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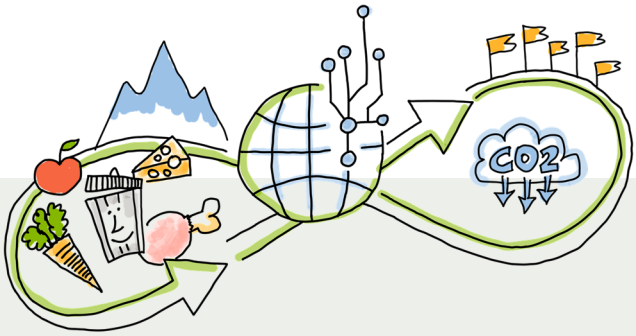
CEFoodCycle



CEFoodCycles

How we built stakeholder relationships through a participatory approach

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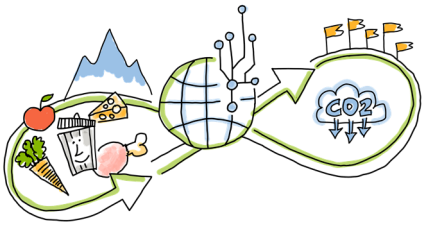

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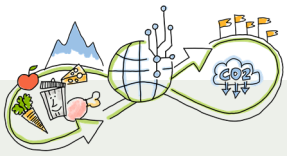

Key takeaways

01 Participatory approaches drive impact

Engaging stakeholders through co-creation, workshops, and Innovation Labs leads to more sustainable, effective solutions with higher acceptance and reduced conflicts.

02 Regional context matters

Circular business models must be adapted to local conditions. Tailoring processes and tools to regional differences ensures scalability and successful implementation.

03 Hubs as innovation engines

Circular Food Hubs act as living labs, enabling rapid prototyping, testing, and scaling of innovations. They foster cross-sector collaboration and long-term sustainability.

04 Continuous stakeholder engagement is key

Stakeholder involvement should not stop after the initial phase. Ongoing engagement throughout the project lifecycle builds trust, ensures relevance, and strengthens outcomes.

05 Digital tools need human support

Tools like FoodCycle.ai are most effective when combined with training, hands-on demonstrations, and clear value propositions for users.

1. Introduction

This document forms part of Output 3.1 of the CEFoodCycle project, and explores stakeholder engagement and participatory strategies within the framework of a circular economy in the food sector. The information provided should inspire various key stakeholders, including policymakers, researchers and businesses, and catalyse transformative change in the food sector. By fostering collaboration and innovation across disciplines it can help accelerate the transition toward a more sustainable, resilient, and equitable food system.

The vulnerability of Alpine areas calls for a rethink of the sustainability framework towards measurable actions. The CEFoodCycle project focuses especially on the Alpine regions in Austria, France, Germany, Italy, and Slovenia. This document provides practical information on tools for developing circular business models, such as involving stakeholders in the co-creation processes, particularly designing and implementing circular pilot actions. The project implements smart, closed food cycles across five pilot regions, focusing on food waste reduction, reuse, and valorisation. By turning surplus food and organic waste into valuable resources, the project enhances sustainability and circular economy practices in the food sector. Regional pilot actions are about testing the development of closed food cycles based on participatory approaches and local stakeholder activation through regional Circular Food Hubs.

As intermediaries between the food sector, hospitality industry, and other key players, Circular Food Hubs facilitate cross-sector collaboration to establish joint closed food cycles. Closing food cycles requires a cross-border, holistic approach, as relevant stakeholders often operate transnationally. At the core of this initiative lies **FoodCycle.ai**, designed to connect stakeholders within and beyond the food supply chain. The platform matches food waste supply with demand, enabling efficient redistribution and resource optimisation based on Life Cycle Assessment (LCA) metrics. Such a tool supports business-to-business models, enabling efficient resource flow and decision-making.

Since each closed food cycle involves different stakeholder groups, the project facilitates knowledge exchange by compiling comparative experiences from all Alpine pilot regions. This collaborative approach helps stakeholders optimise food chains and minimise waste linked to food production and consumption. Furthermore, the insights gained through the pilots contribute to local and regional policy development and foster long-term sustainability. Additionally, business support organisations play a crucial role in leveraging these experiences to promote durable, scalable solutions, that ensure the continued impact of FoodCycle.ai.

