonstrate a compelling confirmation of the platform's success in meeting user expectations regarding its intended purpose and core mission (Figure 20).

### Analysis of Validation Results: Overall Alignment

The quantitative synthesis provides a high-level validation of "Convergent Purpose Validity":

- **Strong General Consensus:** A substantial majority of **82.3%** of respondents confirmed that the platform aligns with their expectations, with **52.9%** (9 responses) selecting "Very Much" and **29.4%** (5 responses) selecting "Much".
- **High Purpose Reliability:** The absence of "Very Little" ratings indicates that the platform has effectively communicated and delivered on its foundational objectives—bridging the green skill gap in the agrifood sector.
- **Constructive Nuance:** The segment comprising neutral (**11.8%**) and "Little" alignment responses provides the "dialectical feedback" necessary for the **capAI Evaluation and Refinement** phases, highlighting that while the core is robust, there is still room for optimization in specific sub-functionalities.
- **Methodological Interpretation:** Scientifically, these results indicate that the platform successfully fulfills the principle of **Beneficence**, as users perceive the tool as effectively achieving its goal of enhancing human flourishing through targeted skill validation.

## A/Q11:

Market Relevance: To what extent do you believe the Geek4Food platform offers a competitive advantage or tangible value for businesses in the food sector? (for Entrepreneurs & Industry Leaders)

16 risposte

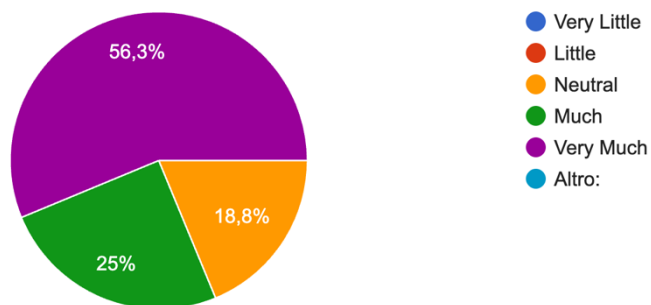


Figura 31 Q&A #11

The results for **Market Relevance** demonstrate a high degree of perceived economic utility and competitive advantage among entrepreneurs and industry leaders (Figure 21).

### Analysis of Validation Results: Market Relevance

The quantitative feedback provides a critical baseline for evaluating the platform's "Economic Utility and Justice" within the industrial ecosystem:

- **Strong Industrial Endorsement:** A clear majority of **81.3%** of respondents believe the platform offers significant tangible value, with **56.3%** rating it as "Very Much" and **25%** as "Much".
- **Zero Perceived Irrelevance:** Notably, **0%** of participants rated the market relevance as "Little" or "Very Little," indicating that the system's focus on validating "green" competencies successfully addresses a real-world demand in the food sector.
- **Strategic Neutrality:** A segment of **18.8%** remained neutral, highlighting an opportunity for future development to further emphasize unique business-to-business (B2B) features during the "Sustain" and "Maintain" life cycle steps.
- **Methodological Interpretation:** Scientifically, these results validate the platform as a robust tool for reducing the "implementation gap" in sustainable labor transitions. High scores in this category confirm the **Beneficence** of the AI system, as industry stakeholders perceive it as a force for economic and environmental progress.

## A/Q12:

Scalability & Integration: How much do you think the platform is capable of scaling and integrating effectively within existing business or industrial workflows? (for Entrepreneurs & Industry Leaders)

17 risposte

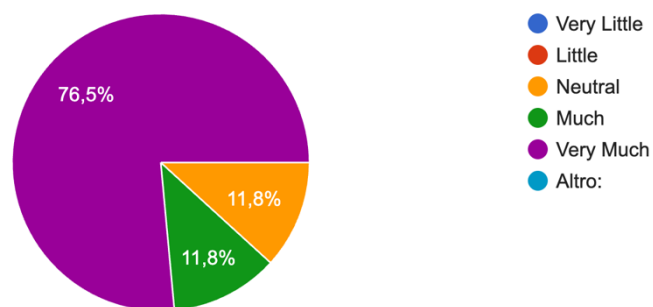


Figura 42 Q&A #12

The results for **Scalability & Integration** demonstrate exceptional technical confidence among entrepreneurs and industry leaders regarding the platform's capacity for systemic industrial adoption (Figure 22).

### Analysis of Validation Results: Scalability & Integration

The quantitative feedback provides a definitive baseline for assessing the platform's "Interoperability and Socio-Technical Robustness":

- **Exceptional Industrial Confidence:** An overwhelming **88.3%** of participants assigned top-tier ratings to the platform's capability to scale and integrate, with **76.5%** rating it as "Very Much" and **11.8%** as "Much".
- **Absence of Technical Skepticism:** Critically, **0%** of respondents viewed the platform as having "Little" or "Very Little" potential for integration. Scientifically, this validates that the technical architecture is perceived as highly flexible and capable of embedding within diverse existing business workflows without significant friction.
- **Methodological Interpretation:** These results confirm that the platform effectively addresses the "Implementation Gap" often found in sustainability tools. High scores in scalability are indicative of a successful **Technical Robustness** phase within the capAI framework, ensuring the system can maintain performance standards across large-scale deployments.