The Institute for Participatory Management and Planning identifies over 70 community participation techniques.

On the one hand, we offer a summary of insights into stakeholder engagement, grounded in current scientific standards. On the other hand, we complement this knowledge with practical examples drawn from the CEFoodCycle project, illustrating how these principles are applied in real-world contexts. Participatory tools such as workshops and Innovation Labs brought together key stakeholders along the defined food stream (within selected product categories). These activities enabled participants to connect, share experiences on circular economy practices, and identify critical pressure points. The insights gained serve as a foundation for developing innovative circular business solutions. Overall, these tools foster networking, knowledge exchange, and collaborative problem-solving to address key challenges in advancing circularity.

2. Methodology for stakeholder engagement

The Interreg Alpine Space project CEFoodCycle adopted a combined approach of Innovation Labs and Living Labs to develop and test food-related innovations in a structured yet practical environment: Circular Food Hubs. This dual approach allowed the project to benefit from both controlled experimentation and real-world validation.

The Innovation Lab approach

An Innovation Lab, also referred to as a hub or incubator, is a structured physical or virtual environment where new ideas, technologies, processes, services or business models are developed, tested and iterated in a controlled setting (Vation, 2024). Typically expert-driven, they aim to generate new revenue streams, enhance existing ones, and foster innovative business models. Within CEFoodCycle, this approach provided a systematic framework for ideation and experimentation.

Creative processes such as brainstorming and design thinking were employed to generate innovative solutions (Vation, 2024). Additionally, event-based formats like hackathons, also implemented within the project, played a key role in fostering rapid, collaborative problem-solving. Hackathons bring together experts in a competitive yet cooperative setting to develop the best solutions for specific challenges (Ideanote, 2024; Brightidea, 2025). Importantly, innovation does not always require disruptive ideas; often, it emerges from improving existing processes and business models (Green, 2021). To sustain innovation, partners established a network of stakeholders from diverse backgrounds, enabling continuous knowledge exchange and collaboration (Ideanote, 2024).

The Living Lab approach

According to the European Network of Living Labs (ENoLL), Living Labs are open innovation ecosystems operating in real-life environments, using iterative feedback processes throughout the innovation lifecycle to create sustainable impact (ENoLL, 2024). They emphasise co-creation, rapid prototyping, and scaling up innovations, ensuring solutions are practical, user-centred, and sustainable. Living Labs act as intermediaries among citizens, research organisations, industry experts, and policymakers, addressing ecological, social, and economic dimensions of innovation (Ståhlbröst, 2012).

The CEFoodCycle approach: regional Circular Food Hubs

By combining both approaches, the CEFoodCycle project leveraged the structured experimentation of Innovation Labs with the real-world applicability and stakeholder engagement of Living Labs.

Within the project, **engaging stakeholders** was a cornerstone of success, especially for pilot activities. Stakeholders were identified based on their ability to influence or be affected by project outcomes, ensuring that all relevant actors were involved in shaping the process. Their participation was critical for success, as they contributed expertise, insights, and resources throughout the project lifecycle and beyond (Andriof *et al.*, 2002).

Within each Circular Food Hub, a structured stakeholder management plan was developed to define roles, responsibilities, and communication channels. This plan minimised potential conflicts, ensured transparency, and aligned all participants toward common objectives. By fostering accountability and open communication, the plan strengthened collaboration and ensured that internal and external stakeholders felt heard and engaged (Lockhart, 2024).

Stakeholder management

Two main approaches to stakeholder relationships can be distinguished: management *of* stakeholders and management *for* stakeholders. In the context of piloting closed food cycles, CEFoodCycle adopted the latter, which recognizes stakeholders as essential partners in decision-making, aiming to address their needs and expectations while maximizing value for all involved (Freeman *et al.*, 2007). Rather than imposing decisions, this approach emphasizes collaboration and co-creation, avoiding compromises that diminish benefits and ensuring mutually beneficial outcomes.

In the stakeholder management process, the following steps are recommended:

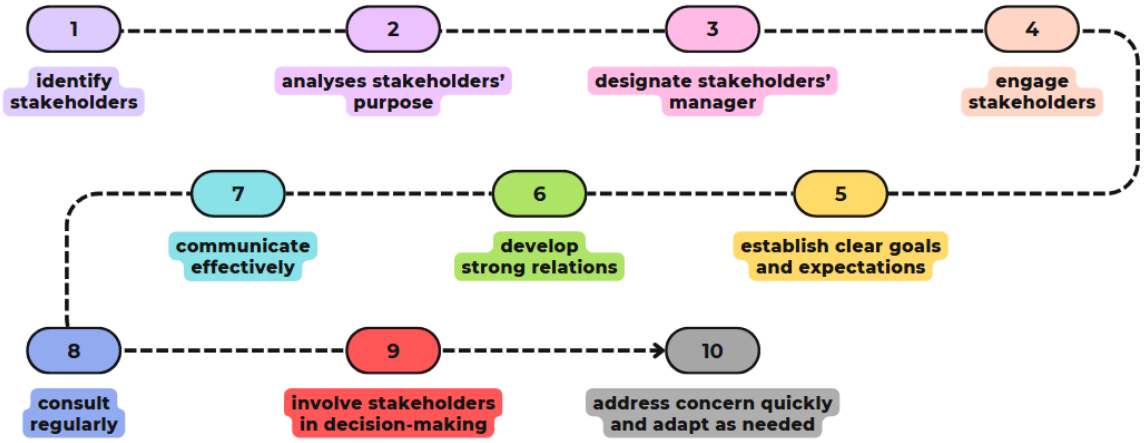

Figure 1: Stakeholder management process (Lockhart, 2024).

There are several methods for **stakeholder identification (1)**. Various groups are expected, including enterprises (producers), consumers, farmers, surrounding communities, policymakers, and non-governmental support organisasions. Relevant stakeholders are those who have an interest in or power over the project, and may influence or be affected (positively or negatively) by it. It is important to emphasise that stakeholder identification should not be limited to the project's initial phase but should continue throughout its duration. This process can occur periodically or whenever a new activity (e.g., pilot action) arises, ensuring that all relevant stakeholders remain engaged and included in the project (Prabhakar, 2008).

The next step is stakeholder **analysis (2)**: defining their power, interests, influence, and needs. This categorisation should be done by a **designated stakeholder manager (3)**. Prioritisation and categorisation ensure that stakeholders are grouped meaningfully, for instance, according to which stakeholders require the most engagement and resources. They can further be grouped by role, influence, or level of involvement. Of course, some stakeholders are more important than others (e.g., Clarkson, 1995; Phillips, 2003; Freeman *et al.*, 2017). While primary stakeholders are those directly affected by or influencing the project, secondary stakeholders have an indirect impact on the project. It is also possible to distinguish between internal stakeholders, which refer to individuals or parties within the organisation, such as employees, owners or investors, and external stakeholders, which designate groups that are not part of the organisation.

Once all stakeholders are listed, the next steps are to **engage stakeholders (4)** and to **establish clear goals and expectations (5)**, to ultimately **develop strong relations (6).** For this purpose, several methods can be considered:

- brainstorming sessions,
- analysis of documents and records,
- mapping,
- consultations with specialists,
- review of similar projects,
- participatory approach with feedback from existing stakeholders.

It is crucial to **communicate effectively (7)** and to **consult stakeholders regularly (8)**. In some cases, it may be beneficial to **involve them in decision-making (9)**. Any concerns should be **addressed quickly (10).**

In the context of **CEFoodCycle**, each project partner assessed the importance of each stakeholder in their region. **Stakeholder mapping** visualises defined relationships, roles, power dynamics and engagement strategies. The two most common methods are the following:

- The *Power-Interest matrix* helps identify appropriate communication strategies for different stakeholder groups by determining which information to communicate and at what frequency, based on their level of power (influence and interest in the project.

- The *Influence-Importance matrix* positions stakeholders according to their decision-making power by comparing their influence and importance. It categorizes stakeholders into four groups:
  - *High Power – High Interest* → Key players (actively manage and involve),
    High Power – Low Interest → Keep satisfied (inform and consult when needed),
    Low Power – High Interest → Keep informed (regular updates, minimal influence),
    Low Power – Low Interest → Monitor with minimal effort.