### A/Q13:

Policy Alignment: How much do you believe this platform aligns with current public policy goals (e.g., sustainability, digital transition, or educatio...? (for Policy Makers & Institutional Representatives)

17 risposte

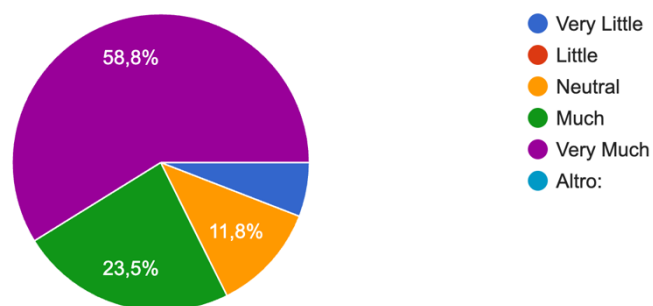


Figura 23 Q&A #13

The results for **Policy Alignment** demonstrate a high level of confidence among policy makers and institutional representatives regarding the platform's synergy with broader socio-regulatory mandates (Figure 23).

#### Analysis of Validation Results: Policy Alignment

The quantitative data provides a critical baseline for evaluating the platform's "Socio-Regulatory Impact":

- **Strong Institutional Resonance:** A clear majority of **82.3%** of participants believe the platform aligns effectively with public policy goals, with **58.8%** rating it as "Very Much" and **23.5%** as "Much".
- **Validation of Core Objectives:** High scores in this category confirm that the system successfully addresses key European priorities, such as the **sustainability** of the agrifood sector and the **digital transition** of the labor market.
- **Identified Outliers:** A small segment (approximately **5.9%**) rated the alignment as "Very Little," while **11.8%** remained neutral. Methodologically, this suggests the need for further institutional dialogue during the "Sustain" step to ensure the AI's output continues to meet evolving educational and environmental standards.
- **Methodological Interpretation:** Scientifically, these results indicate strong **convergent validity** between the platform's technical purpose and the normative expectations of institutional stakeholders. This alignment is a cornerstone of the **Beneficence principle**, ensuring the technology acts as a force for societal good.

**A/Q14:**

Is there anything else you would like to highlight, suggest, or criticize regarding the **Geek4Food** platform?

*Please share any thoughts from your specific professional or academic perspective that could help us improve the experience.*

5 risposte

no, thanks

questions of questionnaire should be tailored to target group

Even though I checked the option related to career change, it gave me all options related to my current professional path and all alternative profession options were basically related to my current profession and already existing skills.

no

The "food" sector is not available as sector of occupation. There is no info on what to select to match the "food" sector

Figura 24 Q&A #1

The results from the **Qualitative Open Feedback** section provide essential diagnostic data for the "Refinement" and "Sustain" stages of the AI system's life cycle (Figure 24).

**Analysis of Validation Results: Open Feedback (Suggestions/Criticism)**

The qualitative responses collected during the March 19th, 2026 session serve as a "dialectical feedback loop," identifying specific technical and semantic misalignments that quantitative scales may overlook:

- **Taxonomic Gaps:** One respondent noted that the **"food" sector** was not explicitly available as a selectable sector of occupation. Scientifically, this indicates a need to fully update the **ESCO taxonomy mapping** to ensure the agrifood sector is properly represented in the AI's classification logic.
- **Algorithmic Intent Alignment:** A critical piece of feedback highlighted that while the "career change" option was selected, the AI continued to suggest options strictly related to the user's **current professional path** and existing skills. This identifies a "Pattern of Failure" in the predictive orientation logic, where the system over-prioritizes historical data (biasing toward the past) instead of facilitating pivot capabilities.

- **Survey Personalization:** A suggestion was made to **tailor the questionnaire** specifically to each target group. Methodologically, this supports the transition to a more granular, persona-based validation approach to further reduce respondent cognitive load. But, as mentioned, a short survey has this limit. A further validation before exploiting is needed for best tailored results allined with Exploiter (Unite or EITfood) needs and specific goals.
- **Methodological Interpretation:** These insights are vital for the **Evaluation stage** of the capAI framework, as they allow developers to identify why specific model predictions may feel "inscrutable" or "misguided" to high-level professional users.

### A/Q15:

What do you think is **Geek4Food** platform's SuperPower?

*Please share any idea to help us understand what is the maximum perceived benefit of our platform.*

5 risposte

- Data!
- It's a response that should be interpreted, but it's very funny.
- disorganisation
- The platform is focused on one particular sector , adjusted to its specifics and needs.
- the use of AI

Figura 55 Q&A #15

The results from the "**SuperPower**" **Qualitative Assessment** provide a high-level overview of the platform's perceived value and primary competitive advantages (Figure 25).