CEFoodCycle approach: stakeholder mapping

Stakeholders and target groups were defined and categorized using the stakeholder map matrix, based on the Interreg Alpine Space programme document (Communication Toolkit, see Fig. 2) and the CEFoodCycle project's communication strategy.

- **Stakeholders with both high influence and high interest** (e.g., hotels, restaurants, canteens, catering services, cafés, grocery retailers, processing industries, farmers, and non-governmental organisations) are identified as key actors to be managed closely. These stakeholders require continuous and active engagement through direct communication channels such as phone calls, emails, newsletters, face-to-face meetings, round tables, and participation in working groups.

- **Stakeholders with low influence and low interest** (e.g., farmer associations, institutes of agriculture, local and regional public authorities, business support organisations) are considered to require minimal engagement. These actors can be reached through low-effort, broad-reach channels such as the project website and social media posts.

- **Stakeholders with high influence but low interest** (e.g., ministries, national institutions, chambers) are categorized as those to be kept satisfied. Targeted communication methods such as individual invitations, small-group meetings, and press calls, are recommended to maintain their support and awareness.

- **Stakeholders with high interest but low influence** (e.g., educational and research institutions, regional communities, food service businesses, energy providers) should be kept informed. Regular updates via the project website, social media, newsletters, email campaigns, events participation, open calls, and press releases are suitable for maintaining engagement.

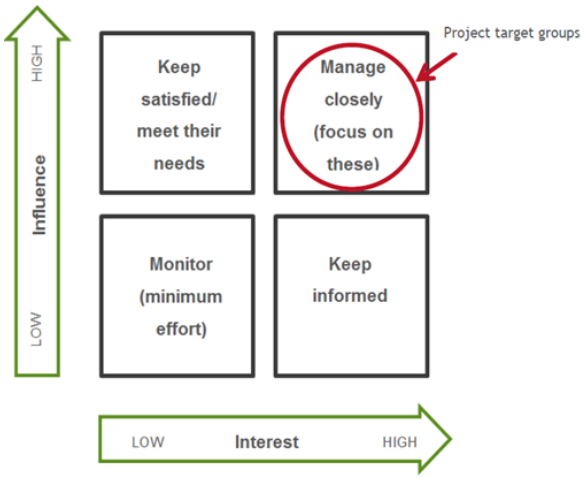

Figure 2: Stakeholder map (Communication Toolkit Interreg Alpine Space, v. April 2023).

Once stakeholders are identified and prioritized, understanding their needs and expectations becomes critical. Since the primary goal of any project is to address challenges and create value for key stakeholders, their input must be integrated throughout the project lifecycle. While conflicts of interest may arise, this approach ensures that the priorities of the most relevant stakeholders are acknowledged and respected. At the same time, selecting appropriate engagement methods is crucial, as ineffective communication can lead to disengagement and missed opportunities for input.

Based on their relevance and scope of work, a core group of "active" stakeholders within the CEFoodCycle project was identified for close collaboration during **pilot** activities. In addition, a broader group of over 450 stakeholders are, or will become, part of the *Circular Food Hub network*.

Further analysis

Another valuable method is *Social Network Analysis (SNA)*, which explores relationships and interactions among stakeholders to better understand influence dynamics and collaboration patterns. This approach typically begins with defining key questions, followed by data collection through surveys, interviews, or existing communication records. Using specific metrics, SNA helps identify central actors, relationship structures, and potential leverage points within the network. Once stakeholders are identified and prioritised, understanding their needs and expectations becomes critical. Since the project's goal is to address challenges and create value for key stakeholders, their input must be integrated throughout the project lifecycle. While conflicts of interest may arise, this approach ensures that the priorities of the most relevant stakeholders are acknowledged and respected. At the same time, selecting appropriate engagement methods is crucial, as ineffective communication can lead to disengagement and missed opportunities for input.

To further support stakeholder identification, Portert's (1985) *Value Chain Analysis* can be applied, which maps all parties involved in each stage of the product or service lifecycle, including suppliers, employees, distributors, customers, and regulatory bodies. Understanding their roles and interconnections enables more effective engagement and supports innovation and collaboration across the value chain. The process involves:

- **Identifying** primary and support **activities** to map all steps in the production and delivery process.
- **Analysing value contribution**, as in assessing each activity's impact and identifying areas for improvement.
- **Evaluating linkages and integration** to examine how activities interact and where efficiencies can be gained.
- **Identifying opportunities for competitive advantage** to determine where differentiation or cost savings can be achieved.

Important questions

Stakeholder characteristics

- What are the stakeholders' expectations, concerns, and motivations?
- How much influence do they have on the project?
- How much does the project impact them?
- What is important to them?

Stakeholder classification and prioritisation

- How will stakeholders be classified (e.g., by influence, interest, importance)?
- Which stakeholders are critical for project success?
- How should stakeholders be grouped for effective engagement?

Engagement and communication

- What is the best strategy to engage each stakeholder?
- Who is the most responsive contact person?
- How can the stakeholder contribute to the project?
- How could the stakeholder block or hinder the project?

Stakeholder dynamics

- How do stakeholders interact with each other and influence the project?
- How are stakeholders affected by the project?

Methods to engage stakeholders

Effective stakeholder engagement requires selecting methods that align with stakeholder characteristics, project goals, and available resources. Not all identification or engagement methodologies need to be applied, the choice depends on the type of stakeholders involved and the specific challenges being addressed.

A combination of tools is often most effective, ensuring inclusivity, accessibility, and meaningful participation (NOAA, 2015). Below (see Table 1) are selected methods used in the CEFoodCycle project, which strengthened the foundation for successful pilots. This participatory multi-stakeholder approach enhanced the project's impact, sustainability and replicability across different regions.

Table 1: Engagement techniques used in the CEFoodCycle project

Method	Purpose and benefits	Considerations
Interviews	Yield deeper insights than other methods. People are more open in private settings.	Are time-consuming and limited by availability. Require skilled interviewers.
Small group meetings	Allow focused discussion, direct problem-solving, and task completion. Generates more enthusiasm than larger formal meetings.	Participants may resist breaking into smaller groups. Dominant voices may overshadow others.
Surveys and polls	Structured collection of quantitative and qualitative data for decision-making. Gather opinions from a broad audience.	Require trained personnel for execution. Poor methodology can lead to misleading results. Captures opinions at a specific moment, which may change over time. It can be expensive.
Workshops	Interactive sessions with collaboration on defining problems and solutions, and building consensus. Highly interactive and task-oriented.	May face resistance from stakeholders with strong opposing views.
Field visits	Encourage personal interaction and strengthen team building. Enhance an understanding of resources and relevant issues.	Collecting systematic participant feedback may be challenging.
Focus/ Working groups	Small-group discussions led by a facilitator to collect opinions and insights. Best used for understanding needs and testing project concepts.	Not statistically representative. Best used alongside broader engagement tools.
Online engagement (e.g., video calls, webinars)	Broaden accessibility to resources and discussions. Enables participation from diverse geographic locations.	Dependent on digital access and technology reliability.

3. Testing participatory approach

There is no one-size-fits-all approach to stakeholder involvement. The choice of engagement methods depends on the specific issue, stakeholder profiles, geographic context, time constraints, and institutional capacity. **Not all methodologies need to be applied**. The key is selecting approaches that best suit the project's needs and stakeholder dynamics.

When stakeholders are informed or consulted only after decisions are made, dissatisfaction with both the process and the outcomes is more likely (NOAA, 2015). In contrast, Duea *et al.* (2022) claim a **participatory approach** actively involves stakeholders in decision-making, ensuring their perspectives, needs, and expertise shape the project from the outset. This leads to more sustainable, impactful solutions and reduces potential conflicts. Rather than relying on top-down decision-making, participatory methods empower stakeholders to co-create solutions. Core principles include:

- **inclusivity** – involving all relevant stakeholders;
- **transparency** – clearly communicating objectives, processes, and decisions;
- **co-creation** – enabling stakeholders to define problems and design solutions;
- **empowerment** – giving stakeholders a voice beyond consultation;
- **continuous engagement** – maintaining interaction throughout the project lifecycle.