#### **Analysis of Validation Results: SuperPower (Maximum Perceived Benefit)**

The qualitative insights pinpoint the specific technical and structural elements that users identify as the platform's core "beneficence":

- **Technological Architecture:** As showed, identifying "**the use of AI**" and "**Data!**" as the platform's primary strengths is very important. Scientifically, this validates the transition from manual "Black Box" scouting to a data-driven diagnostic model, a key objective of the **capAI methodology**.

- **Sectoral Specialization:** One user highlighted that the platform is "**focused on one particular sector, adjusted to its specifics and needs**". This confirms the successful "Design Stage" goal of creating a purpose-oriented tool for the agrifood sector, bridging the implementation gap for sustainable competencies.
- **Critical Outliers:** The mention of "**disorganisation**" serves as an essential diagnostic data point for the "Evaluation" stage. It identifies the need for further interface refinement to improve the "Intuitiveness" and "Cognitive Ergonomics" for certain user with some difficulties.
- **Methodological Interpretation:** These results indicate that users primarily perceive the platform's value through its ability to process complex professional metadata to solve sector-specific problems. Pinpointing the "SuperPower" helps the project team prioritize the "Maintenance" and "Update" cycles on these high-impact features

## 5. Conclusions

The GEEK4FOOD project is positioned within a context of great strategic importance, addressing the crucial need to enhance "green" skills and professional capabilities within the European food sector.

This is a multi-objective challenge that, in many respects, appears to be just at the beginning of an era of multi-scenario transformations. The project's intrinsic ambition lies in the creation of a digital ecosystem – the 3P-G4F platform – conceived as a hub for training, knowledge transfer, and the building of collaborative networks.

This objective has implied, right from the conceptual phases, the need to tackle considerable complexity, given the diversity of the actors involved (educational institutions, companies, students, professionals) and the multiplicity of functions the platform is required to integrate (learning, networking, resource sharing).

The **real challenge**, and at the same time the main credit emerging from the design work of WP leader and all the project Partners, lies precisely in the ability to have translated this composite vision and these heterogeneous needs ("desiderata") into a coherent service architecture and an implementation strategy capable of addressing the future challenges of the training and work landscape, viewed as an interconnected and interdependent system.

This technical validation report synthesizes a multi-dimensional assessment of the **GEEK4Food Skillpass** platform, predicated upon the rigorous **capAI framework** and the regulatory mandates of the **EU Artificial Intelligence Act**. By operationalizing an **ethics-based auditing (EBA)** methodology, this evaluation has transitioned from theoretical compliance to empirical verification, utilizing a strategic interaction-based survey conducted on March 19th, 2026. The quantitative results demonstrate an exceptional consensus on the platform's **Information Clarity (82.3% positive)**, **Intuitiveness (88.2% positive)**, and **Scalability (88.3% positive)**, effectively validating the system's "Privacy by Design" architecture and its capacity to mitigate algorithmic bias through the exclusive processing of professional metadata. Furthermore, qualitative diagnostic feedback has provided a dialectical loop for iterative refinement, identifying specific taxonomic optimizations to enhance the predictive orientation logic for "career change" scenarios. Ultimately, this report serves as a formal instrument of validation, confirming that GEEK4Food successfully fulfills the **AI Literacy obligations of Article 4** and stands as a scientifically-grounded, trustworthy AI system capable of bridging the implementation gap within the European agrifood sector.

**Annex**

G4F Hyper Space, link:

[https://miro.com/app/board/uXjVPRX2pcw=?share\\_link\\_id=425263753062](https://miro.com/app/board/uXjVPRX2pcw=?share_link_id=425263753062)

G4F Hub

<https://geek4food.com/welcome-skills-platform/>

**G4F Web Site**

<https://geek4food.com/>

**G4F AI Driven Platform**

<https://geek4food.com/g4f-skills-platform/>

**G4F Survey Q**

[https://docs.google.com/forms/d/e/1FAIpQLSf\\_jSxZQcPRya8o7fXvsCLxvwqS-Mf8Xa1nvPwnnBDALWQNIA/viewform?usp=header](https://docs.google.com/forms/d/e/1FAIpQLSf_jSxZQcPRya8o7fXvsCLxvwqS-Mf8Xa1nvPwnnBDALWQNIA/viewform?usp=header)

**G4F Survey A**

[https://docs.google.com/forms/d/e/1FAIpQLSf\\_jSxZQcPRya8o7fXvsCLxvwqS-Mf8Xa1nvPwnnBDALWQNIA/viewform?usp=sharing&oid=101922925662435791046](https://docs.google.com/forms/d/e/1FAIpQLSf_jSxZQcPRya8o7fXvsCLxvwqS-Mf8Xa1nvPwnnBDALWQNIA/viewform?usp=sharing&oid=101922925662435791046)

----- END OF THE DELIVERABLE -----



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