Common methods for implementing participatory engagement include:

- **workshops & co-creation sessions** – ideal for problem identification, brainstorming, and solution development;
- **focus groups** – useful for understanding needs and testing concepts;
- **surveys and questionnaires** – effective for assessing opinions, needs, and project s impact;
- **citizen science** – valuable for environmental monitoring and social research;
- **community meetings** – build trust and maintain engagement;
- **digital tools** – broaden access and reach dispersed stakeholders (e.g., storytelling platforms, webinars).

Participatory approaches foster meaningful discussions, allowing stakeholders to contribute ideas, set priorities, and take ownership of outcomes. Open communication builds trust and long-term commitment, while participants gain knowledge, skills, and resources to drive change beyond the project scope.

In the CEFoodCycle project, participatory methods were central to closing food loops and promoting sustainable practices. Circular **Food Hubs**, established in Slovenia, France, Italy, and the Bavaria–Salzburg region, serve as platforms for stakeholder collaboration. These hubs offer training, share information, and recognise good practices, ensuring active involvement in decision-making. By integrating diverse perspectives, the project not only addresses technical challenges but also builds a committed community around circular economy principles.

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4. Examples across the Circular Food Hubs

Salzburg-Bavaria

Participatory approach: Live graphic recording

To ensure that relevant stakeholders could easily share their needs and expectations regarding the project objective, a decision was made to collaborate with a graphic recorder during the Economic Forum Event in Salzburg, 2023.

Gorenjska

Participatory approach: Hackathon

To identify and test solutions to reduce food waste in hospitality, a food hackathon and workshop were organised in March 2024, involving students, lecturers, and hospitality companies. The initiative included an online survey, idea development, and testing of three food reuse concepts.

Alpes-Maritimes

Participatory approach: Cargo bikes

To support compliance with new biowaste regulations, a participatory experimentation was conducted in Old Nice using electric cargo bikes to collect food bio-waste from 22 restaurants. The initiative raised awareness, tested the feasibility of sustainable waste collection, and helped restaurants evaluate their waste volumes and explore practical solutions.

South Tyrol

Participatory approach: Circular ideas lab

A co-creative workshop during the Circular Food Hub Alto Adige event in January 2024 brought together companies, researchers, and citizens to co-design circular food solutions. Through group work and live demonstrations, participants jointly shaped priorities for the region's circular food strategy.

5. Recommendations

GOING FURTHER: TIPS TO RESHAPE OUR FUTURE

- Active, iterative stakeholder involvement from the beginning is crucial for building trust and co-designing realistic circular solutions. It gives opportunities for learning-by-doing.
- Build strong partnerships that combine technical know-how, market insight, and policy support.
- Involving diverse actors, including youth and non-traditional partners, strengthens innovation.
- Workshops, interviews, and demonstration events tailored to the local context, are effective for collecting feedback, raising awareness, and fostering harmony.
- Digital tools (such as FoodCycle.ai) are better received when accompanied by training and hands-on demonstrations.
- Similar projects should provide clear value propositions and low-barrier entry points for stakeholders.
- It is essential to resolve regulatory uncertainty, simplify legal guidance, build capacity through training, and promote cross -sector dialogue to overcome resistance.
- Understanding of circular economy principles also needs to be established among smaller businesses.
- Benefits for stakeholders must be tangible and clear.
- Invest in locally adaptable and modular business models, supported by data-driven planning tools and pilot-tested technology solutions.

What was prepared in the CEFoodCycle project that can be useful?

- *Industry-specific LCA guidelines.*
- *Stakeholder network.*
- *AI-driven impact assessments.*
- *Regional business models for AI tool.*
- *Policy recommendations.*

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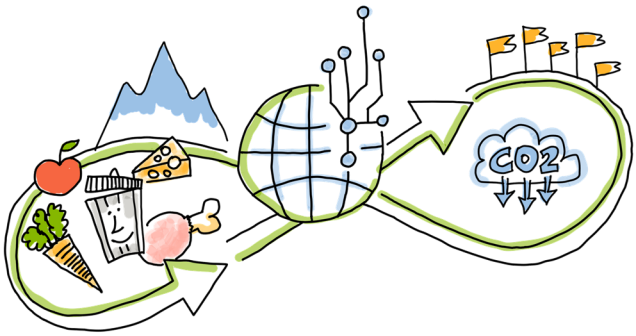

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